



Student Manual

Certified Medication Technician

2008 Revision



Missouri Department of Elementary and Secondary Education
Division of Career Education
Missouri Center for Career Education at Central Missouri State University

Certified Medication Technician
Student Manual

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PREFACE

This Medication Technician curriculum was originally developed for implementation in 1978. Its purpose was to satisfy federal regulations requiring a “state-approved” training program in medication administration for unlicensed personnel administering medications in certified skilled nursing facilities (CFR 405.1124 [g]) and certified intermediate care facilities (CFR 442.337). In addition, this course was later mandated for like personnel in “state-licensed-only” skilled and intermediate care facilities (non-certified) beginning June 11, 1981 (Missouri Nursing Home Rule 13CSR15-14.042[46]).

The 1978 curriculum was developed in a collaborative effort between the Bureau of Nursing Home Licensure and Certification, Division of Health (now the Department of Health and Senior Services) and the Department of Elementary and Secondary Education. Primary authors were Ann Wormsley, R.N., Division of Health, and Yolanda Dolecki, R.N., Ed D., Department of Education. In 1982, the curriculum guides were revised somewhat, mostly reflecting changes in regulations.

The 1985 revision incorporated a significant reorganization of the curriculum content, updating of regulations and an all new drug information section. The updated training manual (curriculum guide) represented the collective thinking and philosophy of the ad hoc committee members, several of whom deserve special recognition for their outstanding contributions: Vada Arrowood for overall guidance and in facilitating the reorganization of the instructional analysis section; Maria Oliver for incorporating changes into the master manual; Pat Winberg for finalization of that process in addition to preparing the final document for printing; and Scott Weber for compiling the drug information section. Many individuals served on the ad hoc committee and we are most grateful for their time and assistance with the 1985 revision.

In 1993, the Missouri Division of Aging formed an ad hoc committee to review the curriculum for accuracy, relevancy, and organization. Oral metered dose inhalation medications, transdermal patches, and body substance precautions were incorporated. Several committee members deserve special recognition for their writing contributions: Donna Albrothross, Jim Bercheck, Lois Bonnot, Gwen Gevecker, Teresa Johnson, Barbara Primm, Phyllis Robichaud, Scott Weber, and Tom Whalen. The committee reviewed and commented on the revised curriculum. Also, the committee recommended that the course be taught in 60 hours. Although she did not serve on the committee, Betty Phillips, R.N., deserves special thanks for reviewing and commenting on the curriculum.

In 2004, it was determined that the text and regulations were again in need of revision. A committee consisting of representatives from a variety of public and private agencies across the state was selected by the Department of Health and Senior Services. Under the direction of Donald Scott with the Missouri Center for Career Education at Central Missouri State University, committee members utilized an on-line forum to submit recommended changes and make comments on proposed revisions. All of the committee members deserve special recognition for their time and commitment to the development of this manual. The Department of Elementary and Secondary Education has also determined that this manual will now be available online for students and instructors free of charge.

During 2008, the text and regulations were reviewed and revised to reflect best practices and the promulgation of Missouri rule 19 CSR 30-84.020 which recognized this manual as the official state manual leading to the certification of new Certified Medication Technicians. Under the direction of Donald Scott with the Missouri Center for Career Education at Central Missouri State University, the standing 2004/2005 committee members again reviewed and recommended changes to proposed manual revisions. Once committee approval was received, the document was submitted to the Department of Health and Senior Services, Division of Health Standards and Licensure for further review and comments. As in 2005, it has been determined that this manual will be available online for students and instructors free of charge.

ACKNOWLEDGMENTS

This revision of the Certified Medication Technician Manual is the result of the collaborative efforts of a dedicated group of professionals who reviewed the content and provided valuable suggestions and corrections. A book of this size represents an enormous investment of both time and talent. Special thanks to those who saw the project through to its completion and shared invaluable knowledge in their areas of expertise.

Thanks to Donald Scott, the staff at the Missouri Center for Career Education, Shelly Wehmeyer and Gavin Allan, Department of Elementary and Secondary Education, and Lois Bonnot, Betty Markway, Danette Beeson and Anna Long, Department of Health and Senior Services, who provided leadership and enthusiasm throughout the development of this manual.

Many thanks to the families, friends and colleagues of all those who worked on the project for their understanding, patience and encouragement during the process.

DEDICATION

This book is dedicated to Lois, Gail, Mary, Jean, Tory, Esther, Danette, and Anna at the Missouri Department of Health and Senior Services, Section for Long Term Care Health Education Unit and Division of Regulation and Licensure. Your knowledge, patience, and support year after year are appreciated.

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GLOSSARY

Abuse – the infliction of physical, sexual, verbal, mental, or emotional injury or harm. Example: Forcing a resident to take medications.

Addiction – emotional or physiological dependence upon a drug which has progressed beyond voluntary control.

Adverse drug affect – a harmful, unintended reaction to a drug administered at normal dosage.

Allergic reactions:

1. Hypersensitivity – unusual sensitivity to a drug such as mild skin rash, swelling, itching, and nasal congestion.
2. Anaphylaxis – severe, life threatening hypersensitivity to a drug such as extreme weakness, nausea and vomiting, cyanosis, dyspnea, hypotension, shock, and respiratory or cardiac arrest. Usually occurs within minutes of administering the drug.

Antagonism – condition in which two drugs work against each other, decreasing effectiveness of one or both (e.g., tetracycline and antacid).

Antidote – a drug given to reverse the effects of a previously given drug.

Assault – threat or attempt to injure another in an unlawful manner. Example: Telling a resident; “If you don’t be quiet, I’ll tie your hands down.”

Aural – pertaining to the ear.

Battery – unlawful application of force to the person of another. Example: Carrying out a threat.

Breach – breaking of a law, or of any obligation or contract.

Cells – the basic unit of all living things.

Certified Medication Technician – shall mean a nursing assistant who has completed a course in medication administration approved by the Department of Health & Senior Services.

Chemical restraint – shall mean any medication that is used for discipline or convenience and not required to treat medical symptoms. For the purposes of this definition, discipline means any action taken by the facility for the purpose of punishing or penalizing residents and convenience means any action taken by the facility to control a resident’s behavior or maintain a resident with a lesser amount of effort by the facility and not in the resident’s best interest.

Conduct – one’s action in general; behavior.

Consent – permission granted voluntarily by a person in his/her (sound/clear) mind.

Contraindications – existing conditions that the resident may have which are incompatible with the drug (e.g., Inderal given to asthmatic resident).

Control of medication – shall mean assuming responsibility by the facility for all facets of control of medication including, but not limited to, acquisition, storage, security and administration.

Controlled drugs/controlled substances – drugs covered by the Federal and State Controlled Substance Acts (e.g., codeine).

Cumulative effect – buildup of a drug in the body that may occur rapidly or slowly over time.

Custom – long-established practice; an accepted behavior.

Disease – pathological or abnormal condition of the body.

Dosage – amount of a medication given at one time.

Drug – a substance taken into or applied to the body to treat or prevent a disease or condition (e.g., Advil).

Duty of care – the obligation under law for a health care worker to perform services for a resident that meet the common standards of practice expected in his or her community for a comparable worker.

Enteric coated – tablets that are coated so that they dissolve in the small intestines rather than in the stomach.

Ethics – the discipline dealing with that which is good and bad and that which is moral duty and obligation.

False imprisonment – unjustified detention of a person. Example: Preventing a competent resident from leaving a facility

Generic name – the common name assigned to a drug; the generic name stays the same from one manufacturer to another; whereas, the trade or brand name changes with each manufacturer. Example: ibuprofen (generic name) for Advil or Motrin (trade/brand names).

HIPAA (Health Insurance Portability and Accountability Act of 1996) – a law that protects people who have preexisting medical conditions or might suffer discrimination in health coverage based on something that relates to an individual's health and mandates privacy of health information.

Ideal – a standard of perfection or excellence.

Idiosyncrasy – an individual's unique hypersensitivity to a particular drug.

Indications – various conditions or symptoms for which the drug may be given.

Invasion of privacy – a civil wrong that unlawfully makes public knowledge of any private or personal information without the consent of the wronged person.

Lethal dose – amount of a drug that will cause death.

Libel – a false and malicious publication in writing about an individual or group to a third party.

Malpractice – improper or negligent treatment of a resident or patient resulting in damage or injury. Example: The CMT gives medications to the wrong resident and does not report the error to the nurse.

Neglect – failure of person(s) responsible for an individual to provide necessary services to maintain the physical and mental health of the individual, when such failure presents an imminent or probable danger or death to the individual. Example: walking away from a resident's bedside without putting the side rails up when side rail use is ordered by the physician and is included in the plan of care.

Negligence – failure to perform in a reasonably prudent manner or by acceptable health care practices. Example: Not giving medications to a resident as ordered by the physician.

Ophthalmic – pertaining to the eye.

Organs – a group of tissues that perform a single function.

Overdose – a dose of a drug in an amount that causes an acute reaction such as coma or even death.

Otic – pertaining to the ear.

Parenteral – a medication route other than the digestive system such as intravenous, subcutaneous, intramuscular, or mucosal.

Physical dependence – a physical state in which the body adapts to a drug and experiences symptoms of withdrawal when the drug is abruptly stopped or the dose is rapidly lowered. Physical dependence is a normal result of the use of certain drugs and rarely leads to addiction.

Placebo – an inactive substance prescribed by a doctor as if it were an effective dose of medication and believed by the resident to be a medication.

Premises – shall mean any structure or structures that are in close proximity one to the other and which are located on a single piece of property.

Privileged communication – any personal or private information, which is relevant to a resident's care, which the resident gave to medical personnel.

Psychological dependence – a compulsion to use a drug, often for its mood altering effects, preoccupation with obtaining and using a drug. May lead to addiction.

Self administration of medication – shall mean the act of actually taking or applying medication to oneself.

Self control of medication – shall mean assuming immediate responsibility by a resident for the storage and administration of medication for oneself while the facility retains ultimate control of medication.

Side effects – any effect of a drug other than the one for which it is given.

Slander – to make any oral defamatory false remark about another; spoken words that tend to damage the reputation of another.

Spansule – small particles of a drug coated with compounds which require varying amounts of time to dissolve.

Subcutaneous – injected into the tissues just below the skin, dermis.

Sublingual – under the tongue, without liquid.

Synergism – two drugs working together to give an effect greater than their individual effect (e.g., analgesics with antianxiety drugs).

Systems – a group of organs working together with a specific function.

Therapeutic effect – the desired effect of a drug.

Tissues – groups of similar cells combine to form tissues.

Tolerance – a condition in which the body becomes increasingly resistant to a drug due to continued exposure; and requiring an increased amount of a drug to produce the same effect a lesser amount previously produced.

Toxicity – symptoms or effect of poisoning of the body by a drug due to large dose of a drug or a cumulative effect of the drug.

Trade or brand name – name by which a drug is marketed; commonly recognized name of a drug.

Unethical – not ethical; not representative of ideal behavior.

Value system – behavior related to a pattern of conduct or ideas that are accepted as worthwhile or meaningful.

LESSON PLAN: 1

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

SCOPE OF UNIT:

This unit covers course objectives and requirements, the role of the medication technician related to the health care team, and state and federal controls.

INFORMATION TOPIC: I-1 OR DEMONSTRATION:

BECOMING A MEDICATION TECHNICIAN
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. List the goals and objectives of the course.
2. List the qualifications of students in the medication technician course.
3. List the methods used to evaluate student performance.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Samples of evaluation tools (tests, procedure pages, etc.)

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 1 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

The purpose of this course is to prepare you to become a Certified Medication Technician qualified to administer selected categories of medications to residents of long-term care facilities under the supervision of licensed nursing personnel according to state-approved curriculum.

LESSON PLAN: 1

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

OUTLINE:

I. Goals and Objectives

- A. Prepare, administer, and chart medication by oral, rectal, vaginal, otic, ophthalmic, nasal, topical, and pulmonary routes.
- B. Use appropriate infection control measures when administering medications.
- C. Observe, record, evaluate, and report responses of residents to medications given.
- D. Identify responsibilities associated with control and storage of medications.
- E. Identify and utilize appropriate reference materials.
- F. Relate common side effects, interactions, and nursing implications of common medications.
- G. Identify lines of authority and areas of responsibility.
- H. Identify what constitutes a medication error.

II. Student Qualifications

- A. High school diploma or GED certificate.
- B. A minimum score of 8.9 on both Vocabulary and Comprehension tests and a minimum of 7.0 on Mathematics Concepts and Applications on the Tests on the D level of the Test of Adult Basic Education (TABE) administered by the educational training agency.
- C. Six (6) months of employment as a certified nurse assistant (CNA) who is listed as active on the Missouri CNA Registry.
- D. For an individual currently employed in a long-term care facility, a letter of recommendation submitted to the educational training agency by the administrator or director of nursing of the facility, or for an individual not currently employed in a long-term care facility, a letter of recommendation submitted to the educational training agency by a previous long-term care employer.

- E. The individual is not listed on the department's Employee Disqualification List (EDL) and does not have a Federal Indicator on the Missouri CNA Registry or any other State's CNA Registry that the educational training agency has checked based on a belief that information on the individual may be included.
- F. The individual has not been convicted of or entered a plea of guilty or nolo contendere to a crime in this state or any other state, which if committed in Missouri would be a Class A or Class B felony violation of Chapters 565, 566 or 569, RSMo, or any violation of subsection 3 of section 198.070, or section 568.020, RSMo, unless a good cause waiver has been granted by the department under the provisions of 19 CSR 30-82.060
- G. The individual meets the employment requirements listed in 19 CSR 30-85.042 (32). Students who drop the CMT course due to illness or incapacity may reenroll within six (6) months of the date the student withdrew from the course and make up the missed course material upon presenting proof of prior attendance and materials covered if allowed by the educational training agency's policy.

III. Course Evaluation

- A. Worksheets.
- B. Written tests – to be eligible for the final examination, students shall have achieved a score of at least eighty percent (80%) on each written examination in the course curriculum. The final examination shall include fifty (50) multiple choice questions based on the course objectives accessed through the department's website. A score of at least eighty percent (80%) is required for passing.
- C. Classroom discussion.
- D. Performance tests – the practicum exam shall include preparing and administering all non-parenteral routes and documenting administration of medications administered to residents. It shall be conducted under the direct supervision of the department approved instructor or examiner and the person responsible for medication administration in the ICF/SNF. Testing on medications not available in the ICF/SNF shall be done in a simulated classroom situation.
- E. Drug/medication cards – list a minimum of twenty-five (25) drugs commonly used in a facility and write out their:
 - 1. Brand name.
 - 2. Generic name.

3. Indications.
4. Usual dosage.
5. Precautions.
6. Actions.
7. Contraindications.
8. Warnings/Alerts.
9. Drug interactions.
10. Adverse reactions.
11. Symptoms of overdose.

IV. Summary and Conclusion

- A. Goals and objectives.
- B. Qualifications of students.
- C. Evaluation.

In this lesson, we have explored the purposes and objectives of this course, listed qualifications of students, and outlined how you will be evaluated in this course.

In our next lesson, we will take a look at the health care team of a long-term care facility and its relationship to the medication technician. Take a few minutes to review the organizational structure of a long-term care facility. Can you identify those individuals at your place of employment?

LESSON PLAN: 1

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

EVALUATION ITEMS:

1. List eight course objectives.
 - a.
 - b.
 - c.
 - d.
 - e.
 - f.
 - g.
 - h.
2. List three qualifications of students in the medication technician course.
 - a.
 - b.
 - c.
3. List five methods used to evaluate student performance.
 - a.
 - b.
 - c.
 - d.
 - e.

4. Which of the following is a requirement for students enrolled in the CMT course?
- a. College degree.
 - b. 3 years of employment as a certified nurse assistant.
 - c. Score of 100% on the TABE test.
 - d. CNA in good standing.

LESSON PLAN: 2

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

SCOPE OF UNIT:

This unit covers course objectives and requirements, the role of the medication technician related to the health care team, and state and federal controls.

INFORMATION TOPIC: I-2 OR DEMONSTRATION:

LONG-TERM HEALTH CARE TEAM
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Trace lines of authority in a sample organizational chart of a long-term care facility.
2. Identify the responsibilities of the long-term health care team which includes the following: Administrator, physician, pharmacist, registered nurse, licensed practical nurse, and medication technician.
3. List six (6) tasks a medication technician may NOT perform.
4. Identify how the legal and ethical issues affect health care personnel.
5. Identify guidelines to follow to avoid medical/legal problems.
6. Identify situations that would constitute a breach in confidentiality of a resident's protected health information (HIPAA).

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 1: Organizational Structure – Long-Term Health Care Facility
2. HO 2: Abuse and Neglect Reporting.
3. HO 3: Resident's Rights – State of Missouri.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 2 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

The term “health care team” is another way of describing the people who join together to assess, develop plans of care, provide care, and re-evaluate residents who require long-term care. The term illustrates that it takes more than one person to provide optimal health care to any resident or group of residents. In this lesson you will learn who makes up the health care team, their specific responsibilities, and the medical/legal aspects of medication therapy.

LESSON PLAN: 2

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

OUTLINE:

- I. Organizational Structure – Long-Term Health Care Facility (HO 1)
- II. Role of the Health Care Team Members Involved in Medication Therapy – governed by state and federal regulations by varying degrees.

NOTE: The organizational structure of a Long Term Care facility may vary from the example provided in this text. The size of the facility and affiliation with a larger healthcare corporation may affect the manner in which the team is set up.

- A. Administrator – responsible for all departments within the long term care facility.
 1. Responsible for all policies and procedures.
 2. Guides the quality assurance process.
 3. Responsible for adequate staffing resources.
 4. Responsible for lines of accountability.
- B. Physician/medical provider – Medical Doctor (MD), Doctor of Osteopathy (DO), Nurse Practitioner (NP), or Physician's Assistant (PA).
 1. Performs annual physical exam.
 2. Diagnoses the resident.
 3. Orders medications and treatments.
- C. Pharmacist – allied health professional.
 1. Provider role – drug delivery and administration systems. Services include:
 - a. Labeling.
 - b. Packaging.
 - c. Record and audit systems.

- d. Accountability of controlled drug supplies and emergency drugs.
- 2. Consultant role – establish policy concerning drug use, drug regimen review, and in-service education. Services include:
 - a. Monthly chart review/drug regimen review.
 - b. Identifying irregularities in drug use.
 - c. Providing drug information.
 - d. Serving on committees such as Quality Assurance and Assessment
 - e. Developing drug use policy.
 - f. Performing medication pass reviews.
- D. Registered Nurse (RN) – allied health professional.
 - 1. Leader of nursing team.
 - 2. Supervises medication technician.
 - 3. Takes and records telephone and verbal orders.
 - 4. Administers parenteral medications.
 - 5. Is an educator.
- E. Licensed Practical Nurse (LPN).
 - 1. Supervises medication technician.
 - 2. Takes and records telephone and verbal orders.
 - 3. Administers parenteral medications including IV medications IV certified.
- F. Medication technician responsibilities.
 - 1. Meets basic care needs of the residents.
 - 2. Reports and records information related to drug administration.
 - 3. Maintain aseptic conditions by using body substance precautions.
 - 4. Measure vital signs (TPR, B/P, and apical pulse); (refer to CNA manual).

5. Prepare, administer, report, and record medications by the oral, ophthalmic, otic, topical, transdermal patch, respiratory, nasal, vaginal and rectal routes.
6. Safeguard medication preparation and storage area.
7. Count controlled substances (per facility policy).
8. Transcribes orders (per facility policy).
9. Records and removes unused medications from active area.
10. Safeguards medications.
11. Gives simple precautions and directions to residents.
12. Administers oxygen by nasal cannula when the resident has a physician's order for oxygen and after assessment by licensed nurse.
13. Administers inhaled medications using a nebulizer if permitted by facility policy. Due to variances in equipment, the facility must provide the Certified Medication Technician with training on the operation of the nebulizer system(s) being used in the facility prior to their use. Documentation of this training and competency in use of the equipment must be placed in the employee's record.
14. Monitors resident's health status such as vital signs and pain scale scores and reports abnormalities to the licensed nurse.
15. Adheres to facility policies.

NOTE: The Medication Technician may be employed in a Skilled or Intermediate Care facility (SNF/ICF). A CMT cannot set up or administer medications when working in any other setting including but not limited to home care or hospitals.

III. The Medication Technician Does NOT:

- A. Inject parenteral drugs with the exception of insulin if insulin certified.
- B. Administer bladder instillations.
- C. Calculate drug dosages or conversions.
- D. Dispose of medications.
- E. Administer oxygen by a re-breathing mask or nasal catheter.
- F. Administer enteral nutrition, fluids or medications via a feeding tube including but not limited to gastrostomy, jejunostomy, nasogastric (NG) or Nasointestinal (NI) tubes.

IV. Health Care Personnel, Law and Ethics

- A. As an employee in the health care occupations, it is important for you to be aware of your legal and ethical responsibilities to prevent medical/legal problems.
- B. When you care for residents or have access to their records, you are expected to maintain their confidence and trust. Any violation of the resident's trust and confidence may be defined as an illegal or immoral act.
- C. There are certain laws which protect the rights of residents who enter long-term or other health care facilities (HO 2, HO 3). The resident voluntarily signs an admission agreement giving his or her consent for treatment and care.
- D. Missouri State Regulations require that each person who has, or may have contact with residents, wear an identification badge while on duty. The badge must give the employee's name, title and if applicable the state of their license or certification as a health care professional. This rule applies to all personnel who provide services to any resident directly or indirectly.
- E. Some possible situations for legal problems might be:
 - 1. Assault (threat or harm) – For example telling a resident "If you don't be quiet, I'll tie your hands down."
 - 2. Restraining a resident – All restraints require a physician's order. They are used only as a last resort when the resident could harm himself or others.
 - 3. Gossiping about residents may be defined as "defamation of character" or "defamation by slander."
 - 4. A written entry in a chart such as "the resident was a cross old crackpot today" could be defined as written defamation and "libel."
 - 5. Personal information about residents comes under the classification of "privileged information." Talking about a resident with or around others not directly involved in the resident's care violates the resident's right to confidentiality.
 - 6. In the long-term care facility, a surveyor may want to look at resident's skin. Without the resident's consent or proper screening, this could be an "invasion of privacy."
 - 7. Performing procedures outside the scope of practice of a medication technician or performing procedures that you have not been trained to perform.

8. Documenting procedures or medications prior to actually performing the procedure or administering the medications.
- F. As a health care worker, you must become familiar with legal and ethical terms that will assist you in understanding your responsibility and help you uphold your resident's rights.
- G. Legal documents or records are accepted in the courts of law as evidence of truth. A resident's chart is a legal document or record. The "signed consent" is a legal record, just as a will is a legal document. The consent must be voluntarily signed in ink by a resident of sound mind. The signing must be witnessed by at least two persons aged 21 or over.

V. Guidelines to Avoid Medical/Legal Problems

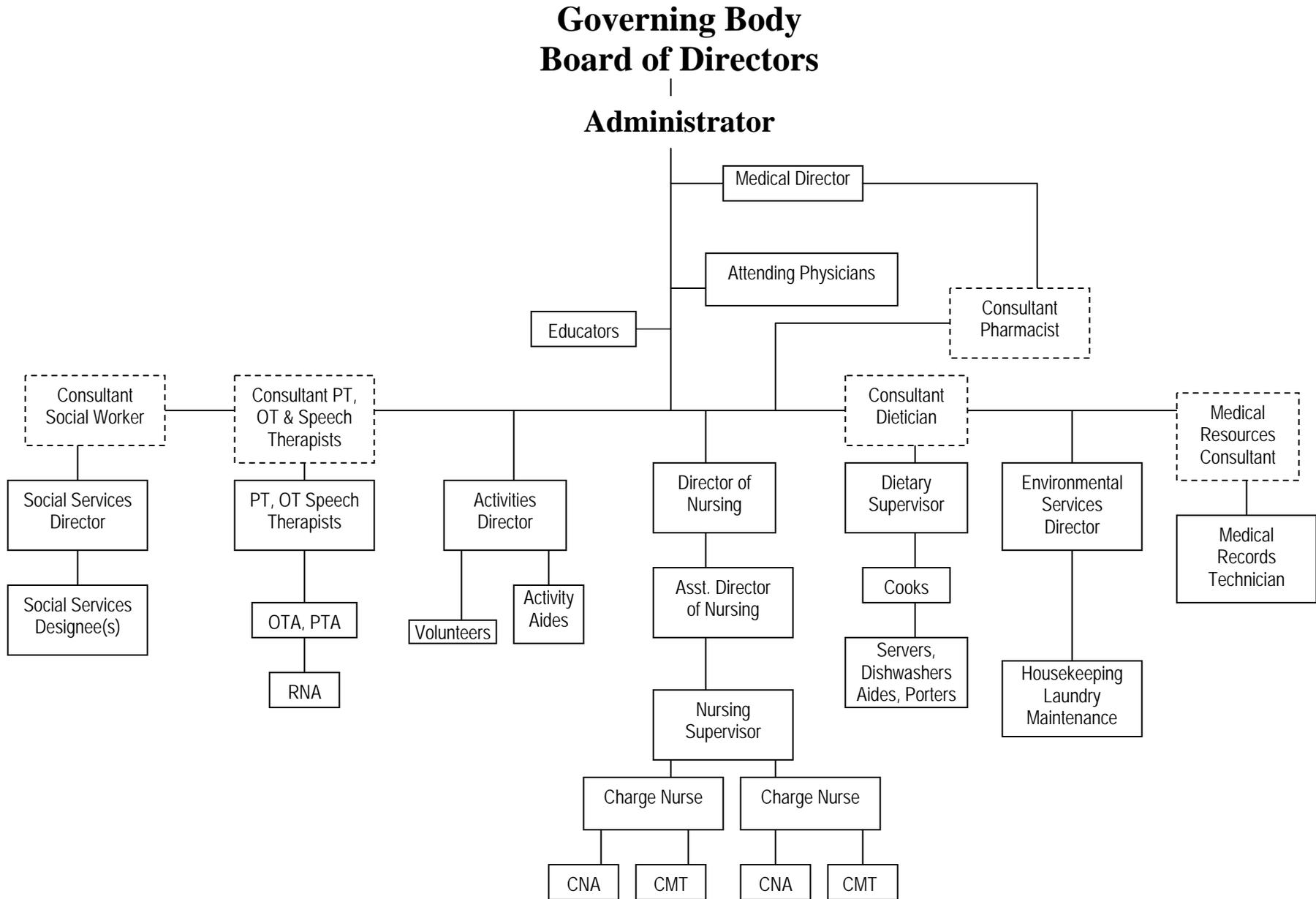
1. Maintain good relationships with residents, family members and coworkers.
2. Remember that the resident is your responsibility.
3. Observe the resident's rights and avoid violating them.
4. Prepare all paper work accurately and in a timely manner according to facility policy.
5. Know your lines of authority. Do only those things which you have been trained and supervised to do. Seek assistance from your charge nurse if you are in doubt.
6. Be familiar with and follow facility and pharmacy policies and procedures.

VI. Summary and Conclusion

- A. Organizational structure.
- B. Responsibilities of the team members involved in medication therapy.
- C. Tasks a medication technician may NOT perform.
- D. Medical/Legal terminology.
- E. Legal and ethical issues affecting health care personnel.
- F. Guidelines to avoid medical/legal problems.

The next lesson is on state and federal controls.

ORGANIZATIONAL STRUCTURE OF A LONG-TERM CARE FACILITY



ABUSE AND NEGLECT REPORTING

The following is a summary of the Omnibus Nursing Home Act in Section 198.070. It is only a summary of key points specific to the instructor and student of this manual for use in long-term care facilities. For a complete reference, refer to the Missouri Code of State Statutes at 198.070.

When any long term care facility employee has reasonable cause to believe a resident has been abused or neglected or financially exploited, the employee shall immediately report or cause a report to be made to the Department of Health and Senior Services.

The report shall contain the name and address of the facility, the name of the resident, information regarding the nature of the abuse or neglect, the name of the person making the complaint, and any other information, which might be helpful in an investigation.

Anyone who fails to make a report or cause a report to be made within a reasonable time after the act of abuse or neglect is guilty of a class (A) misdemeanor.

When the Department of Health and Senior Services receives a report, the department will begin an investigation within twenty-four hours. The department will notify the resident's next of kin or responsible party of the report and the investigation and will further notify them whether the report was substantiated or unsubstantiated. The department will report substantiated abuse to the appropriate law enforcement agency and prosecutor.

If the investigation indicates possible abuse or neglect of a resident, the investigator shall refer the report to the department director for appropriate action. If the department has reasonable cause to believe that immediate removal is necessary to protect the resident from abuse or neglect, the department will seek to protect the resident by petitioning to have the resident removed for temporary care and protection.

Reports shall be confidential.

Anyone, except any person who has abused or neglected a resident in a facility, who makes a report or who testifies in any administrative or judicial proceeding shall be immune from any civil or criminal liability for making such a report or for testifying. It is a crime for any person to purposefully file a false report of elder abuse or neglect.

Within five working days of making the report, the reporter will receive notice that the investigation was initiated.

No person who directs or exercises any authority in a facility shall evict, harass, dismiss or retaliate against a resident, family member or employee who makes an abuse or neglect report to the department. If the reporter has reasonable cause to believe retaliation is being committed against him or her, the department shall provide information about their rights, protections, and options in these cases.

Any person who abuses or neglects a resident of a facility is subject to criminal prosecution.

The department shall maintain the Employee Disqualification List (EDL) and shall place the names of any persons who are or have been employed in any facility and who have been found to have knowingly or recklessly abused or neglected a resident. A person acts “knowingly” with respect to the person’s conduct when a reasonable person should be aware of the result caused by his or her conduct. A person acts “recklessly” when the person consciously disregards a substantial or justifiable risk that the person’s conduct will result in serious physical injury and such disregard constitutes a gross deviation from standard of care that a reasonable person would exercise in the situation.

The Missouri Department of Health and Senior Services Elder Abuse and Neglect Hotline phone number is (800) 392-0210.

RESIDENTS RIGHTS - STATE OF MISSOURI

Title 13 - DEPARTMENT OF HEALTH AND SENIOR SERVICES
Division 30 - Division of Health Standards and Licensure
Chapter 88 – Resident's Rights and Handling Resident Funds and
Property in Long-Term Care Facilities

19 CSR 30-88.010 - effective August 28, 2001; amended: filed March 1, 2004 - effective Oct. 30, 2004.

NOTE: Underlined regulations are specific to the duties and responsibilities of certified medication technicians. I, II, and III refer to the class of deficiencies. Class I deficiencies are the violation of which would present either imminent danger to the health, safety, or welfare of any resident, death or serious harm. Class II deficiencies are violations which have a direct or immediate relationship to the health, safety, or welfare of any resident but does not create imminent danger. Class III is deficiencies that have an indirect or a potential impact on any resident.

Requirements for all types of Licensed Long-Term Care Facilities.

The resident has the:

1. The facility shall retain and make available for public inspection at the facility to facility personnel, residents, their families or legal representatives and the general public, a list of names, addresses and occupations of all individuals who have a property interest in the facility as well as a complete copy of each official notification from the Division of Aging of violations, deficiencies, licensure approval, disapprovals, or a combination of these, and responses. This includes, as a minimum, statements of deficiencies, copies of plan(s) of correction, acceptance, or rejection notice regarding the plan(s) of corrections and revisit inspection report. II/III
2. Any notice of noncompliance shall be posted in a conspicuous location along with a copy of the most recent inspection reports, as required by section 198.026(6), RSMo. II/III
3. A copy of the most current Division of Aging rules governing the facility shall be kept available and easily accessible in the facility for review by residents, their families, legal guardians and the public. II/III
4. Each resident admitted to the facility, or his/her guardian or legally qualified representative, shall be fully informed of his/her rights and responsibilities as a resident. These rights shall be reviewed annually with each resident, guardian or legally qualified representative, either in a group session or individually.
5. All incoming and present residents in a facility shall be provided statements of resident rights along with rules governing conduct and responsibilities in a manner

which effectively communicates, in terms the resident can reasonably be expected to understand, those rights and responsibilities. II/III

6. The facility shall document the disclosure of resident's rights information to the resident or his/her legal guardian. III
7. Information regarding resident rights and facility rules shall be posted in a conspicuous location in the facility and copies shall be provided to anyone requesting this information. Informational documents which contain, but are not limited to, updated information on selecting an Alzheimer's special care unit or program shall be given by a facility offering to provide or providing these services to any person seeking information about or placement in an Alzheimer's special care unit or program. III
8. Prior to or at the time of admission and during his/her stay in the facility, each resident shall be fully informed, in writing, of services available in the facility and of related charges, including any charges for services not covered by the facility's basic per-diem rate or federal or state programs. Information shall include procedures to be followed by the facility in cases of medical emergency, including transfer agreements and costs. All residents who receive treatment in an Alzheimer's special care program or unit and their next of kin, designee, legally qualified representative or guardian shall be given a copy of the Alzheimer's Special Care Services Disclosure Form at the time of admission. Residents also shall be informed of services outside the facility which may reasonably be made available to the resident and of any reasonable estimate of any foreseeable costs connected with those services. II/III
9. Prior to or upon admission, each prospective resident or each resident shall be informed of the home and community based services available in this state by providing such resident a copy of the most current Missouri's Guide to Home and Community Based Services, incorporated by reference, or any successor pamphlet as may be incorporated by reference in a subsequent amendment to this section. III
10. Prior to or upon admission and at least annually after that, each resident or guardian shall be informed of facility policies regarding provision of emergency and life sustaining care, of an individual's right to make treatment decisions for him/herself and of state laws related to advance directives for health-care decision making. The annual discussion may be handled either on a group or on an individual basis. Family members or other concerned individuals also shall be informed, upon request, regarding state laws related to advance directives for health-care decision making as well as the facility's policies regarding the provision of emergency or life-sustaining medical care or treatment. If a resident has a written advance health-care directive, a copy shall be placed in the resident's medical record and reviewed annually with the resident unless, in the interval, he/she has been determined incapacitated, in accordance with section 475.075 or 404.825, RSMo. Residents' guardians or health care attorneys-in-fact shall be contacted annually to assure their accessibility and understanding of the facility policies regarding emergency and life-sustaining care. II/III

11. A physician shall fully inform each resident of his/her health and medical condition unless medically contraindicated. If the physician determines the resident's medical condition contraindicates his/her being fully informed of his/her diagnosis, treatment or any known prognosis, the medical record shall contain documentation and justification of this signed by the physician. If there is a legally authorized representative to make health-care decisions, that person shall be fully informed of the resident's medical condition and shall have free access to the resident's medical records for that purpose, subject to the limitations provided by the power of attorney or any federal law. I/II
12. Each resident shall be afforded the opportunity to participate in the planning of his/her total care and medical treatment, to refuse treatment and to participate in experimental research only upon his/her informed written consent. If a resident refuses treatment, this refusal shall be documented in the resident's record and the resident, legal guardian, or both, shall be informed of possible consequences of not receiving treatment. II
13. Each resident shall have the privilege of selecting his/her own physician who will be responsible for the resident's total care. II
14. No resident shall be transferred or discharged except in the case of an emergency discharge unless the resident, the next of kin, the legal representative, the attending physician and the responsible agency, if any, are notified at least thirty (30) days in advance of the transfer or discharge, and casework services or other means are utilized to assure that adequate arrangements exist for meeting the resident's needs. II
15. A resident may be transferred or discharged only for medical reasons or for his/her welfare or that of other residents, or for nonpayment for his/her stay. II
16. No resident may be discharged without full and adequate notice of his/her right to a hearing before the Department of Social Services and an opportunity to be heard on the issue of whether his/her discharge is necessary. Such notice shall be given in writing no less than thirty (30) days in advance of the discharge except in the case of an emergency discharge and must comply with the requirements set forth in 19 CSR 30-82.050. II/III
17. In emergency discharge situations a written notice of discharge and right to a hearing shall be given as soon as practicable. II/III
18. A room transfer of a resident within a facility, except in an emergency situation, requires consultation with the resident as far ahead of time as possible and shall not be permitted where this transfer would result in any avoidable detriment to the resident's physical, mental, or emotional condition. II/III
19. Each resident shall be encouraged and assisted, throughout his/her period of stay, to exercise his/her rights as a resident and as a citizen and to this end a resident may voice grievances and recommend changes in policies and services to facility personnel or to outside representatives of his/her choice. A staff person shall be

designated to receive grievances and the residents shall be free to voice their complaints and recommendations to the staff designee, an ombudsman or to any person outside the institution. Residents shall be informed of and provided a viable format for recommending changes in policy and services. The facility shall assist residents in exercising their rights to vote. II/III

20. The exercise of resident rights shall be free from restraint, interference, coercion, discrimination or reprisal. II/III
21. Each resident shall be free from mental and physical abuse. I
22. The resident has the right to be free from any physical or chemical restraint except as follows:
 - (A) When used to treat a specified medical symptom as a part of a total program of care to assist the resident to attain or maintain the highest practicable level of physical, mental or psychosocial well-being. The use of restraints must be authorized in writing by a physician for a specified period of time; or
 - (B) When necessary in an emergency to protect the resident from injury to him/herself or to others, in which case restraints may be authorized by professional personnel so designated by the facility. The action taken shall be reported immediately to the resident's physician and an order obtained which shall include the reason for the restraint, when the restraint may be removed, the type of restraint and any other actions required. When restraints are indicated, only devices that are the least restrictive for the resident and consistent with the resident's total treatment program shall be used. I/II
23. In a residential care facility I or II, if it is ever necessary to use a restraint in case of emergency, the resident shall be reevaluated immediately for appropriateness of placement and transferred if necessary. II/III
24. All information contained in a resident's medical, personal or financial record and information concerning source of payment shall be held confidential. Facility personnel shall not discuss aspects of the resident's record or care in front of persons not involved in the resident's care or in front of other residents. Written consent of the resident or legal guardian shall be required for the release of information to persons not otherwise authorized by law to receive it. II/III
25. Each resident shall be treated with consideration, respect and full recognition of his/her dignity and individuality, including privacy in treatment and care of his/her personal needs. All persons, other than the attending physician, the facility personnel necessary for any treatment or personal care, or the Division of Aging or Department of Mental Health staff, as appropriate, shall be excluded from observing the resident during any time of examination, treatment or care unless consent has been given by the resident. II/III

26. No resident shall be required to perform services for the facility. If the resident desires and it is not contraindicated by his/her physician, the resident may perform tasks or services for him/herself or others. II/III
27. Each resident shall be permitted to communicate, associate and meet privately with persons of his/her choice whether on the resident's initiative or the other person's initiative, unless to do so would infringe upon the rights of other residents. The person(s) may visit, talk with and make personal, social or legal services available, inform residents of their rights and entitlements by means of distributing educational materials or discussions, assisting residents in asserting their legal rights regarding claims for public assistance, medical assistance and Social Security benefits and engaging in any other methods of assisting, advising and representing residents so as to extend to them the full enjoyment of their rights. The facility, however, may place reasonable limitations on solicitations. II/III
28. The facility shall permit a resident to meet alone with persons of his/her choice and provide an area which assures privacy. II/III
29. Telephones appropriate to the residents' needs shall be accessible at all times. Telephones available for residents' use shall enable all residents to make and receive calls privately. II/III
30. If the resident cannot open mail, written consent by the resident or legal guardian shall be obtained to have all mail opened and read to the resident. II/III
31. Each resident shall be permitted to participate, as well as not participate, in activities of social, religious or community groups at his/her discretion, both within the facility, as well as outside the facility, unless contraindicated for reasons documented by physician in the resident's medical record. II/III
32. Each resident shall be permitted to retain and use personal clothing and possessions as space permits. Personal possessions may include furniture and decorations in accordance with the facility's policies and shall not create a fire hazard. The facility shall maintain a record of any personal items accompanying the resident upon admission to the facility, or which are brought to the resident during his/her stay in the facility, which are to be returned to the resident or responsible party upon discharge, transfer or death. II/III
33. Each married resident shall be assured privacy for visits by his/her spouse. II/III
34. If both husband and wife are residents, they shall be allowed the choice of sharing or not sharing a room. III
35. Each resident shall be allowed the option of purchasing or renting goods or services not included in the per diem or monthly rate from a supplier of his/her own choice, provided the quality of goods or services meets the reasonable standards of the facility. Freedom of choice of pharmacy shall be permitted provided the facility's policy and procedures for packaging specifications are met. II/III

36. Residents shall not have their personal lives regulated or controlled beyond reasonable adherence to meal schedules and other written policies which may be necessary for the orderly management of the facility and the personal safety of the residents. II

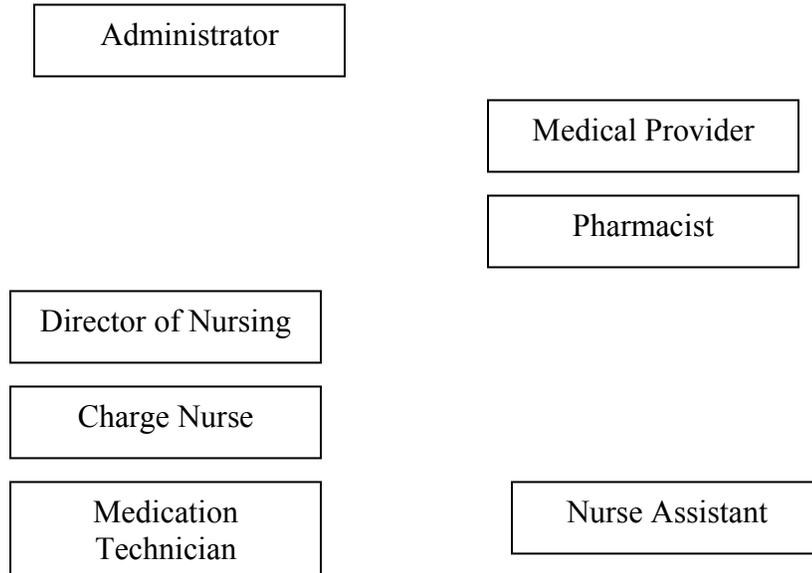
LESSON PLAN: 2

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

EVALUATION ITEMS:

1. Trace the lines of authority.



Match the following occupations and primary responsibilities.

- | | |
|--|--------------------------|
| ___ 2. Leads the nursing team. | a. Medication Technician |
| ___ 3. Gives orders to initiate drug therapy. | b. Pharmacist |
| ___ 4. Labels and packages medications. | c. Medical Provider |
| ___ 5. Prepares and administers non-parenteral medications only. | d. Registered Nurse |
| ___ 6. Is responsible for all departments in the facility. | e. Administrator |

Circle the letter of the best answer.

7. Who would you contact first if you have a question about a resident's reaction to a medication?
- a. Certified Nurse Assistant.
 - b. Pharmacist.
 - c. Physician.
 - d. Charge Nurse.

8. Select the statement that includes responsibilities the medication technician CANNOT do.
- a. Prepares and administers oral medications, transcribes orders, and inventories drugs.
 - b. Safeguards medications, maintains aseptic technique, and administers eye drops.
 - c. Administers oxygen by re-breathing mask, injects parenteral drugs, administers bladder instillations, and disposes of medications.
 - d. Applies ointments, records drugs administered, reports information related to drug administration, and reorders medication from the pharmacy.
9. Telling a resident “If you don’t be quiet, I’ll tie your hands down” is an example of ____ .
- a. assault
 - b. defamation of character
 - c. libel
 - d. invasion of privacy
10. Which of the following guidelines will help you to avoid medical/legal problems?
- a. remembering that the resident is the nurse’s responsibility
 - b. violating resident rights
 - c. performing any task the resident or family asks you to
 - d. being familiar with facility and pharmacy policies and procedures

LESSON PLAN: 3

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

SCOPE OF UNIT:

This unit covers course objectives and requirements, the role of the medication technician related to the health care team, and state and federal controls.

INFORMATION TOPIC: I-3 OR DEMONSTRATION:

STATE AND FEDERAL CONTROLS
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Match terms related to the medication technician from state regulations to their definitions.
2. Identify the state regulations related to drug administration.
3. Identify key points in the state regulations related to drug administration.
4. Identify what must be included on medication records.
5. Identify the two federal regulations related to drug administration.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. 13 CSR 15-14: Intermediate Care and Skilled Nursing Facility.
2. HO 4: Construction Standards and Physical Plant Requirements for Medication Rooms and Oxygen Storage.
3. HO 5: Excerpts from Missouri's Pharmacy Law.
4. HO 6: Excerpts from Missouri's Nurse Practice Acts.
5. HO 7: Schedules of Controlled Substances.
6. Excerpts from Federal Regulations (OBRA) for Skilled Nursing Facilities (SNFs) and Nursing Facilities (NFs).

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 3 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

The guidelines for medication administration in the long-term care facility are dictated by state and federal regulations. An overview of these regulations and specific points in state regulations will be discussed.

LESSON PLAN: 3

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

OUTLINE:

- I. Definitions Pertaining to the Medication Technician from State Regulations
 - A. Certified Medication Technician – shall mean a nursing assistant who has completed a course in medication administration approved by the Department of Health & Senior Services.
 - B. Chemical restraint – shall mean any medication that is used for discipline or convenience and not required to treat medical symptoms. For the purpose of this definition, discipline means any action taken by the facility for the purpose of penalizing a resident and convenience means any action take by the facility to control a resident’s behavior or maintain a resident with a lesser amount of effort by the facility and not in the resident’s best interest.
 - C. Control of medication – shall mean assuming responsibility by the facility for all facets of control of medication including, but not limited to, acquisition, storage, security, and administration.
 - D. Premises – shall mean any structure or structures that are in close proximity one to the other and which are located on a single piece of property.
 - E. Self administration of medication – shall mean the act of actually taking or applying medication to oneself.
 - F. Self control of medication – shall mean assuming immediate responsibility by a resident for the storage and administration of medication for oneself while the facility retains ultimate control of medication.
- II. State Regulations Related to Drug Administration
 - A. Missouri Nursing Home Licensure Law and Regulations.
 - B. Missouri Pharmacy Practice Act.
 - C. Missouri Nurse Practice Act.
 - D. Missouri Controlled Substances Act.
- III. What Medications Records Must Include
 - A. Resident’s full name

- B. Name of physician
- C. Allergies
- D. Date.
- E. Time.
- F. Dosage.
- G. Method of administration.
- H. Sites of all injections (if insulin certified).
- I. Reason for administering PRN medications.
- J. Outcome of PRN medications.
- K. Omissions of doses.
 - 1. Date.
 - 2. Time.
 - 3. Reason.
 - 4. Effect on resident if known.

IV. Federal Regulations

- A. Federal Regulations for Skilled Nursing Facilities and Nursing Facilities.
- B. Federal Controlled Substances Act.

It is essential that the medication technician be familiar with and be able to locate and refer to the regulations pertaining to medication administration. The next lesson is on medication terminology and abbreviations.

Division 15-Division of Health & Human Services
Chapter 14 - Intermediate Care and Skilled
Nursing Facility

**19 CSR 30-85.042 Administration and
Resident Care Requirements for New and
Existing Intermediate Care and Skilled
Nursing Facilities**

PURPOSE: This rule establishes standards for administration and resident care in an intermediate care or skilled nursing facility.

PUBLISHER'S NOTE: The publication of the full text of the material that the adopting agency has incorporated by reference in this rule would be unduly cumbersome or expensive. Therefore, the full text of that material will be made available to any interested person at both the Office of the Secretary of State and the office of the adopting agency, pursuant to section 536.031.4, RSMo. Such material will be provided at the cost established by state law.

Editor's Note: underlined regulations are specific to the duties and responsibilities of certified medication technicians. I, II, and III refer to the class of deficiencies. Class I deficiencies are the violation in which would present either imminent danger to the health, safety, or welfare of any resident, death or serious harm. Class II deficiencies are violations which have a direct or immediate relationship to the health, safety, or welfare of any resident but does not create imminent danger. Class III is deficiencies that have an indirect or a potential impact on any resident.

- (1) The operator shall designate a person as administrator who holds a current license as a nursing home administrator in Missouri. II
- (2) The facility shall post the administrator's license. III
- (3) The operator shall be responsible to assure compliance with all applicable laws and rules. The administrator shall be fully authorized and empowered to make decisions regarding the operation of the facility and shall be held

responsible for the actions of all employees. The administrator's responsibilities shall include the oversight of residents to assure that they receive appropriate nursing and medical care. II/III

(4) The administrator shall be employed in the facility and serve in the capacity on a full-time basis. An administrator cannot be listed or function as an administrator in more than one (1) licensed facility at the same time, except that one (1) administrator may serve as the administrator of more than one (1) licensed facility if all facilities are on the same premises. II/III

(5) The licensed administrator shall not leave the premises without delegating the necessary authority in writing to a responsible individual. If the administrator is absent from the facility for more than thirty (30) consecutive days the person designated to be administrative charge shall be a currently licensed nursing home administrator. Such thirty (30) consecutive-day absences may only occur once within any consecutive twelve (12)-month period. I/II

(6) The facility shall not knowingly admit or continue to care for residents whose needs cannot be met by the facility directly or in cooperation with outside resources. Facilities which retain residents needing skilled nursing care shall provide licensed nurses for these procedures. III

(7) When outside resources are used to provide services to the resident, the facility shall enter into a written agreement with each resource. III

(8) Persons under seventeen (17) years of age shall not be admitted as residents to the facility unless the facility cares primarily for residents less than seventeen (17) years of age. III

(9) The facility shall not care for more residents than the number for which the facility is licensed. II

(10) The facility's current license shall be readily visible in a public area within the facility. Notices provided to the facility by the Division of Aging granting exceptions to regulatory requirements shall be posted with the facility's license. III

(11) Regular daily visiting hours shall be established and posted. Relatives or guardians

and clergy, if requested by the resident or family, shall be allowed to see critically ill residents at any time unless the physician orders otherwise in writing. II/III

(12) A supervising physician shall be available to assist the facility in coordinating the overall program of medical care offered in the facility. II

(13) The facility shall develop policies and procedures applicable to its operation to insure the residents' health and safety and to meet the residents' needs. At a minimum, there shall be policies covering personnel practices, admission, discharge, payment, medical emergency treatment procedures, nursing practices, pharmaceutical services, social services, activities, dietary, housekeeping, infection control, disaster and accident prevention, residents' rights and handling residents' property. II/III

(14) A pharmacist currently licensed in Missouri shall assist in the development of written policies and procedures regarding pharmaceutical services in the facility. II/III

(15) All personnel shall be fully informed of the policies of the facility and of their duties. II/III

(16) All persons who have any contact with the residents in the facility shall not knowingly act or omit any duty in a manner which would materially and adversely affect the health, safety, welfare or property of a resident. I

(17) Effective August 28, 1997, each facility shall, not later than two (2) working days of the date an applicant for a position to have contact with residents is hired, request a criminal background check, as provided in sections 43.530, 43.540 and 610.120, RSMo. Each facility must maintain in its record documents verifying that the background checks were requested and the nature of the response received for each such request. The facility must ensure that any applicant who discloses prior to the check of his/her criminal records that he/she has been convicted of, plead guilty or nolo contendere to, or has been found guilty of any A or B felony violation of Chapter 565, 566 or 569, RSMo, or any violation of subsection 3 of section 198.070, RSMo, or of section 568.020, RSMo, will not be allowed to work in contact

with patients or residents until and unless a check of the applicant's criminal record shows that no such conviction occurred. II/III

(18) The facility must develop and implement written policies and procedures which require that persons hired for any position which is to have contact with any patient or resident have been informed of their responsibility to disclose their prior criminal history to the facility as required by section 660.317.5, RSMo. The facility—

(A) Shall also develop and implement policies and procedures which ensure that the facility does not knowingly hire, after August 28, 1997, any person who has or may have contact with a patient or resident, who has been convicted of, plead guilty or *nolo contendere*

(B) May consider for employment, in positions which have contact with resident or patients, any person who has been granted a good cause waiver by the division in accordance with the provisions of section 660.317, RSMoSupp. 1999 and 13 CSR 30-82.060; and;

(C) Shall contact the division to confirm the validity of an applicant's good cause waiver prior to hiring the applicant. II/III

(19) No person who is listed on the employee disqualification list maintained by the division as required by section 198.070, RSMo shall work or volunteer in the facility in any capacity whether or not employed by the operator. II

(20) The facility shall develop and offer an in-service orientation and continuing educational program for the development and improvement of skills of all the facility's personnel, appropriate for their job function. Facilities shall begin providing orientation on the first day of employment for all personnel including licensed nurses and other professionals. At a minimum, this shall cover prevention and control of infection, facility policies and procedures including emergency protocol, job responsibilities and lines of authority, confidentiality of resident information and preservation of resident dignity including protection of the resident's privacy and instruction regarding the property rights of residents. Nursing assistants who have not successfully completed the classroom portion of the state-approved training program prior to employment shall not provide direct resident care until they have completed at least sixteen

(16)-hour, orientation module and at least twelve (12) hours of supervised practical orientation. This shall include, in addition to the topics covered in the general orientation for all personnel, special focus on facility protocols as well as practical instruction on the care of the elderly and disabled. This orientation shall be supervised by a licensed nurse who is on duty in the facility at the time orientation is provided. II/III

(21) Nursing assistants who have not successfully completed the state-approved training program shall complete a comprehensive orientation program within sixty (60) days of employment. This may be part of a nursing assistant training program taught by an approved instructor in the facility. It shall include, at a minimum, information on communicable disease, hand washing and infection control procedures, resident rights, emergency protocols, job responsibilities and lines of authority. II/III

(22) The facility must ensure there is a system of in-service training for nursing personnel which identifies training needs related to problems, needs, care of residents and infection control and is sufficient to ensure staff's continuing competency. II/III

(23) Facilities shall conduct at least annual in-service education for nursing personnel including training in restorative nursing. This training by a registered nurse or qualified therapist shall include: turning and positioning for the bedridden resident, range of motion (ROM) exercises, ambulation assistance, transfer procedures, bowel and bladder retraining and self-care activities of daily living. II/III

(24) A registered nurse shall be responsible for the planning and then assuring the implementation of the in-service education program for nursing personnel. II

(25) Facilities shall maintain records which indicate the subject of, and attendance at, all in-service sessions. III

(26) All authorized personnel shall have access to the legal name of each resident, name and telephone number of physician and next of kin or responsible party of each resident to contact in the event of emergency. II/III

(27) The facility must develop and implement policies and procedures which ensure employees are screened to identify communicable diseases and ensure that employees diagnosed with communicable diseases do not expose residents to such diseases. The facility's policies and procedures must comply with the Missouri Department of Health's regulations pertaining to communicable diseases, specifically 19 CSR 20-20.010 through 19 CSR20-20.100, as amended. II

(28) The administrator shall maintain on the premises an individual personnel record on each employee of the facility which shall include: the employee's name and address; Social Security number; date of birth; date of employment; experience and education; references, if available; the result of background checks required by section 660.317, RSMo; position in the facility; record that the employee was instructed on resident's rights; basic orientation received; and reason for termination, if applicable. Documentation shall be on file of all training received within the facility in addition to current copies of licenses, transcripts, certificates, or statements evidencing competency for the position held. Facilities shall retain personnel records for at least one (1) year following termination of employment. III

(29) Facilities shall maintain written documentation on the premises showing actual hours worked by each employee. III

(30) All persons who have or may have contact with residents shall at all times when on duty or delivering services wear an identification badge. The badge shall give their name, title and, if applicable the status of their license or certification as any kind of health care professional. This rule shall apply to all personnel who provide services to any resident directly or indirectly. III

(31) Employees other than nursing personnel shall be at least sixteen (16) years of age. II/III

(32) Nursing personnel shall be at least eighteen (18) years of age except that a person between the ages of seventeen (17) years of age and eighteen (18) years of age may provide direct resident care if he/she has successfully completed the state-approved nursing assistant course and has been certified with his/her name on the state nursing assistant register. He/she

must work under the direct supervision of a licensed nurse and will never be left responsible for a nursing unit. II/III

(33) All nurses employed by the facility shall be currently licensed in Missouri. II

(34) All facilities shall employ a director of nursing on a full-time basis who shall be responsible for the quality of patient care and supervision of personnel rendering patient care. II

(35) Licensed Nursing Requirements; Skilled Nursing Facility.

(A) The director of nursing shall be a registered nurse. II

(B) A registered nurse shall be on duty in the facility on the day shift. Either a licensed practical nurse (LPN) or a registered professional nurse (RN) shall be on duty in the facility on both the evening and night shifts. II

(C) A registered nurse shall be on call during the time when only an LPN is on duty. II

(36) Licensed Nursing Requirements; Intermediate Care Facilities.

(A) The director of nursing shall be either an RN or an LPN. II

(B) When the director of nursing is an LPN, an RN shall be employed as consultant a minimum of four (4) hours per week to provide consultation to the administrator and the director of nursing in matters relating to nursing care in the facility. II

(C) An LPN or RN shall be on duty and in the facility on the day shift. II

(D) An LPN or RN shall be on call twenty-four (24) hours a day, seven (7) days a week. I/II

(37) All facilities shall employ nursing personnel in sufficient numbers and with sufficient qualifications to provide nursing and related services which enable each resident to attain or maintain the highest practicable level of physical, mental and psychosocial well-being. Each facility shall have a licensed nurse in charge who is responsible for evaluating the needs of the residents on a daily and continuous basis to ensure there are sufficient, trained staff present to meet those needs. I/II

(38) Nursing personnel shall be on duty at all times on each resident-occupied floor. II

(39) Nursing assistants employed after January 1, 1980, shall have completed mandatory training as required by section 198.082, RSMo, or be enrolled in the course and functioning under the supervision of a state approved instructor of clinical supervisor as part of the one hundred (100) hours of on-the-job training. The person enrolled shall have successfully completed the course and become certified within one (1) year of employment with a licensed-only facility or within four (4) months of employment with a facility certified under Title XVIII or Title XIX if he or she is to remain employed in the facility as a nursing assistant. II

(40) Nursing personnel in any facility with more than twenty (20) residents shall not routinely perform non-nursing duties. II/III

(41) Nursing personnel in facilities with twenty (20) residents or less shall perform non-nursing duties only if acceptable infection control measures are maintained. II/III

(42) Each facility resident shall be under the medical supervision of a Missouri-licensed physician who has been informed of the facility's emergency medical procedures and is kept informed of treatments or medications prescribed by any other professional lawfully authorized to prescribe medications. I/II

(43) Facilities shall ensure that at the time the resident is admitted, the facility obtains from a physician the resident's primary diagnosis along with current medical findings and the written orders for the immediate care of the resident. II/III

(44) The facility shall ensure that the resident's private physician, the physician's designee, the facility's supervising physician or an alternate physician shall examine the resident at least annually, and shall examine the resident as often as necessary to ensure proper medical care. I/II

(45) For each medical examination, the physician must review the resident's care, including medications and treatments; write, sign and date progress notes; and sign and date all orders. The facility shall establish a policy requiring the physician to sign orders and to complete all other

documentation required if the physician does not visit the resident routinely. II/III

(46) No medication, treatment or diet shall be given without a written order from a person lawfully authorized to prescribe such and the order shall be followed. No restraint shall be applied except as provided in 13 CSR 30-88.010, Resident Rights. I/II

(47) There shall be a safe and effective system of medication distribution, administration, control and use. I/II

(48) Verbal and telephone orders for medication or treatment shall be given only to those individuals licensed or certified to accept orders. Orders shall be immediately reduced to writing and signed by that individual. If a telephone order is given to a certified medication technician, an initial dose of medication or treatment shall not be given until the order has been reviewed by telephone or in person by a licensed nurse or pharmacist. The review shall be documented by the reviewer cosigning the telephone order. II

(49) Medications shall be administered only by a licensed physician, a licensed nurse or a medication technician who has successfully completed the state-approved course for medication administration. II

(50) Injectable medication, other than insulin, shall be administered only by a licensed physician or a licensed nurse. Insulin injections may be administered by a certified medication technician who has successfully completed the state-approved course for insulin administration. II

(51) Self-administration of medication is permitted only if approved in writing by the resident's physician and it is in accordance with the facility's policy and procedures. II

(52) All medication errors and adverse reactions shall be reported immediately to the nursing supervisor and the resident's physician and, if there was a dispensing error, to the issuing pharmacist. II/III

(53) At least monthly a pharmacist or a registered nurse shall review the drug regimen of each resident. Irregularities shall be reported in

writing to the resident's physician, the administrator, and the director of nurses. There must be written documentation which indicates how the reports were acted upon. II/III

(54) All prescription medications shall be supplied as individual prescriptions. All medications, including over-the-counter medications, shall be packaged and labeled in accordance with applicable professional pharmacy standards and state and federal drug laws and regulations. The *United States Pharmacopoeia* (USP) labeling shall include accessory and cautionary instructions as well as the expiration date, when applicable, and the name of the medication as specified in the physician's order. Over-the-counter medications for individual residents shall be labeled with at least the resident's name. II/III

(55) If the resident brings medications to the facility, they shall not be used unless the contents have been examined, identified and documented by a pharmacist or a physician. II/III

(56) Facilities shall store all external and internal medications at appropriate temperatures in a safe, clean place and in an orderly manner apart from foodstuffs and dangerous chemicals. A facility shall secure all medications, including those refrigerated, behind at least one (1) locked door or cabinet. Facilities shall store containers of discontinued medication separately from current medications. II/III

(57) Facilities shall store Schedule II medications, including those in the emergency drug supply, under double lock separately from non-controlled medication. Schedule II medications may be stored and handled with other non-controlled medication if the facility has a single unit dose drug distribution system in which the quantity stored is minimal and a missing dose can be readily detected. II

(58) Upon discharge or transfer, a resident may be given medications with a written order from the physician. Instructions for the use of those medications will be provided to the resident or the resident's designee. III

(59) All non-unit doses and all controlled

substances which have been discontinued must be destroyed on the premises within thirty (30) days. Outdated, contaminated, or deteriorated medications and non-unit dose medications of deceased residents shall be destroyed within thirty (30) days. Unit dose medications returnable to the pharmacy shall be returned within thirty (30) days. II/III

(60) Medications shall be destroyed in the facility by a pharmacist and a licensed nurse or by two (2) licensed nurses. III

(61) Facilities shall maintain records of medication destroyed in the facility. Records shall include: the resident's name; the date; the name, strength, and quantity of the medication; the prescription number; and the signatures of the participating parties. III

(62) The facility shall maintain records of medication released to the family or resident upon discharge or to the pharmacy. Records shall include: the resident's name; the date; the name, strength and quantity of the medication; the prescription number; and the signature of the persons releasing and receiving the medication. III

(63) The facility must establish a system of records of receipt and disposition of all controlled drugs in sufficient detail to enable an accurate reconciliation. The system must enable the facility to determine that drug records are in order and that an account of all controlled drugs is maintained and reconciled. II/III

(64) Facilities shall make available to all nursing staff up-to-date reference material on all medications in use in the facility. III

(65) The facility shall develop policies to identify any emergency stock supply of prescription medications to be kept in the facility for resident use only. This emergency drug supply must be checked at least monthly by a pharmacist to ensure its safety for use and compliance with facility policy. A facility shall have the emergency drug supply readily available to medical personnel and use of medications in the emergency drug supply shall assure accountability. III

(66) Each resident shall receive twenty-four (24)-hour protective oversight and supervision.

For residents departing the premises on voluntary leave, the facility shall have, at a minimum, a procedure to inquire of the resident or resident's guardian of the resident's departure, of the resident's estimated length of absence from the facility, and of the resident's whereabouts while on voluntary leave. I/II

(67) Each resident shall receive personal attention and nursing care in accordance with his/her condition and consistent with current acceptable nursing practice. I/II

(68) Each resident shall be clean, dry and free of body and mouth odor that is offensive to others. I/II

(69) Taking into consideration the resident's preferences, residents shall be well-groomed and dressed appropriately for the time of day, the environment and any identified medical conditions. II/III

(70) Residents who are physically or mentally incapable, or both, of changing their own positions shall have their positions changed at least every two (2) hours and shall be provided supportive devices to maintain good body alignment. I/II

(71) The facility must provide each resident the opportunity to access sufficient fluids to maintain proper hydration in accordance with the resident's medical condition and goals of treatment as documented in the medical record. I/II

(72) All residents who require assistance at mealtimes, whether it is preparation of the food items or actual feeding, shall be provided the assistance upon delivery of the tray. Facilities shall provide dining room supervision during meals. II/III

(73) Facilities shall provide each resident, according to his/her needs, with restorative nursing to encourage independence, activity and self-help to maintain strength and mobility. Each resident shall be out of bed as desired unless medically contraindicated. II

(74) Each resident shall have skin care including the application of oil, lotion and cream as needed to prevent dryness and scaling of skin. II/III

(75) Facilities shall keep residents free from avoidable pressure sores, taking measures toward prevention. If sores exist, staff shall give adequate treatment. I/II

(76) Facility staff shall check residents requiring restraints every thirty (30) minutes and exercise the residents every two (2) hours. II/III

(77) Facilities shall not use locked restraints. I

(78) Residents shall be cared for by using acceptable infection control procedures to prevent the spread of infection. The facility shall make a report to the division within seven (7) days if a resident is diagnosed as having a communicable disease, as determined by the Missouri Department of Health and listed in the Code of State Regulations pertaining to communicable diseases, specifically 19 CSR 20-20.020, as amended. I/II

(79) In the event of accident, injury, or significant change in the resident's condition, facility staff shall notify the resident's physician in accordance with the facility's emergency treatment policies which have been approved by the supervising physician. I/II

(80) In the event of accident, injury or significant change in the resident's conditions, facility staff shall immediately notify the person designated in the resident's record as the designee or responsible party. III

(81) Staff shall inform the administrator of accidents, injuries and unusual occurrences which adversely affect, or could adversely affect the resident. The facility shall develop and implement responsive plans of action. III

(82) Facilities shall ensure that each resident is provided individual personal care items necessary for good grooming. Items shall be stored and maintained in a clean manner within the resident's room. III

(83) Facilities shall provide equipment and nursing supplies in sufficient number to meet the needs of the residents. II/III

(84) Facilities shall keep all utensils and equipment in good condition, effectively sanitized, sterilized, or both, and stored to prevent contamination. II/III

(85) Staff shall ensure that bedpans, commodes, and urinals are covered after use, emptied promptly and thoroughly cleaned after use. II/III

(86) Facilities shall provide and use a sufficient supply of clean bed linen, including sheets, pillow cases, blankets, and mattress pads to assure that resident beds are kept clean, neat, dry and odor free. II/III

(87) Staff shall use moisture proof covers as necessary to keep mattresses and pillows clean, dry and odor free. II/III

(88) Facilities shall provide each resident with fresh bath towels, hand towels and washcloths as needed for individual usage. II/III

(89) In addition to rehabilitative or restorative nursing, all facilities shall provide or make arrangements for providing rehabilitation services to all residents according to their needs. If a resident needs rehabilitation services, a qualified therapist shall perform an evaluation on written order of the resident's physician.

(90) Facilities shall ensure that rehabilitation services are provided by or under the on-site supervision of a qualified therapist or a qualified therapy assistant who works under the general supervision of a qualified therapist. I/II

(91) Staff shall include the following in documentation of rehabilitation services: physician's written approval for proposed plan of care; progress notes at least every thirty (30) days by the therapist; daily record of the procedure(s) performed; summary of therapy when rehabilitation has been reached and, if applicable, recommendations for maintenance procedures by restorative nursing. III

(92) The facility shall designate a staff member to be responsible for the facility's social services program. The designated staff person shall be capable of identifying social and emotional needs, knowledgeable of methods or resources, or a combination of these, to use to meet them and services shall be provided to residents as needed. II/III

(93) The facility shall designate an employee to be responsible for the activity program. The designated person shall be capable of identifying

activity needs of residents, designing and implementing programs to maintain or increase, or both, the resident's capability in activities of daily living. Facilities shall provide activity programs on a regular basis. Each resident shall have a planned activity program which includes individualized activities, group activities and activities outside the facility as appropriate to his/her needs and interests. II/III

(94) The facility shall provide and use adequate space and equipment within the facility for the identified activity needs of residents. II/III

(95) The facility shall establish and maintain a program for informing all residents in advance of available activities, activity location and time. III

(96) Facility staff shall include the following general information in admission records: resident's name; prior address; age (birth date); sex; marital status; Social Security number, Medicare and Medicaid numbers; date of admission; name, address and telephone number of responsible party; name, address and telephone number of attending physician; height and weight on admission; inventory of resident's personal possessions upon admission; and names of preferred dentist, pharmacist and funeral director. II/III

(97) Facility staff shall include physician entries in the medical record with the following information: admission diagnosis, admission physical and findings of subsequent examinations; progress notes; orders for all medications and treatment; orders for extent of activity; orders for restraints including type and reason for restraint; orders for diet; and discharge diagnosis or cause of death. II/III

(98) Residents admitted to a facility on referral by the Department of Mental Health shall have an individualized treatment plan or individualized habilitation plan on file which is updated annually. III

(99) Facilities shall ensure that the clinical record contains sufficient information to

- (A) Identify the resident;
- (B) Reflect the initial and ongoing assessments and interventions by each discipline involved in the care and treatment of the resident; and
- (C) Identify the discharge or transfer

destination. II/III

(100) Facilities shall ensure that the resident's clinical record must contain progress notes that include, but are not limited to:

- (A) Response to care and treatment;
- (B) Change(s) in physical, mental and psychosocial condition;
- (C) Reasons for changes in treatment; and
- (D) Reasons for transfer or discharge. II/III

(101) The facility must safeguard clinical record information against loss, destruction, or unauthorized use. III

(102) The facility must keep all information confidential that is contained in the resident's records regardless of the form or storage method of the records, including video-, audio- or computer-stored information. III

(103) The facility must maintain clinical records on each resident in accordance with accepted professional standards and practices. These records shall be complete, accurately documented, readily accessible on each nursing unit and systematically organized. II/III

(104) Facilities must retain clinical records for the period of time required by state law or five (5) years from the date of discharge when there is no requirement in state law. III

(105) Facilities shall retain all financial records related to the facility operation for seven (7) years from the end of the facility's fiscal year. III

(106) In the event the resident is transferred from the facility, the resident shall be accompanied by a copy of the medical history, transfer forms which include the physical exam report, nursing summary and report of orders physicians prescribed. II/III

AUTHORITY: sections 198.006, RSMo Supp.2003 and 198.079, RSMo 2000..

**Original authority 1979.*

**CONSTRUCTION STANDARDS AND PHYSICAL PLANT REQUIREMENTS
FOR MEDICATION ROOMS AND OXYGEN STORAGE.**

19 CSR 30-85.012 Construction Standards for New Intermediate Care and Skilled Nursing Facilities and Additions to and Major Remodeling of Intermediate Care and Skilled Nursing Facilities (partial)

(48) Facilities shall provide a medicine preparation room next to each nurses' station that has at least sixty (60) square feet of useable floor space. Facilities shall provide a special locked medication cabinet for storage of the Class II medications inside the locked medication cabinet. If the outer cabinets are not locked, the facility must provide a closer and hardware that cannot be left unlocked on the door to the medicine room. A facility is also required to have the following in the medicine room: a work counter, handwashing sink, under cabinet storage, a medicine refrigerator, adequate lighting, and provisions for proper temperature control. II/III

19 CSR 30-85.032 Physical Plant Requirements for New and Existing Intermediate Care and Skilled Nursing Facilities (partial)

(14) Oxygen cylinders for medical use shall be labeled Oxygen - United States Pharmacopoeia (USP). Existing facilities with plans approved on or before December 31, 1998, shall have oxygen systems, oxygen piping, outlets, manifold rooms and storage rooms installed in accordance with the requirements of the NFPA 99, *Health Care Facilities*, as referenced in the 1985 *Life Safety Code*. Facilities with plans approved on or after January 1, 1999, shall install oxygen systems in compliance with the 1996 NFPA 99 and the 1997 *Life Safety Code*. I/II

(26) The facility shall provide either a nursing station or a nurses' work area on each floor of a multi-story facility. This area shall have chart storage space on current residents. Facilities licensed or with plans approved on or after July 1, 1965, shall have a nurses' station for every sixty (60) beds. Handwashing facilities at or near the nurses' station shall be available for physicians, nurses and other personnel, attending residents. II/III

EXCERPTS FROM MISSOURI PHARMACY LAW

Missouri pharmacy law is found in Chapter 338 of the Revised Statutes of Missouri. The practice of pharmacy includes participating in drug selection and drug use review, dispensing drugs pursuant to prescription orders, and consulting with patients and health care practitioners about safe and effective use of drugs. Only pharmacists and pharmacy technicians under the supervision of a pharmacist may package, label, and dispense prescriptions to Long Term Care Facility (LTCF) residents from a pharmacy.

Prescribers, such as physicians and dentists, are allowed under pharmacy law to dispense to their patients. Although not specifically provided for in pharmacy law, nurses and physician assistants may dispense medications under the authority of a physician in certain settings as allowed by state law.

Pharmacies that provide services to LTCFs must have specific LTCF policies and procedures that are in compliance with regulations for receiving new prescriptions; packaging, labeling, and dispensing prescriptions; and accepting returned prescriptions.

Pharmacies may receive orders from LTCFs as prescriptions if the order is initiated by a prescriber and entered into the resident's medical record by the prescriber or qualified personnel. Only a pharmacist can change the package or label of a dispensed prescription.

Prescriptions that are returned to the pharmacy cannot be reused unless there is assurance that they have been properly stored, were originally dispensed by that pharmacy to the LTCF, and remain in the original tamper-evident or unit of use packaging.

Pharmacies may operate automated dispensing systems located physically in LTCFs. A pharmacist must review and approve a new medication order before the medication is released from the system storage cabinet. The pharmacy is responsible for stocking, security, record keeping, and procedures for use of the system by facility staff.

EXCERPTS FROM THE MISSOURI NURSE PRACTICE ACT

NURSING 335.016: (7) "Practical nursing" is the performance for compensation of selected acts for the promotion of health and the care of persons who are ill, injured, or experiencing alterations in normal health processes. Such performance requires substantial specialized skill, judgment, and knowledge. All such nursing care shall be given under the direction of a person licensed in this state to prescribe medications and treatments or under the direction of a registered professional nurse.

(8) "Professional nursing" is the performance for compensation of any act which requires substantial specialized education, judgment, and skill based on knowledge and application of principles derived from the biological, physical, social and nursing sciences, including, but not limited to:

(c) The administration of medications and treatments as prescribed by a person licensed in this state to prescribe such medications and treatments;

335.081. Exempted practices and practitioners - So long as the person involved does not represent or hold himself out as a nurse licensed to practice in this state, no provision of sections 335.011 to 335.096 shall be construed as prohibiting:

(2) The services rendered by technicians, nurses' aides or their equivalent trained and employed in public or private hospitals and licensed long-term care facilities except the services rendered in licensed long-term care facilities shall be limited to administering medication, excluding injectables other than insulin.

Interpretation - Under 335.016 only a nurse may administer medications. However, 335.081 (2) makes an exception and allows trained aides (CMT's) to administer medications in licensed long-term care facilities excluding injectables other than insulin. However, in order to give insulin, special training is required.

SCHEDULES OF CONTROLLED SUBSTANCES

Controlled substances are listed in one of five schedules. Schedule I substances have no accepted medical use in the U.S. and have high abuse potential. Schedule II drugs have high abuse potential with severe psychic or physical dependence, liability, and in general are substances that have therapeutic utility. Schedules III-V includes drugs with decreasing levels of abuse potential. Some substances are in more than one Schedule based on product content. There are some differences between federal and state schedules of controlled substances. Representative examples are listed below but the list is not all-inclusive.

SCHEDULE I

DMA	marijuana
gamma hydroxybutyric acid (GHB)	MDMA (Ecstasy)
heroin	mescaline
LSD	peyote

SCHEDULE II

amobarbital (Amytal)	meperidine (Demerol)
butyl nitrite (Rush)	methadone (Dolophine)
cocaine	methamphetamine (Desoxyn)
codeine	methylphenidate (Ritalin)
dextroamphetamine (Dexedrine, Adderal)	morphine (Roxanol, MS Contin, MSIR)
diprenorphine (M 50-50)	opium
dronabinol (Marinol)	oxycodone (Percocet, Tylox, OxyContin)
etorphine (M 99)	pentobarbital (Nembutal)
fentanyl (Sublimaze, Duragesic, Actiq)	phencyclidine (PCP)
hydromorphone (Dilaudid)	secobarbital (Seconal)
levomethadyl (Orlaam)	sufentanil (Sufenta)

SCHEDULE III

benzphetamine (Didrex)	methyltestosterone (Android, Oreton)
buprenorphine (Buprenex)	nandrolone (Deca-Durabolin)
butalbital (Fiorinal)	opium (paregoric)
codeine (Tylenol or Fiorinal w/codeine)	pentobarbital (Beuthanasia-D Special)
dihydrocodeine (Synalgos DC)	phendimetrazine (Prelu-2)
fluoxymesterone (Halotestin)	stanazolol (Winstrol)
gamma hydroxybutyric acid dose form	testosterone (Android-T, Delatestryl)
hydrocodone (Tussionex, Vicodin, Lortab)	thiopental (Pentothal)
ketamine (Ketalar, Vetalar, Ketaset)	tiletamine/zolazepam (Telazol)

SCHEDULE IV

alprazolam (Xanax)	mephobarbital (Mebaral)
butorphanol (Stadol, Torbugesic)	meprobamate (Equanil)
chloral hydrate (Noctec, Somnos)	methohexital (Brevital)
chlor diazepoxide (Librium)	midazolam (Versed)
clonazepam (Klonopin)	modafinil (Provigil)
clorazepate (Tranxene)	oxazepam (Serax)
codeine (Robitussin AC, Phenergan w/ Codeine)	paraldehyde
dextropropoxyphene (Darvon, Darvocet)	pemoline (Cylert)
diazepam (Valium)	pentazocine (Talwin)
dichloralphenazone (Midrin)	phenobarbital
difenoxin (Motofen)	phentermine (Ionamin, Fastin)
diethylpropion (Tenuate)	sibutramine (Meridia)
ephedrine	temazepam (Restoril)
ethchlorvynol (Placidyl)	triazolam (Halcion)
flurazepam (Dalmane)	zaleplon (Sonata)
lorazepam (Ativan)	zolpidem (Ambien)
mazindol (Sanorex)	

SCHEDULE V

diphenoxylate (Lomotil)

EXEMPTED or EXCLUDED SUBSTANCES

butalbital (Fioricet)	chlordiazepoxide (Librax)
l-deoxyephedrine (Vicks inhaler)	propylhexedrine (Benzedrex inhaler)

LESSON PLAN: 3

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: I INTRODUCTION

EVALUATION ITEMS:

Match definitions on the left with terms on the right.

- | | | |
|--------|--|--------------------------------------|
| ___ 1. | Any medication that is used for discipline or convenience and is not required to treat medical symptoms. | a. Certified Medication Technician |
| ___ 2. | Immediate responsibility by a resident for the storage and administration of medication for oneself while the facility retains ultimate control of the medication. | b. Chemical restraint |
| ___ 3. | Any structure or structures that are in close proximity one to the other and which are located on a single piece of property | c. Control of medication |
| ___ 4. | Responsibility by the facility for all facets of control of medication, including but not limited to acquisition, storage, security, and administration of medication. | d. Premises |
| ___ 5. | The act of actually taking or applying medication to oneself | e. Self administration of medication |
| ___ 6. | A nursing assistant who has completed a course in medication administration approved by the Division of Health & Senior Services. | f. Self control of medication |
| 7. | What are two state regulations related to drug administration? | |
| | a. | |
| | b. | |

Circle the letter of the best answer.

8. How soon should verbal orders be put in writing?
- a. Within 24 hours.
 - b. The next day.
 - c. Immediately.
 - d. By the next shift.

9. The medication technician does not give the initial dose or treatment on a phone order until the order is reviewed by ____ .
- a. no one
 - b. another CMT
 - c. the administrator
 - d. licensed nurse or pharmacist
10. Medications brought to the facility by the resident ____ .
- a. can be used right away
 - b. cannot be used at all
 - c. can be used after 7 days
 - d. cannot be used unless identified by a pharmacist or physician
11. What information must be included on medication records?
- a.
 - b.
 - c.
 - d.
 - e.
 - f.
 - g.
 - h.
12. What are two federal regulations related to drug administration?
- a.
 - b.

LESSON PLAN: 4

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

SCOPE OF UNIT:

This unit includes medication terminology, dosage, measurements, drug forms, transcribing physician's orders, packaging, storage, and accountability.

INFORMATION TOPIC: II-4 OR DEMONSTRATION:

MEDICATION TERMINOLOGY AND ABBREVIATIONS

(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Match terms to their definitions related to the administration of medications.
2. Record abbreviations related to the administration of medications.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Word games.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 4 prior to class and be prepared to discuss the information presented.

INTRODUCTION

The words used in the health care field may be strange to non-medical persons. It is important that you learn the meaning of the words and symbols used to assure accuracy and to avoid errors in the preparation, administration, and recording of medications. This lesson deals with such words and symbols.

LESSON PLAN: 4

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

OUTLINE:

- I. Terminology Related to Medication Administration
 - A. Addiction – emotional or physiological dependence upon a drug which has progressed beyond voluntary control.
 - B. Adverse drug affect – a harmful, unintended reaction to a drug administered at normal dosage.
 - C. Allergic reaction.
 1. Hypersensitivity – unusual sensitivity to a drug such as mild skin rash, swelling, itching, and nasal congestion.
 2. Anaphylaxis – severe, life threatening hypersensitivity to a drug such as extreme weakness, nausea and vomiting, cyanosis, dyspnea, hypotension, shock and respiratory or cardiac arrest. Usually occurs within minutes of administering the drug.
 - D. Antagonism – condition in which two drugs work against each other, decreasing effectiveness of one or both (e.g., tetracycline and antacid).
 - E. Antidote – a drug given to reverse the effects of a previously given drug.
 - F. Aural – pertaining to the ear.
 - G. Contraindications – existing conditions that the resident may have which are incompatible with the drug (e.g., Inderal given to asthmatic resident).
 - H. Controlled drugs/controlled substances – drugs covered by the Federal and State Controlled Substance Acts.
 - I. Cumulative effect – buildup of a drug in the body that may occur rapidly or slowly over time.
 - J. Disease – pathological or abnormal condition of the body.
 - K. Dosage – amount of a medication given at one time.
 - L. Drug – a substance taken into or applied to the body to treat or prevent a disease or condition (e.g., Advil).

- M. Enteric coated – tablets that are coated so that they dissolve in the small intestines rather than in the stomach.
- N. Generic name – the common name assigned to a drug; the generic name stays the same from one manufacturer to another; whereas, the trade or brand name changes with each manufacturer.
- O. Idiosyncrasy – an individual's unique hypersensitivity to a particular drug.
- P. Indications – various conditions or symptoms for which the drug may be given.
- Q. Lethal dose – amount of a drug that will cause death.
- R. Ophthalmic – pertaining to the eye.
- S. Overdose – a dose of a drug in an amount that causes an acute reaction such as coma or even death.
- T. Otic – pertaining to the ear.
- U. Parenteral – a medication route other than the digestive system such as intravenous (IV), subcutaneous (Subcut), intramuscular (IM), mucosal.
- V. Physical dependence – a physical state in which the body adapts to a drug and experiences symptoms of withdrawal when the drug is abruptly stopped or the dose is rapidly lowered. Physical dependence is a normal result of the use of certain drugs and rarely leads to addiction.
- W. Placebo – an inactive substance prescribed by a doctor as if it were an effective dose of medication and believed by the resident to be a medication.
- X. Psychological dependence – a compulsion to use a drug, often for its mood altering effects, preoccupation with obtaining and using a drug. Psychological dependence may lead to addiction.
- Y. Side effects – any effect of a drug other than the one for which it is given.
- Z. Spansule – small particles of a drug coated with compounds which require varying amounts of time to dissolve.
- AA. Subcutaneous – injected into the tissues just below the skin, dermis.
- BB. Sublingual – under the tongue, without liquid.
- CC. Synergism – two drugs working together to give an effect greater than their individual effect (e.g., analgesics with antianxiety drugs).

- DD. Therapeutic effect – the desired effect of a drug.
- EE. Tolerance – a condition in which the body becomes increasingly resistant to a drug due to continued exposure; and requiring an increased amount of a drug to produce the same effect a lesser amount previously produced.
- FF. Toxicity – symptoms or effect of poisoning of the body by a drug due to large dose of a drug or a cumulative effect of the drug.
- GG. Trade or brand name – name by which a drug is marketed; commonly recognized name of a drug.

NOTE: In 2004 the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) compiled a list of dangerous abbreviations. These abbreviations should be avoided and the terms written out. Please refer to your facility's Policy and Procedure Manual regarding approved abbreviations for your place of employment.

II. Abbreviations

NOTE: These abbreviations have been listed so that you will be familiar with them; however, some are no longer considered safe to use. Refer to HO 8 for recommended alternatives.

A. Abbreviations related to medication administration.

1. \bar{a} – before.
2. $\bar{a}\bar{a}$ – of each.
3. $\bar{a}\bar{c}$ – before meals.
4. ad lib – freely as desired.
5. ASAP/asap – as soon as possible.
6. BID or bid – twice a day.
7. \bar{c} – with.
8. C – Centigrade.
9. c/o – complaints of.
10. cap(s) – capsule(s).
11. cc – cubic centimeter.
12. elix. – elixir.

13. F – Fahrenheit.
14. gr – grain.
15. Gm, gm or g – gram.
16. gtt – drop.
17. h – hour.
18. IM – intramuscular.
19. Inh. – inhalant.
20. IV – intravenous.
21. Kg – kilogram
22. liq. – liquid.
23. mcg – microgram.
24. mEq. – milliequivalent.
25. mg. – milligram.
26. mL – milliliter
27. NPO – nothing by mouth.
28. p. – after.
29. $\bar{p}c$ – after meals.
30. PO/po – by mouth.
31. PRN/prn – as needed.
32. qh – every hour.
33. q4h – every four hours.
34. QID/qid – four times a day.
35. sl – sublingual.
36. sol. – solution.
37. STAT/Stat/stat – immediately.

38. subcut – subcutaneously.
39. Supp. – suppository.
40. Tab(s) – tablet(s).
41. TID/tid – three times a day.
42. tr. – tincture.

B. Common diagnoses abbreviations.

1. AIDS – autoimmune deficiency syndrome.
2. ARD – acute respiratory distress.
3. ASCVD – arteriosclerotic cardiovascular disease.
4. ASHD – arteriosclerotic heart disease.
5. BPH – benign prostatic hypertrophy.
6. CAD – coronary artery disease.
7. CHD – coronary heart disease or congenital hip dislocation.
8. CHI – closed head injury.
9. CHF – congestive heart failure.
10. COBS – chronic organic brain syndrome.
11. COLD – chronic obstructive lung disease.
12. CVA – cerebrovascular accident.
13. CVD – cardiovascular disease.
14. COPD – chronic obstructive pulmonary disease.
15. DJD – degenerative joint disease.
16. DM – diabetes mellitus.
17. HTN – hypertension.
18. IDDM – insulin dependent diabetes mellitus.
19. LLLI – left lower lobe infiltrate.

20. RLLI – right lower lobe infiltrate.
21. MI – myocardial infarction.
22. NIDDM – non insulin dependent diabetes mellitus.
23. OBS – organic brain syndrome.
24. PVD – peripheral vascular disease.
25. TIA – transient ischemic attack.
26. URI – upper respiratory infection.
27. UTI – urinary tract infection.

C. Laboratory test terminology.

1. BUN – blood urea nitrogen.
2. CBC – complete blood count.
3. C & S – culture and sensitivity.
4. ECG (EKG) – electrocardiogram.
5. FBS – fasting blood sugar.
6. MRSA – methicillin-resistant staphylococcus aureus.
7. RBC – red blood count.
8. VRE – vancomycin resistant enterococci.
9. VRSA – vancomycin resistant staphylococcus aureus.
10. WBC – white blood count.

D. Miscellaneous.

1. ADL – activities of daily living.
2. AKA – above the knee amputation.
3. ASAP – as soon as possible.
4. CC – chief complaint.

5. C.D.C. – Center for Disease Control.
6. CMS – Centers for Medicare and Medicaid Services.
7. DHSS – Department of Health and Senior Services.
8. Dx – diagnosis.
9. H₂O – water.
10. H & P – history and physical.
11. ICF – intermediate care facility.
12. I & O – intake and output.
13. LTC – long term care.
14. MAR – medication administration record.
15. MDS – minimum data set.
16. MSDS – material safety data sheet.
17. NKA – no known allergy.
18. OBRA – Omnibus Budget Reconciliation Act.
19. OSHA – Occupation Safety and Health Administration.
20. OTC – over the counter medications (non-prescription).
21. PDR – physician's desk reference.
22. RCF – residential care facility.
23. SNF – skilled nursing facility.

III. Summary and Conclusion

- A. Terminology related to medication administration.
- B. Abbreviations related to medication administration.

This lesson has introduced you to terms, and abbreviations commonly used by those responsible for accurately and safely preparing, administering, and recording medications. The next lesson deals with dosage, measurement, and drug forms.

ERROR-PRONE ABBREVIATIONS, SYMBOLS, AND DOSE DESIGNATIONS

This list presents abbreviations, symbols, and dose designations that are considered prone to causing medication errors. These items should be considered "dangerous" for handwritten, preprinted, or electronic forms of communication.

Abbreviations	Intended Meaning	Misinterpretation	Correction
µg	Microgram	Mistaken as "mg"	Use "mcg"
AD, AS, AU	Right ear, left ear, each ear	Mistaken as OD, OS, OU (right eye, left eye, each eye)	Use "right ear," "left ear," or "each ear"
OD, OS, OU	Right eye, left eye, each eye	Mistaken as AD, AS, AU (right ear, left ear, each ear)	Use "right eye," "left eye," or "each eye"
BT	Bedtime	Mistaken as "BID" (twice daily)	Use "bedtime"
cc	Cubic centimeters	Mistaken as "u" (units)	Use "mL"
D/C	Discharge or discontinue	Premature discontinuation of medications if D/C (intended to mean "discharge") has been misinterpreted as "discontinued" when followed by a list of discharge medications	Use "discharge" and "discontinue"
IJ	Injection	Mistaken as "IV" or "intrajugular"	Use "injection"
IN	Intranasal	Mistaken as "IM" or "IV"	Use "intranasal" or "NAS"
HS hs	Half-strength At bedtime, hours of sleep	Mistaken as bedtime Mistaken as half-strength	Use "half-strength" or "bedtime"
IU**	International unit	Mistaken as IV (intravenous) or 10 (ten)	Use "units"
o.d. or OD	Once daily	Mistaken as "right eye" (ODS-oculus dexter), leading to oral liquid medications administered in the eye	Use "daily"
OJ	Orange juice	Mistaken as OD or OS (right or left eye); drugs meant to be diluted in orange juice may be given in the eye	Use "orange juice"
Per os	By mouth, orally	The "os" can be mistaken as "left eye" (OS-oculus sinister)	Use "PO," "by mouth," or "orally"
q.d. or QD**	Every day	Mistaken as q.i.d., especially if the period after the "q" or the tail of the "q" is misunderstood as an "l"	Use "daily"
qhs	At bedtime	Mistaken as "qhr" or every hour	Use "at bedtime"
qn	Nightly	Mistaken as "qh" (every hour)	Use "nightly"
q.o.d. or QOD**	Every other day	Mistaken as "q.d." (daily) or "q.i.d. (four times daily) if the "o" is poorly written	Use "every other day"
q1d	Daily	Mistaken as q.i.d. (four times daily)	Use "daily"
q6PM, etc.	Every evening at 6 PM	Mistaken as every 6 hours	Use "6 PM nightly" or "6 PM daily"
SC, SQ, sub q	Subcutaneous	SC mistaken as SL (sublingual); SQ mistaken as "5 every;" the "q" in "sub q" has been mistaken as "every" (e.g., a heparin dose ordered "sub q 2 hours before surgery" misunderstood as every 2 hours before surgery)	Use "subcut" or "subcutaneously"
ss	Sliding scale (insulin) or ½ (apothecary)	Mistaken as "55"	Spell out "sliding scale;" use "one-half" or "1/2"
SSRI	Sliding scale regular insulin	Mistaken as selective-serotonin reuptake inhibitor	Spell out "sliding scale (insulin)"
SSI	Sliding scale insulin	Mistaken as Strong Solution of Iodine (Lugol's)	
1/d	One daily	Mistaken as "tid"	Use "1 daily"
TIW or tiw	3 times a week	Mistaken as "3 times a day" or "twice in a week"	Use "3 times weekly"
U or u**	Unit	Mistaken as the number 0 or 4, causing a 10-fold overdose or greater (e.g., rU seen as "40" or 4u seen as "44"); mistaken as "cc" so dose given in volume instead of units (eg., 4u seen as 4cc)	Use "unit"

Dose Designations And Other Information	Intended Meaning	Misinterpretation	Correction
Trailing zero after decimal point (e.g., 1.0 mg)**	1 mg	Mistaken as 10 mg if the decimal point is not seen	Do not use trailing zeros for doses expressed in whole numbers
No leading zero before a decimal dose (e.g., .5 mg)**	0.5 mg	Mistaken as 5 mg if the decimal point is not seen	Use zero before a decimal point when the dose is less than a whole unit
Drug name and dose run together (especially problematic for drug names that end in "L" such as Inderal40 mg; Tegretol300 mg)	Inderal 40 mg Tegretol 300 mg	Mistaken as Inderal 140 mg Mistaken as Tegretol 1300 mg	Place adequate space between the drug name, dose, and unit of measure
Numerical dose and unit of measure run together (e.g., 10mg, 100mL)	10 mg 100 mL	The "m" is sometimes mistaken as a zero or two zeros, risking a 10- to 100-fold overdose	Place adequate space between the dose and unit of measure
Abbreviations such as mg. or mL. with a period following the abbreviation	mg mL	The period is unnecessary and could be mistaken as the number 1 if written poorly	Use mg, mL, etc. without a terminal period
Large doses without properly placed commas (e.g., 100000 units; 1000000 units)	100,000 units 1,000,000 units	100000 has been mistaken as 10,000 or 1,000,000; 1000000 has been mistaken as 100,000	Use commas for dosing units at or above 1,000, or use words such as 100 "thousand" or 1 "million" to improve readability
Drug Name Abbreviations	Intended Meaning	Misinterpretation	Correction
ARA A	Vidarabine	Mistaken as cytarabine (ARA C)	Use complete drug name
AZT	Zidovudine (Retrovir)	Mistaken as azathioprine or aztreonam	Use complete drug name
CPZ	Compazine (prochlorperazine)	Mistaken as chlorpromazine	Use complete drug name
DPT	Demerol-Phenergan-Thorazine	Mistaken as diphtheria-pertussis-tetanus (vaccine)	Use complete drug name
DTO	Diluted tincture of opium, or deodorized tincture of opium (Paregoric)	Mistaken as tincture of opium	Use complete drug name
HCl	Hydrochloric acid or hydrochloride	Mistaken as potassium chloride (The "H" is misinterpreted as "K")	Use complete drug name unless expressed as a salt of a drug
HCT	hydrocortisone	Mistaken as hydrochlorothiazide	Use complete drug name
HCTZ	hydrochlorothiazide	Mistaken as hydrocortisone (seen as HCT250 mg)	Use complete drug name
MgSO4**	magnesium	Mistaken as morphine sulfate	Use complete drug name
MS, MS04**	morphine sulfate	Mistaken as magnesium sulfate	Use complete drug name
MTX	methotrexate	Mistaken as mitoxantrone	Use complete drug name
PCA	procaïnamide	Mistaken as Patient Controlled Analgesia	Use complete drug name
PTU	propylthiouracil	Mistaken as mercaptopurine	Use complete drug name
T3	Tylenol with codeine No. 3	Mistaken as liothyronine	Use complete drug name
TAC	triamcinolone	Mistaken as tetracaine, Adrenalin, cocaine	Use complete drug name
TNK	TNKase	Mistaken as "TPA"	Use complete drug name
ZnSO4	Zinc sulfate	Mistaken as morphine sulfate	Use complete drug name

Stemmed Drug Names	Intended Meaning	Misinterpretation	Correction
"Nitro" drip	Nitroglycerin infusion	Mistaken as sodium nitroprusside infusion	Use complete drug name
"Norflo"	Norfloxacin	Mistaken as Norflex	Use complete drug name
"IV Vanc"	Intravenous vancomycin	Mistaken as Invanz	Use complete drug name
Symbols	Intended Meaning	Misinterpretation	Correction
3	Dram	Symbol for dram mistaken as "3"	Use the metric system
℥	Nubun	Symbol for minim mistaken as "mL"	
x3d	For three days	Mistaken as "3 doses"	Use "for three days"
> and <	Greater than and less than	Mistaken as opposite of intended; mistakenly use incorrect symbol; "< 10" mistaken as "40"	Use "greater than" or "less than"
/ (slash mark)	Separates two doses or indicates "per"	Mistaken as the number 1 (e.g., "25 units/10 units" misread as "25 units and 110" units)	Use "per" rather than a slash mark to separate doses
@	At	Mistaken as "2"	Use "at"
&	And	Mistaken as "2"	Use "and"
+	Plus or and	Mistaken as "4"	Use "and"
°	Hour	Mistaken as a zero (e.g., q2° seen as q 20)	Use "hr," "h," or "hour"

** Identified abbreviations above are also included on the JCAHO's "minimum list" of dangerous abbreviations, acronyms, and symbols that must be included on an organization's "Do Not Use" list, effective May 1, 2005. Reprinted with permission © ISMP 2006.

LESSON PLAN: 4

COURSE TITLE: MEDICATION TECHNICIAN

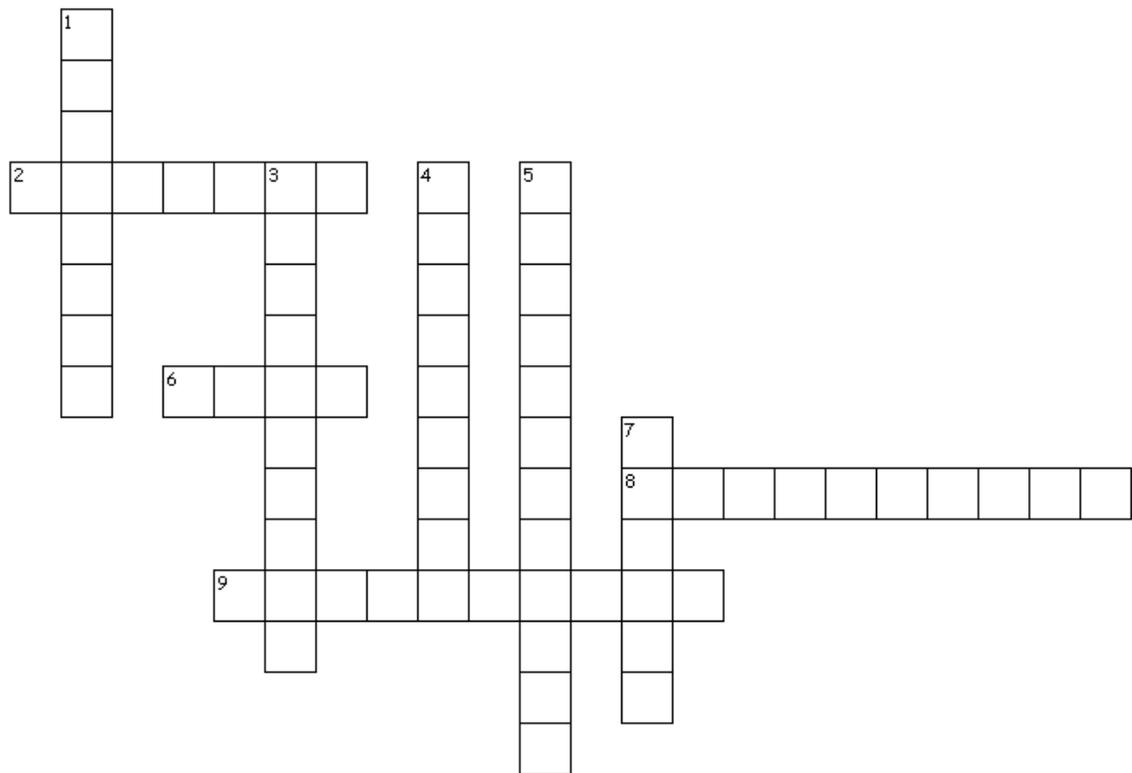
UNIT: II GENERAL PRINCIPLES

EVALUATION ITEMS:

Write the correct abbreviation in the blank.

- | | |
|--|------------------------------------|
| ___ 1. By mouth | ___ 21. Hour |
| ___ 2. Intramuscular | ___ 22. Complains of |
| ___ 3. Intravenous | ___ 23. Activities of daily living |
| ___ 4. Nothing by mouth | ___ 24. Before meals |
| ___ 5. Capsule | ___ 25. As needed |
| ___ 6. Centigrade | ___ 26. Four times daily |
| ___ 7. Drop | ___ 27. Immediately |
| ___ 8. Fahrenheit | ___ 28. Three times daily |
| ___ 9. Grain | ___ 29. With |
| ___ 10. Gram | ___ 30. Intake and output |
| ___ 11. Liquid | ___ 31. History and physical |
| ___ 12. Milligram | ___ 32. No known allergy |
| ___ 13. Milliliter | ___ 33. Water |
| ___ 14. Suppository | ___ 34. Long-term care |
| ___ 15. Solution | ___ 35. Intermediate care facility |
| ___ 16. Medication administration record | |
| ___ 17. Tablet | |
| ___ 18. After meals | |
| ___ 19. Freely as desired | |
| ___ 20. Twice daily | |

Complete the Crossword Puzzle



Across

2. pathological or abnormal condition of the body
6. pertaining to the ear
8. pertaining to the eye
9. not in or through the digestive system

Down

1. symptoms or effect of poisoning of the body by a drug due to a large dose of a drug or a cumulative effect of the drug
3. under the tongue without liquid
4. emotional or physiological dependence upon a drug which has progressed beyond voluntary control
5. injected into the tissues just below the skin, dermis
7. amount of medication given at one time

LESSON PLAN: 5

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

SCOPE OF UNIT:

This unit includes medication terminology, dosage, measurements, drug forms, transcribing physician's orders, packaging, storage and accountability.

INFORMATION TOPIC: II-5 OR DEMONSTRATION: II-5

DOSAGE, MEASUREMENTS, AND DRUG FORMS
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

Information:

1. List the measuring systems.
2. Demonstrate an understanding of equivalents used in different measurement systems.
3. Identify ten (10) drug forms from a drug display.

Demonstration:

4. Measure liquid medication accurately.

NOTE: This procedure is addressed under classroom activities and the written evaluation.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Measuring equipment: oral dose syringes, medication spoons, medicine cups, and oral droppers.
2. Drug sample display.
3. HO 9: Roman Numerals.
4. HO 10: Calibrated Liquid Dose Measuring Devices.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 5 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

The metric system is the international standard of measurement for weight, volume, length, and temperature. It has replaced the apothecary system which is no longer used in formal drug literature or health care applications. The use of roman numerals (HO 9) has also been discontinued in healthcare settings. Household measurements are primarily used in the home. Familiarity with all systems provides another communication system for the health care team. The medication technician must also be able to identify drug forms.

LESSON PLAN: 5

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

OUTLINE:

I. Measuring Systems

A. Metric system.

1. Basic units of measure include:
 - a. Meter – the basic unit for length or distance.
 - b. Gram – the basic unit for weight.
 - c. Liter – the basic unit for volume (liquids)
2. Prefixes.
 - a. Kilo – 1,000 (thousands).
 - b. Deci – 0.1 (tenths).
 - c. Centi – 0.01 (hundredths).
 - d. Milli – 0.001 (thousandths).
 - e. Micro – 0.000001 (millionths).
3. Basic units – length.
 - a. m – meter (about 39 inches).
 - b. cm – centimeter (1/100 of a meter). Note: 2.5cm equals 1 inch.
 - c. mm – millimeter (1/1,000 of a meter).
4. Basic units – weight.
 - a. kg – kilogram (equals 2.2 pounds).
 - b. g – gram (1/1,000 of a kilogram).
 - c. mg – milligram (1/1,000 of a gram).
 - d. mcg – microgram (1/1,000,000 of a gram).
 - e. mEq – milliequivalent (1/1,000 equivalent combined weight of atom); used for some drugs, (e.g., potassium)
5. Basic units – volume (liquid).
 - a. L – liter (slightly more than 1 quart).
 - b. mL – milliliter (1/1,000 of a liter)

- c. cc – cubic centimeter; equivalent in use to mL.
- B. Household system.
- 1. Uses.
 - a. Home-bound patient taking liquid prescription medication.
 - b. Intake and output measurement.
 - c. Compresses.
 - d. Therapeutic baths.
 - 2. Common measures and abbreviations.

CAUTION: VOLUME MAY VARY.

- a. Drop – gtt.
 - b. Gallon – gal.
 - c. Measuring cup – c.
 - d. Ounce – oz.
 - e. Pint – pt.
 - f. Pound – lb.
 - g. Quart – qt.
 - h. Tablespoon – Tbsp.
 - i. Teaspoonful – tsp.
- C. Apothecary system - replaced by metric system and listed here for reference only.
- 1. Basic units – weight.
 - a. gr – grain.
 - b. oz – ounce.
 - c. lb – pound.

2. Basic units – volume (liquid).

a. gtt – drop.

b. oz – ounce.

II. Measurement System Approximate Equivalents

METRIC

HOUSEHOLD

Weight:

1 kg

2.2 lbs

30 g

1 oz

Volume:

1,000 mL (1 L)

1 qt (2 pt)

500 mL

1 pt (16 oz)

30 mL

1 oz/2 Tbsp

15 mL

1 Tbsp

5 mL

1 tsp

1 mL

15 drops

CAUTION: use only the dropper provided with the medication for an accurate dose.

III. Drug Dosage Forms

A. Oral solids.

1. Tablets.

a. Enteric coated – dissolves in the small intestine rather than in the stomach.

b. Film coated – coated to protect the drug or mask its taste.

c. Scored – a tablet marked with a groove to assist in breaking it into smaller equal pieces.

- d. Sublingual – formulated to dissolve under the tongue for rapid systemic absorption through the mucous membranes.
 - e. Lozenges or troches – to be dissolved in the mouth for local effect on the mouth or throat.
 - f. Buccal – medication placed between the cheek and gum and allowed to dissolve.
2. Capsules.
- a. Powder or granule filled.
 - b. Liquid filled.
 - c. Gel filled.
3. Oral extended release forms.
- a. Multi-layer tablets – layers dissolve at different rate.
 - b. Diffusion, dissolution or osmotic systems – may have a drug core surrounded by a membrane, may have a wax matrix or may have coatings of various thicknesses (e.g., Plateau Caps, Sequels, Extentabs, Repetabs).
 - c. Spansules – contains beads with various coating thickness.
 - d. Abbreviations (often appear after drug name).
 - (1) TR – Timed release.
 - (2) ER – Extended release.
 - (3) CR – Controlled release.
 - (4) CD – Controlled dose.
 - (5) SR – Sustained release.

B. Oral liquids (HO 10).

- 1. Solution – one or more drugs in a solvent.
- 2. Syrup – drugs dissolved in water, sugar, and flavoring.
- 3. Elixir – drugs dissolved in alcohol and water with sweetening.
- 4. Tincture – drug dissolved in alcohol or alcohol and water.

5. Suspension – liquid preparation containing insoluble substance; must be shaken well prior to administration.
- C. Topical – for skin surface use.
1. Paste – stiff, ointment-like preparation with an oil or water base.
 2. Ointment – soft, water-insoluble with an oil base.
 3. Cream – soft, water soluble.
 4. Gel – very soft, very water soluble.
 5. Lotion – water suspension for external use.
 6. Patch – extended-release formula for system absorption.
 7. Solution – one or more drugs in a solvent.
 8. Aerosol – foam, powder, or solution in a pressurized container or manual pump. Foam may also be used rectally.
- D. Ophthalmic – sterile preparations for use in the eye.
1. Ointment.
 2. Solution.
 3. Suspension
- E. Otic – sterile preparation for use in the ear.
1. Solution.
 2. Suspension
- F. Nasal – preparation for use in the nose or on the nares.
1. Ointment.
 2. Solution – nose drops.
 3. Aerosol – nasal spray, pressurized container, or manual pump. For local use in the nose or system absorption through the nasal membrane; not to be inhaled into the lungs.
- G. Respiratory-administered into the respiratory tract.
1. Metered Dose Inhaler (MDI) pressurized container.

2. Powder inhaler – mechanical system for inhaling very fine powders for local effect in the lungs.
3. Nebulizer- changes liquid medicine into fine droplets (in aerosol or mist form) that are inhaled through a mouthpiece or mask

H. Vaginal

1. Suppository – drug in solid that melts or dissolves in the body.
2. Medicated douche – contains a drug for local effect.
3. Vaginal Ring/Cervical ring – non-biodegradable ring containing drug to be placed in the vagina.

I. Rectal.

1. Suppository – drug in solid that melts or dissolves in the body.
2. Medicated enema – contains a drug for local or systemic effect.

J. Powder/granule – drug in a powdered form for topical use or to be dissolved before oral use.

K. Injectable – drug in a water or oil solution for injection through the skin into the muscle (IM), vein (IV), or subcutaneous tissue.

L. Implant – non-biodegradable drug reservoir implanted beneath the skin for systemic absorption.

IV. Summary and Conclusion.

- A. Measuring systems.
- B. Measurement systems approximate equivalents.
- C. Drug dosage forms.

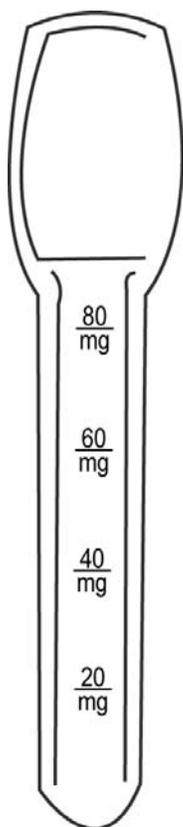
The next lesson is on transcribing physician's orders.

ROMAN NUMERALS

Roman numerals are used for reference only and are not to be used in medication orders.

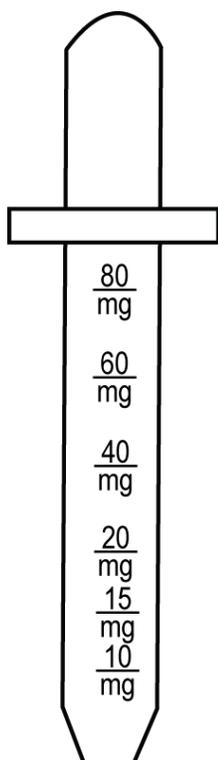
Arabic	Roman Numeral
1	I or i
2	II or ii
3	III or iii
4	IV or iv
5	V or v
6	VI or vi
7	VII or vii
8	VIII or viii
9	IX or ix
10	X or x

CALIBRATED LIQUID DOSE MEASURING DEVICES

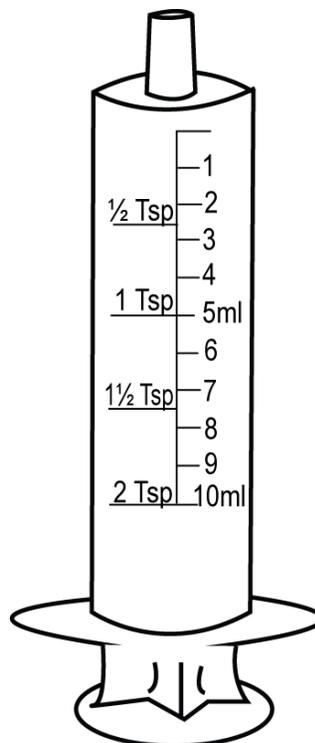


SPOON

Units are in milligrams. These must only be used for the specific product with which they are supplied or a dose error would occur.

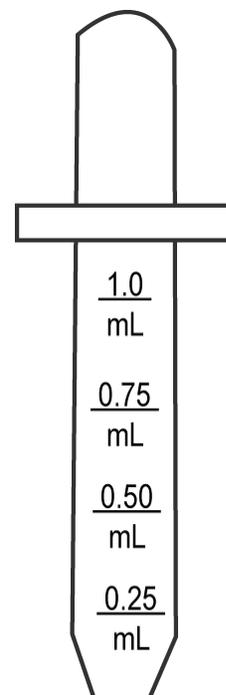


DROPPER



ORAL SYRINGE

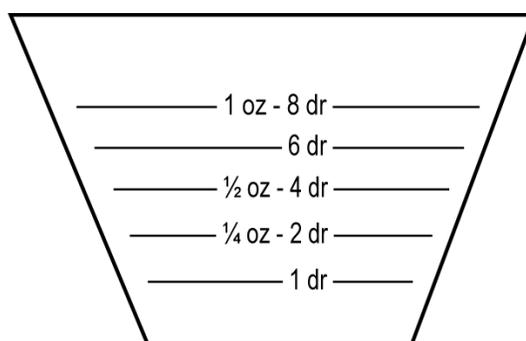
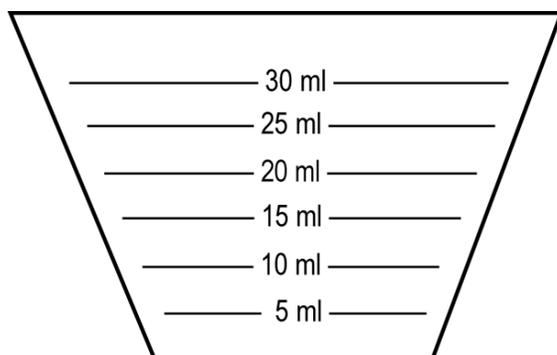
Units are milliliters. This type may be used with any medication provided that you know the volume of the dose to be given.



DROPPER

MEDICINE CUPS

Medicine cups are often graduated in metric, apothecary, and household units.



LESSON PLAN: 5

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

EVALUATION ITEMS:

1. What are the three (3) measuring systems?
 - a.
 - b.
 - c.
2. Write the household equivalent of the following metric measurements.

Metric	Household
30 mL	
500 mL	
15 mL	
5 mL	

Write the metric equivalents to the following drug doses.

3. Milk of Magnesia 2 Tbsp = _____ mL
4. Dilantin suspension (125 mg/5 mL) 1 tsp = _____ mg
5. From a drug display, identify (10) forms of drugs.

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

I. _____

J. _____

Match the correct dose from the pictures to the following drug orders:

6. Potassium chloride 20 mEq/15 mL, 40 mEq dose = _____

7. Lanoxin elixir 0.05 mg/mL, 5 mL dose = _____

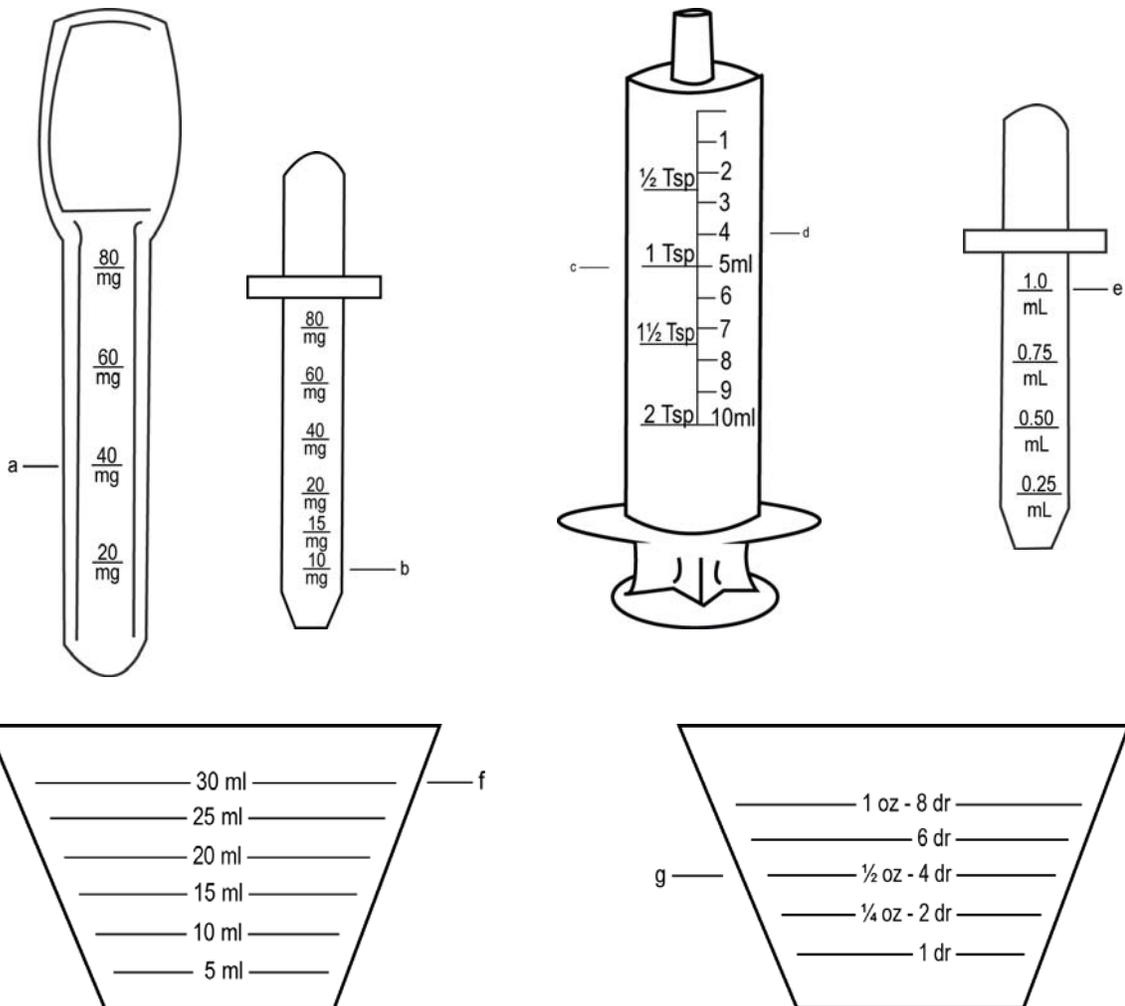
8. Furosemide 10 mg/mL, 40 mg dose = _____

9. Dilantin 125mg/5mL, 125 mg dose = _____

10. Haloperidol 2 mg/mL, 1 mL dose = _____

11. Milk of Magnesia, 1 tbsp dose = _____

12. Lorazepam 2 mg/mL, 2 mg dose = _____



LESSON PLAN: 6

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

SCOPE OF UNIT:

This unit includes medication terminology, dosage, measurements, drug forms, transcribing physician's orders, packaging, storage, infection control, and accountability.

INFORMATION TOPIC: II-6 OR DEMONSTRATION:

TRANSCRIBING PHYSICIAN'S ORDERS

(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Identify the two types of physician's orders.
2. Match the terms which determine what kind of a verbal or written order the physician has given with their definitions.
3. Identify the general principles used when transcribing orders.
4. List the items to be transcribed on the Medication Administration Record (MAR).
5. List the items to be transcribed on the medication card.
6. List the items found on the prescription label.
7. Record essential information on records.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Sample physician's order sheets, medication records, medication cards, and prescription labels.
2. Abbreviation list for the facility.
3. HO 11: Sample Completed Physician's Order Sheet.
4. HO 12: Sample Completed Physician's Telephone Order Sheet.
5. HO 13: Sample Completed PRN Medication Form.
6. HO 14: Sample Completed Medication Administration Record (MAR).

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 6 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

No medication can be given to a resident without a physician's order, so the administration of medications actually begins with that physician's order. Once the order has been obtained, the task of transcribing the order onto the facility's Medication Administration Record (MAR) may be completed. This lesson will identify the terms and general principles related to transcribing all medication orders and describes the records used in the transcription process.

LESSON PLAN: 6

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

OUTLINE:

I. Types of Physician's Orders

A. Written.

1. Directly on the order sheet by the physician or prescriber (HO 11).
2. Indirectly by a prescription (permitted in an RCF when a direct written order is not required by the facility).

B. Verbal.

1. Physician gives the order verbally, either directly or by telephone to another person who is responsible for writing it on the order sheet (HO 12).
2. State regulations determine whether a medication technician may accept verbal orders in a RCF, ICF, or SNF. The verbal order must be reviewed by a nurse or pharmacist prior to administration of the medication.

II. Terms Describing Physician's Orders

A. Automatic stop orders – policy that puts a limit on the length of time a medication can be given before the physician must be consulted for a continuation of the order.

B. Discontinue orders – medications are stopped and no longer administered to the resident.

C. One-time orders – single dose is administered only one time.

D. PRN orders – meds are administered only as needed according to a designated time frame identified in the order. All prn orders must contain a specific reason for giving the medication such as pain, fever, etc. The licensed nurse assesses the resident and makes the decision when to administer a prn medication.

E. Renewal orders – continues the medications which were previously prescribed for the resident; usually done once a month.

F. Routine orders – orders for medications the resident takes on an on-going basis.

G. Short-Term Orders/Limited Orders – physician determines the number of doses or days the medication is to be administered. The medication is given only for

this prescribed time. For example: Antibiotics that are ordered to be given twice a day for 7 days.

- H. STAT orders – these meds are administered immediately, one-time only such as Nitroglycerine STAT.
- I. Change in order.
 - 1. Original order discontinued.
 - 2. New order written.
 - 3. If a label is to be changed on the medication container to reflect new directions, this must be done by the pharmacist. It is unacceptable for a CMT or nurse to write on the medication label.
 - 4. If no new label is to be used, the medication container should be flagged with a "change in order" sticker to indicate new directions.

III. General Principles in Transcription

- A. All transcription must be error-free. To reduce the chance of errors:
 - 1. Writing should be clear, neat, and legible. Print if necessary.
 - 2. Blue or black ink is preferred by most facilities. Do not use a felt tip pen as the ink can run or bleed through the MAR.
 - 3. Use only abbreviations on the the list of accepted abbreviations established by the facility.
 - 4. Keep distractions to a minimum.
 - 5. Orders should be completely transcribed all at one time. Leaving and coming back to orders may mean something is overlooked or forgotten.
 - 6. Recopy from the original order. The more an order is recopied, the greater the chance an error can occur. The medication technician should take responsibility to find the original order and copy only from it.
 - 7. Review unclear orders with the charge nurse or physician before attempting to transcribe them whenever necessary. The physician's handwriting may not be very legible. Review directly with the physician if he/she is in the facility, or review by phone if the physician is not on the premises.
 - 8. Verify verbal orders by writing them down and reading them back to the physician exactly as given. Say in words the meaning of any abbreviations used.

9. Spell drug names back to physician when pronunciation is unclear. If the physician uses an unapproved abbreviation or term, repeat the order back to the physician using the correct abbreviation or term for clarification.
10. Transcribe all orders onto each document exactly as they appear on the original written order. If an unapproved abbreviation or symbol was used in the original order, clarify the order with the physician.
11. Verify all completed transcriptions with licensed nurse.
12. If an error is made, cross it out and write “mistaken entry” and your name and date above it.
13. When transcribing medication orders onto the MAR, following your facility’s guidelines regarding the timing of medications ordered daily, BID, TID, QID, etc. Pay special attention to medications that must be given before or after meals and assign them the correct time for administration.

CAUTION: Accuracy is essential in transcribing all physicians' orders.

IV. Medication Administration Record (MAR) (HO 13, HO 14)

- A. A Permanent record that is part of a resident's chart. Maybe a paper or an electronic document.
- B. Items found on medication record include:
 1. Name of resident – first name, middle initial and last name.
 2. Allergies to foods and/or medications.
 3. Date medication administered.
 4. Time medication administered.
 5. Name of the drug.
 - a. Written just as given by physician.
 - b. May be provided in generic form.
 - c. Verify that medications sent in generic form are indeed the same medication as the physician ordered.
 6. Strength of the drug.
 - a. Not all medications will have a strength designated. If strength is not specified, confirm there is ONLY one strength available.

- b. Most medication comes in more than one strength.
 - 7. Dosage – amount of medication given.
 - 8. Route of administrations (e.g., oral, rectal, topical, etc.).
 - 9. Signature of person administering drug.
 - a. Small square for initials.
 - b. Official signature (first initial, last name, and title) recorded beside the initials the person is using must appear on the MAR.
- C. Access to an electronic MAR (sometimes referred to as an e-MAR) may require the CMT to use a password to access the computer software program. It is important to be trained on the use of the software prior to administering and documenting medications using this system.

V. Medication Card

- A. Medication cards are used in some facilities to identify medications when it is necessary to remove them from their original container prior to administration. If a medication leaves the original packaging and is not administered at once, it must have a medication card(s) with it at all times.
- B. Items found on the medication card.
 - 1. Full name of the resident.
 - 2. Room number of the resident.
 - 3. Name of the medication.
 - 4. Dosage and strength of the medication.
 - 5. Times of administering the medication.
 - 6. Route of administration.
 - 7. Date the medication was ordered.
 - 8. Physician's name.

VI. Prescription Label

- A. Found on the medication container (bottle, unit dose card or pack).
- B. Check for accuracy.

- C. Information found on prescription label (Missouri Board of Pharmacy requirements).
1. Date prescription was filled.
 2. Prescription number (may be preceded by “C” for controlled substances).
 3. Resident’s full name.
 4. Prescriber’s directions for usage.
 5. Prescribing doctor’s name.
 6. Name and address of the pharmacy.
 7. Exact name and dosage of the drug dispensed including a note if a generic substitution has been made).
 8. Name of drug manufacturer if generic drug dispensed.
 9. Lot control number, expiration date, and manufacturer if single unit dose package (bubble or blister packs, foil packs, etc.).

D. Sample label:

LTC PHARMACY SERVICE	
123 Highway	
Hometown, MO 65432	Ph: (314) 246-8012
Rx# 123456	
Margaret Anderson	Dr. Heart
Take 1 tablet po every morning	5-10-00
generic equiv. for LASIX.	
lot ABC exp 11-10-00	
Furosemide 20 mg (GG)	

VII. Facility Records

- A. Each facility has their own system of record-keeping regarding administering, receiving, destroying, returning, or other disposition of medications. Controlled substance records have specific requirements.
- B. Examine and become familiar with the documents in your facility.
- C. Record pertinent information on the documents.

VIII. Summary and Conclusion

- A. Types of physician's orders.
- B. Terms describing physician's orders.
- C. General principles in transcription.
- D. Medication administration record (MAR).
- E. Medication card.
- F. Prescription label.
- G. Facility records.

Care must be taken when transcribing physician's orders. An error could be deadly for your resident. The next lesson is on packaging, storage, infection control, and accountability.

SAMPLE COMPLETED PHYSICIAN'S ORDER SHEET

HO11

Generic equivalent may be used unless the order is specifically followed by the notation: "Use no substitutes." May send medication while on pass from facility. May leave premises with responsible party. May send medications _____ days. I recertify for _____ level of care. Medications previewed and approved as printed. I approve the overall plan of care. _____ Pharmacist's Signature		PHYSICIANS ORDERS			
		FUNCTIONAL LEVEL: UP AD LIB ACTIVITIES: PRN SOCIAL SERVICES: PRN ROUTINE LABS: SERUM K FEB & JUL RESTRAINTS: NONE CODE STATUS: NO CODE			
MEDICATIONS		Schedule			
Multivitamin tab 1 tab po every morning 12/5/00		800A		D/C Furosemide 20mg Furosemide 40mg 1 tab po every AM 1/11/05 Dr. Watson	
Digoxin 0.125Mg 1 tab po every morning hold if AP less than 60 or over 110 12/5/00		800A			
Furosemide 20mg 1 tab po every morning DC 1/11/00		800A			
Carbamazepine 200mg 1 tab po every 12 hours 12/5/00		800A			
Captopril 12.5mg 1 tab po 3 times daily 12/5/00		800A 1200N 400P			
Carafate 1mg 1 tab po before meals and at bedtime 12/5/00		700A 1100A 400P 800P			
Acetaminophen 325mg 2 tabs po every 4 hrs prn for pain 12/5/00		PRN			
Lorazepam 0.5mg 1 tab po at bedtime prn for sleep 12/5/00		PRN			
Furosemide 40mg 1 tab po q morning 1/11/00		800A		Attending Physician's Signature _____ Date	
Charting for 01/1/00			Through 01/31/00		
Physician	WATSON		Patient Code	Revised by Supervising Nurse	
Phone No.	123-4567				
Diet	REGULAR, NO ADDED SALT			Weight	Date of Birth
Allergies	NKA			120 lb	1/10/00
Diagnosis	CHF/SEIZURE DISORDER / GASTRIC ULCER			Med Record No.	Admission Date
Patient	Edna Long			678	12/5/00
				Habilitative/Rehabilitative Potential	
				FAIR	
		Medicaid No.	Medicare No.	Room No.	Bed

SAMPLE COMPLETED PHYSICIAN'S TELEPHONE ORDER FORM

Facility Name: <u>WeCare Nursing</u>			PHYSICIAN		
TELEPHONE ORDERS					
Facility Address: <u>123 Oak Street, Anytown, USA</u>					
Patient Name: <u>Edna Long</u>		Room No. <u>1</u>		Physician <u>Watson</u>	
Order Date	Prob	Code	Physician Orders	Sig.	Init.
<i>1/20/00</i>			<i>D/C Furosemide 20mg</i>		
			<i>Furosemide 40mg 1 po every AM</i>		
Nurse Signature Date 1/20/00			Physician's Signature Date 1/23/00		
<i>B. Wilson, C.M.T.</i>			<i>Mark Watson, M.D.</i>		
Physician please sign and return within 7 days					

SAMPLE COMPLETED PRN MEDICATION FORM

PRN Medication								
Name		Initials	Name		Initials	Name		Initials
<i>B. Wilson, CMT</i>		<i>BW</i>						
<i>D. More, CMT</i>		<i>DM</i>						
Date	Time	Medication	Route	Reason Given	Initials	Time	Result	Initials
<i>1/10/00</i>	<i>10AM</i>	<i>acetaminophen 325 mg 2 tab</i>	<i>po</i>	<i>headache pain</i>	<i>BW</i>	<i>1030P</i>	<i>Denies headache</i>	<i>BW</i>
<i>1/10/00</i>	<i>2PM</i>	<i>acetaminophen 325 mg 2 tab</i>	<i>po</i>	<i>headache pain</i>	<i>BW</i>	<i>230P</i>	<i>Denies headache</i>	<i>BW</i>
<i>1/10/00</i>	<i>10PM</i>	<i>lorazepam 0.5mg tab</i>	<i>po</i>	<i>c/o insomnia</i>	<i>DM</i>	<i>11P</i>	<i>sleeping</i>	<i>DM</i>
<i>1/11/00</i>	<i>9AM</i>	<i>acetaminophen 325 mg 2 tab</i>	<i>po</i>	<i>headache pain</i>	<i>BW</i>	<i>930A</i>	<i>Denies headache</i>	<i>BW</i>
<i>1/11/00</i>	<i>9AM</i>	<i>lorazepam 0.5 mg tab</i>	<i>po</i>	<i>c/o insomnia</i>	<i>DM</i>	<i>10P</i>	<i>sleeping</i>	<i>DM</i>
<i>1/12/00</i>	<i>4PM</i>	<i>acetaminophen 325 mg2 tab</i>	<i>po</i>	<i>c/o headache</i>	<i>DM</i>	<i>430P</i>	<i>Denies headache</i>	<i>DM</i>
<i>1/12/00</i>	<i>9PM</i>	<i>lorazepam 0.5mg tab</i>	<i>po</i>	<i>c/o insomnia</i>	<i>DM</i>	<i>930P</i>	<i>sleeping</i>	<i>DM</i>

LESSON PLAN: 6

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

EVALUATION ITEMS:

1. What are the two types of medication orders?
 - a.
 - b.

Match the terms in Column A with the correct definitions in Column B.

Column A

Column B

- | | |
|--------------------------|--|
| ___ 2. Limited order | a. Medications are cancelled so they are no longer administered. |
| ___ 3. Verbal order | b. Medication the resident takes on an on-going basis. |
| ___ 4. stat order | c. Physician voices order directly or by telephone. |
| ___ 5. Routine order | d. Continues medications previously prescribed. |
| ___ 6. Written order | e. Physician determines number of doses or day the medication is to be administered. |
| ___ 7. PRN order | f. Administered immediately, one-time only. |
| ___ 8. Discontinue order | g. Single dose administered only one time. |
| ___ 9. One-time order | h. Administered only as needed according to a designated time frame. |
| ___ 10. Renewal order | i. Physician puts in writing the medication order. |

Circle the letter of the best answer.

11. Which statement is NOT true regarding the principles of transcription?
 - a. Transcription of medication orders must be error-free.
 - b. Black ink is preferred for transcribing physician's orders.
 - c. Only approved abbreviations may be used when transcribing orders.
 - d. When an order is being transcribed the first consideration is speed.

12. Which statement is NOT true regarding the principles of transcription?
- a. Recopying of medication orders should be done from original order.
 - b. When a medication technician has completed transcription of orders, it should be verified by another medication technician.
 - c. If the physician's pronunciation of a drug name is unclear in giving the order, the medication technician should spell the drug name back to him/her for clarification.
 - d. If a medication technician has any doubt about a medication order, he/she should question the licensed nurse about any point of concern.
13. List the items to be transcribed on the medication record.
14. List the items to be transcribed on the medication card.
15. List the items found on a prescription label.

Circle the correct word(s) to complete the following statements.

16. Transcription of medication orders must be (error free) (nearly correct).
17. (Red) (Black) ink is preferred for transcribing physician's orders.
18. (Any) (Only Approved) abbreviations may be used when transcribing orders.
19. When an order is being transcribed the first consideration is (speed) (accuracy).
20. Recopying of medication orders should be done from (original order) (a clear copy).
21. When a CMT has completed transcription of orders, it should be verified by (the licensed nurse) (another CMT).
22. If the physician's pronunciation of a drug name is unclear in giving the order, the CMT should (spell the drug name back to the doctor for clarification) (try to look it up).
23. If a CMT has any doubt about a medication order he/she should (hurry up and give the dose at the prescribed time so there will be time to look up information) (question the charge nurse about any point of concern).
24. There should be (no variances) (only minor discrepancies) in the information on the MAR, physician's order, and prescription label.
25. What is found on the prescription label when there is a change in directions for administering?

26. What is the purpose of the pharmacy's name, address, prescription number, and phone number being on the prescription label?

Demonstrate your understanding of documentation of medication orders in the following scenario.

27. You are on duty at WeCare Nursing Facility and receive a telephone call from Dr. Watson. Today, he orders the following for your resident Edna Long: Zantac 150 mg, 1 tab po at 8 a.m. & 8 p.m., Aspirin EC 325 mg, 1 tab po at 8 a.m., and Milk of Magnesia, 30 mL po daily prn constipation. Fill out the PHYSICIAN'S TELEPHONE ORDERS form, the PHYSICIAN'S ORDERS sheet, and the MEDICATION ADMINISTRATION RECORD. Also document on the forms the administration of all three drugs for today.

Facility Name: _____			PHYSICIAN TELEPHONE ORDERS		
Facility Address: _____					
Patient Name: _____		Room No. _____	Physician _____		
Order Date	Prob	Code	Physician Orders	Sig.	Init.
Nurse Signature Date			Physician's Signature Date		
Physician please sign and return within 7 days					

LESSON PLAN: 7

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

SCOPE OF UNIT:

This unit includes medication terminology, dosage, measurements, drug forms, transcribing physician's orders, packaging, storage, infection control, and accountability.

INFORMATION TOPIC: II-7 OR DEMONSTRATION:

PACKAGING, STORAGE, INFECTION CONTROL AND ACCOUNTABILITY
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Identify and compare the three basic types of medication packaging.
2. Identify types of storage and security systems.
3. Identify how different types of drugs should be stored.
4. Select appropriate techniques in maintaining infection control utilized in medication administration.
5. Examine accountability procedures for individual, stock, controlled substances, and emergency drugs.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Handwashing facilities: hot and cold running water, soap, paper towels, waste basket, hand lotion.
2. Samples of bubble cards, unit dose cards from other systems.
3. Sample emergency drug tray.
4. HO 15: Infection Control.
5. HO 16: Sample Completed Controlled Substance Record.
6. HO 17: Sample Controlled Substance Shift Change Count Check Sheet.
7. HO 18: Medication Disposition Form.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 7 prior to class and be prepared to discuss the information presented. Read facility's policies regarding storage, handling, and security of medications.

INTRODUCTION:

Regulations are established for the packaging, storage, and handling of drugs in long-term care facilities. These specify locked areas for all medications, double locked areas for controlled substances, refrigeration of biologicals, and separation of external from internal drugs. Only nonprescription drugs are allowed as stock medications. Good methods of infection control must be established in handling and distributing drugs.

LESSON PLAN: 7

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

OUTLINE:

- I. Medication Packaging
 - A. Traditional – doses dispensed in a bottle.
 - B. Modified unit dose – doses dispensed on “bubble” or “blister” card.
 - C. Unit dose – doses dispensed individually wrapped.
 - D. Unit dose and modified unit dose organization.
 1. “Time pass” system – doses are organized by time of administration. At least one dose of all meds administered at a particular time is grouped together. For example, in a bubble card system, a medication given at 8AM and 8PM would have one card of doses stored in the “8AM” group and one card in the “8PM” group.
 2. “Sectional pass” system – doses are organized by resident name. At least one dose of all meds administered to a particular resident is grouped together. For example, in a bubble card system, a medication given at 8AM and 8 PM would have one card of doses stored in the “section” for that resident and would be used twice a day.
- II. Types of Storage and Security Systems
 - A. A locked room used for storing medication only. Doors should be self-closing and locking for security purposes.
 - B. Medication cabinets with locks.
 1. Individual compartments or bins.
 2. Shelves without compartments or bins.
 - C. Medication carts with locks that have individual bins or trays and a lockable drawer.
 - D. Automated dispensing systems.
 1. Specially designed cabinets that provide single doses for individual residents.

2. When the cabinet is used only for controlled substances and emergency supplies, it may be controlled by the facility or pharmacy.
 3. When the cabinet is used for all medication it is electronically controlled by the pharmacy. The pharmacy requires a prescription order before releasing doses to facility staff. This procedure eliminates individual prescription containers except for special needs.
 4. The user enters resident information, drug information and a personal access code to obtain a dose.
 5. Two basic cabinet types.
 - a. Unit doses stored in drawers with separate compartments for each drug. The user selects the correct compartment.
 - b. The dose is supplied to the user in a “vending machine” manner and the user does not have access to the storage area.
- E. Refrigerator – the refrigerator should be in a locked medication room. If the refrigerator is not in a secured area, the refrigerator door should be locked or the drugs should be in a locked container permanently attached to the inside of the refrigerator. Drugs should be stored in a separate, sealed container if food is also stored in the same refrigerator. The refrigerator temperature should be maintained between 36° and 46° Fahrenheit.
- F. Controlled substances.
1. Schedule II controlled substances must be stored under double lock and the keys should be different. They may be stored in:
 - a. A locked cabinet or drawer within a locked room. Keys to the cabinet or drawer must be different than the door key.
 - b. A locked compartment in a locked cabinet or drawer with 2 different keys.
 2. On a medication cart, Schedule II controlled substances must be stored in the locked drawer and the cart kept locked or secured behind a locked door. Two different keys for the locks are required.
 3. If Schedule II controlled substances are in single use packaging with minimum quantities, they may be stored with other drugs under a single lock.
 4. Other controlled substances may be double locked as necessary for security.

G. Access control – access should be limited to persons authorized to administer medications.

1. Keys should be controlled to limit access to drugs and limited to the minimum number necessary.
2. All keys should be accounted for at each controlled substance inventory counting.
3. Keys should be carried and never left unattended.
4. When using access codes, they should be protected and never shared with others.

III. Storage for Different Types of Drugs

A. Internal.

1. Tablets and capsules – kept in original container.
2. Liquids are kept in the original container; some may require refrigeration.
3. Eye, ear, or nose – may be stored with rest of the resident’s internal medications, but it’s important to keep the container clean. Keep in original container. It is safest to separate medications by route to avoid confusion.
4. Inhalers, suppositories are kept in original containers (suppositories may need to be refrigerated).

B. External – store separately from internals to reduce chance of error and contamination.

1. Liquids – keep on different shelf; a different cabinet is even better.
2. Ointments – keep in individual cardboard box or other container.

IV. Infection Control (HO 15)

A. Infection control in equipment and drug storage area.

1. Frequency of cleaning
 - a. Shelves, bins, and refrigerated containers should be cleaned weekly or more often if needed with soap and warm water.



- b. Medication carts and trays should be cleaned after each use with soap and warm water.
 2. Disinfectants – use a disinfectant appropriate for area to be cleaned according to the label on container or package insert.
- B. Infection control during administration of drugs.
 1. Keep paper soufflé cups and plastic medication cups upside down on a clean surface such as a clean paper towel.
 2. When giving the medication cup to the resident, remember that if your hands have contact with the resident your hands must be washed before you give medication to the next resident. Alcohol gel is a good substitute for cleaning your hands if you are not near a sink. Using alcohol gel would NOT be appropriate before the administration of ophthalmic preparations.
 3. When picking up a medication cup that the resident has handled, pick it up by the base – NEVER the top.
 4. When giving medications mixed with applesauce (or any other substance deemed appropriate by the facility), use a separate clean spoon for each resident.
 5. Dispose of used medication cups in the waste basket.
 6. Handling of external drugs.
 7. Internal/external drug separation.
 8. Cart.
 9. Trays.
- C. Standard Precautions.
 1. Hands-Hand hygiene is the most effective method of preventing the spread of infection.
 - a. Perform hand hygiene before and after contact with each resident.
 - b. Always perform hand hygiene before and after the use of gloves.
 - c. If hands come in contact with blood and/or body fluids containing blood, wash immediately with soap and water and report to licensed nurse or follow facility policy.



- d. Always wash hands with soap and water before eating, clocking out and before and after using the bathroom.
2. Wear gloves when administering:
 - a. Vaginal medications.
 - b. Rectal medications.
 - c. Ophthalmic Medications-do not use alcohol based handrub prior to administering ophthalmic medications
 - d. Other medications that specify the use of gloves such as topical medications and transdermal patches
 - e. Medications that put the medication technician at risk of having contact with body substances, mucous membranes or non-intact skin.

V. Accountability System

- A. Individual prescription non-controlled substance medications.
 1. Administration records.
 2. Acquisition procedure.
 - a. New orders.
 - b. Refills.
 3. Disposal procedure.
 - a. A single dropped or refused dose is disposed of according to facility policy. Make the nurse aware of the situation so that the medication can be replaced if necessary.
 - b. Medication technicians may not dispose of medications except for a single contaminated or refused dose. Destruction of "bulk" unwanted non-controlled drugs must be done by a nurse and a pharmacist or by two nurses.
- B. Nonprescription – OTC (over-the-counter) medications can be purchased by the facility and do not need state approval.
 1. Administration records or MAR.
 2. Acquisition procedure – follow facility policy.

3. Disposal procedure – follow facility policy.
- C. Controlled substances.
1. Individual prescription or Emergency Medication Supply.
 2. Administration recorded on Medication Administration Record (MAR) and Individual Controlled Substance Record.
 3. Acquisition procedure.
 - a. New orders.
 - b. Refills.
 4. Receiving records (HO 16).
 - a. May be on a separate receiving record.
 - b. Record on Individual Controlled Substance Record.
 - c. Delivery record for pharmacy.
 5. Reconciling drug count/inventory.
 - a. Frequency – each shift or per facility policy.
 - b. Compare count to individual controlled substances record (HO 16).
 - c. Document completion on Controlled Substance Count Check Sheet (HO 17).
 6. Discrepancies in the count must be reported to the Director of Nursing and others as required.
 7. Waste must be witnessed and documented according to state regulations and facility policy.
 8. Destruction of unused drugs when discontinued is according to state regulations and facility policy.
 9. Theft of controlled substances
 - a. Common methods of theft include:
 - i. Theft of medications left unlocked and unattended.
 - ii. Break-in of locked storage area.

- iii. Falsification of records.
 - iv. Replacement of a controlled substance with another medication.
- D. Emergency drug supply and STAT kit – may consist of life saving type drugs as well as starter doses and OTC Meds.
 - 1. Administration records (MAR).
 - 2. Acquisition procedure.
- E. Disposal – according to regulations and facility policies.
 - 1. Single doses of contaminated or refused medications.
 - a. Non-controlled substances may be destroyed by the medication technician.
 - b. Controlled substances may be destroyed by the medication technician and a nurse.
 - 2. Medications may be released to the resident or responsible individual upon discharge.
 - 3. Medications may be returned to the pharmacy according to the Board of Pharmacy Regulations.
 - a. Controlled substances and medications that have been in the resident’s possession cannot be returned.
 - b. Any medication that is still in the manufacturers original packaging and has not been opened or full cards of medication that have not been altered in anyway (for example, no pills have been popped and the card has not been written on) may be returned to the pharmacy for a refund.
 - c. Regulations allow reuse of only certain unit-dose packages. The pharmacy may refuse to accept other medications.
 - 4. Other medications not in current use must be destroyed by a pharmacist and licensed nurse or two licensed nurses within 30 days.
 - 5. Records of medication(s) released, returned, or destroyed must include resident’s name, date, medication name and strength, quantity, prescription number and signature of persons involved.

- F. Physical considerations for medications.
 - 1. Expiration dates – medications are assigned an expiration date by the manufacturer and when they are repackaged by the pharmacy.
 - 2. Storage temperatures – storage temperatures affect the shelf life of medications. Consult the pharmacist if a medication has not been stored properly.
 - a. Refrigerator 36°-46°F.
 - 3. Contamination – some medications, such as eye drops, are sterile. Most liquid medications contain preservative to resist bacterial growth. All medications should be handled carefully to prevent contamination.
 - 4. Deterioration – examine all medications and packages for physical signs of deterioration such as discoloration, crumbling, sediment, crystal formation, and cracked or leaking containers.
 - 5. Tampering – many sealed packages can be opened, the medication removed and a substitute put in its place. Examine packages, especially controlled substances packages for signs of tampering.

VI. Summary and Conclusion

- A. Medication packaging.
- B. Types of storage and security systems.
- C. Storage for different types of drugs.
- D. Infection control.
- E. Accountability system.
- F. Physical considerations for medications.

The next lesson is on body systems, related diseases and conditions, drugs and observations.

INFECTION CONTROL

A system of infection prevention and control currently in use is called Standard Precautions or Body Substance Precautions (BSP). This system focuses on keeping all moist body substances (blood, feces, urine, wound drainage, tissues, oral secretions, and other body fluids) from the hands of personnel. This is done primarily by increased glove usage and hand hygiene. Hand hygiene is performed using soap and water or an alcohol based handrub to decontaminate the hands. The Standard Precautions system is consistent with recommendations from the Centers for Disease Control (CDC), the American Hospital Association, and Occupational Safety and Health Administration (OSHA) that point out the need to consider ALL blood and ALL body fluids as potentially contagious regardless of the resident's diagnosis. In order to comply with the CDC policies, the following recommendations should be used. The need to use barriers must focus on the caregivers' routine contact with the residents.

Because a medical history and examination cannot reliably identify all persons with infectious diseases, we treat ALL blood and body substances as potentially infectious rather than to focus precautions only on the residents that are diagnosed with infectious diseases.

Implementing the Standard Precautions System includes the following elements and should be followed by ALL personnel at all times, regardless of the resident's diagnosis.

Standard Precautions

1. Wear gloves when it is likely that hands will be in contact with mucous membranes, non-intact skin and/or ANY moist body substance, (blood, urine, feces, wound drainage, oral secretions, sputum, vomitus, or items/surfaces soiled with these substances). Gloves should be changed and hand hygiene performed between residents. If a glove is torn or a needle stick or other injury occurs, the glove should be removed, discarded in appropriate container, hands washed with soap and water, and a new glove used promptly as patient safety permits (report needle sticks or other injuries per facility policy).

REMEMBER: Gloves are not a cure-all. They reduce the likelihood of contaminating the hands, but hand hygiene should be performed before donning and after removal of the gloves.

- a. Use examination gloves for procedures involving contact with mucous membranes, unless otherwise indicated, and for other resident care procedures.
- b. Change gloves and perform hand hygiene between residents.
- c. Do NOT wash or disinfect examination gloves for reuse.
- d. Use general purpose utility gloves (e.g., rubber household gloves) for housekeeping or instrument cleaning involving blood contact. These utility

gloves may be decontaminated and reused but should be discarded if they are peeling, cracked, or discolored; or if they have punctures, tears, or other evidence of deterioration.

2. Wash hands often, always between residents' care and after any contact with body substances or contaminated material. Pay particular attention to around and under fingernails and between fingers. Always keep your hands away from your face or you may give yourself the infectious organisms.
3. Wear masks and/or eye protection when it is likely that eyes or mucous membranes will be splashed with body substances (your charge nurse will give you further direction).
4. Protect your clothing with a plastic apron or gown when it is likely that clothing will be soiled with body substances.
5. Health care workers with draining lesions or weeping dermatitis must refrain from all direct resident care and from handling resident care equipment until cleared by a physician. These conditions put the employee and the resident at risk of infections.
6. Discard trash in plastic bags according to facility policy.
7. If the resident has a disease which is transmitted in whole or part by the airborne route, use the "Stop Sign Alert" on the resident's door. This will allow the nurse to give the individuals wishing to enter the room specific instructions regarding the resident (e.g., tuberculosis). The nurse instructs non-immune persons to not enter the room of persons with specific diseases (e.g., chicken pox, measles, and mumps). Precautions for residents with airborne diseases include: private room, "Stop Sign Alert" on door, and door closed.
8. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.

Some Examples of Situations Using Standard Precautions

1. Follow Standard Precautions when caring for residents with bowel and/or bladder incontinence.

It is not possible to clean an incontinent resident without having contact with stool and or urine. Gloves should be worn routinely and for helping residents with toileting activities. A plastic gown or apron may also be needed for cleaning incontinent residents and for changing their clothes and bed linens. Obtain the plastic gown or apron before the tasks are begun.

2. When a care provider is emptying a urinary catheter bag, this should be viewed as a single interaction for a single resident and the tasks for one resident should be completed, including performing hand hygiene before going to the next resident.

Wearing gloves for emptying catheter bags is required due to the risk of contact with urine. It is unacceptable to consider it a single task to empty the catheter bags for several residents in sequence without changing gloves and washing hands between residents.

3. When a resident has a rash or skin lesions on his/her body, it could be due to any number of causes. The lesions may be due to varicella (chicken pox or zoster), herpes simplex, scabies, syphilis, impetigo, a drug reaction, or other causes. Prompt recognition of the rash, identification of the cause, prompt appropriate intervention, and proper usage of gloves and handwashing can prevent transmission of organisms to other residents and care providers.

SAMPLE CONTROLLED SUBSTANCES SHIFT CHANGE COUNT - CHECK - SHEET

Controlled Substances SHIFT CHANGE COUNT – CHECK – SHEET															
MONTH					Year										
FACILITY:										STATION:					
Nurse (Initials)					Nurse (Initials)					Nurse (Initials)					
Date	Time	# of PKGS	ON	OFF	Date	Time	# of PKGS	ON	OFF	Date	Time	# of PKGS	ON	OFF	
1	7				11	7				21	7				
	3					3					3				
	11					11					11				
2	7				12	7				22	7				
	3					3					3				
	11					11					11				
3	7				13	7				23	7				
	3					3					3				
	11					11					11				
4	7				14	7				24	7				
	3					3					3				
	11					11					11				
5	7				15	7				25	7				
	3					3					3				
	11					11					11				
6	7				16	7				26	7				
	3					3					3				
	11					11					11				
7	7				17	7				27	7				
	3					3					3				
	11					11					11				
8	7				18	7				28	7				
	3					3					3				
	11					11					11				
9	7				19	7				29	7				
	3					3					3				
	11					11					11				
10	7				20	7				30	7				
	3					3					3				
	11					11					11				
Note: Time indicates the hour when the shift starts.										31	7				
											3				
											11				
IRREGULARITIES MUST BE REPORTED IMMEDIATELY TO THE DIRECTOR OF NURSES															
NAME	SIGNATURE	INITIALS	NAME	SIGNATURE	INITIALS	NAME	SIGNATURE	INITIALS	NAME	SIGNATURE	INITIALS	NAME	SIGNATURE	INITIALS	
1			5			9									
2			6			10									
3			7			11									
4			8			12									
Please return completed form to nursing office at end of month															

LESSON PLAN: 7

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

EVALUATION ITEMS:

Circle the correct word(s) to complete the following statements.

1. Medicine cupboards should be washed (daily) (weekly) (when you see dirt).
2. Food used in the administration of medications may be stored in the same (refrigerator as drugs) (area as ear drops) if both food and medications are covered.
3. Topical ointments may not be stored in the same box as (oral medications) (instructions for administering).
4. Medicine cups (may be) (may not be) saved and reused.
5. Medication trays should be washed after (each use) (each shift).

Circle the letter of the best answer.

6. How are medications packaged in a true unit dose system?
 - a. In bottles and in medication carts.
 - b. In bottles.
 - c. In individually wrapped doses.
 - d. With all medications for resident in one individual package.
7. How should Schedule II controlled substances be stored?
 - a. Behind two different locks.
 - b. Behind two doors.
 - c. In the medication cart.
 - d. In the refrigerator.
8. When are controlled substances counted?
 - a. At change of shift.
 - b. At the beginning of the day.
 - c. At change of pay period.
 - d. At the beginning of the month.

LESSON PLAN: 8

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

SCOPE OF UNIT:

This unit includes body systems, drug classifications, and problems of observation.

INFORMATION TOPIC: III-8 OR DEMONSTRATION:

BODY SYSTEMS, DISEASE PROCESS, AND TREATMENTS

(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Identify the four main parts of the basic body structure.
2. Compare normal versus abnormal changes of aging.
3. Identify special healthcare risks for ill older adults.
4. Identify the eleven body systems.
5. Identify the organs and functions of each body system.
6. List commonly seen diseases and conditions and the medications used to treat them.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Skeletorso.
2. Anatomical wall charts.
3. HO 19: Stages of Pressure Ulcers.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 8 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

A basic knowledge of the structures and functions of the body systems will assist you in recognizing deviations from the normal. This is especially critical as a foundation for observing the individual's response to medications prescribed. In this lesson, we will examine each system, its structures, functions, and related health problems common in long-term care.

LESSON PLAN: 8

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

OUTLINE:

I. Body Plan

- A. Cells – cells are the basic unit of all living things. The human body is made up of trillions of cells. There are many different types of cells; each has a special function.
- B. Tissues – groups of similar cells combine to form tissues.
- C. Organs – a group of tissues that perform a single function make up organs.
- D. Systems – a group of organs working together with a specific function make up a body system.

Cells → Tissues → Organs → Body Systems.

II. Changes in “Normal” Older Adults That Affect Drug Effectiveness

- A. Changes affecting absorption of drugs – drugs are not absorbed from the GI tract as easily.
 - 1. Poor musculature results in decreased peristalsis.
 - 2. Blood supply to GI tract decreases.
 - 3. Number of absorbing cells in the stomach decreases.
 - 4. Slower emptying of the stomach.
- B. Changes affecting the distribution of drugs.
 - 1. Decrease in total body water.
 - 2. Decrease in lean body mass; increased fat.
 - 3. Lowered cardiac output.
- C. Changes affecting metabolism of drugs – usually slower or impaired metabolism of drugs.
 - 1. Decrease in liver function which normally detoxifies the body.

2. Decrease in effectiveness of kidney function.
 3. Increased risk of drug toxicity.
- D. Changes affecting the elimination of drugs – causes drugs to be eliminated more slowly.
1. Reduced filtration by kidneys – 30% reduction by age 65.
 2. Increased renal dehydration.
 3. Decreased number of kidney cells – 40% less by age 75.

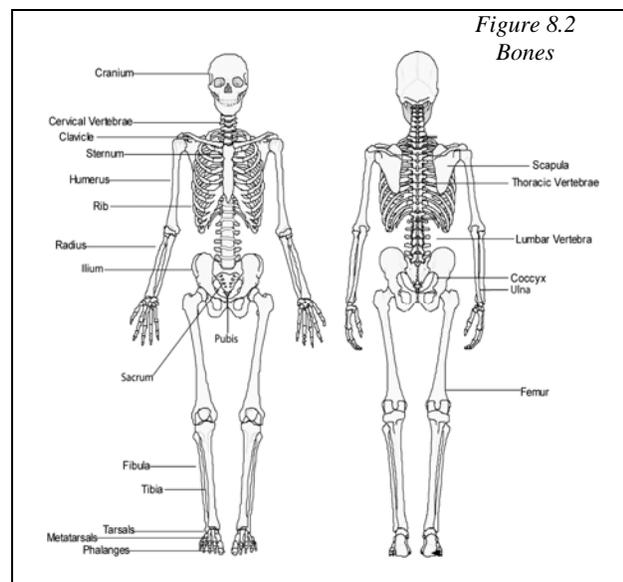
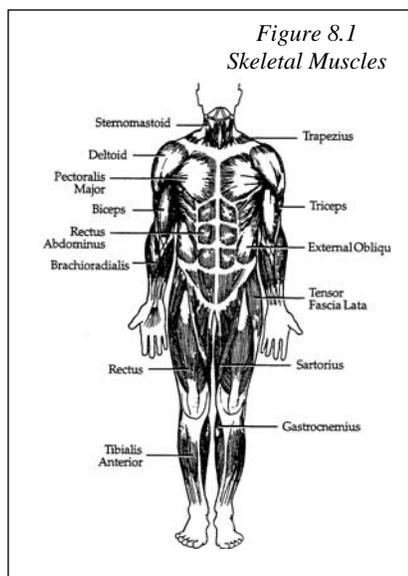
III. Special Risks of Ill Older Adults

- A. Existence of one or more chronic medical conditions.
- B. Greater likelihood of serious drug side effects.
- C. Drug interactions.

IV. Musculoskeletal System

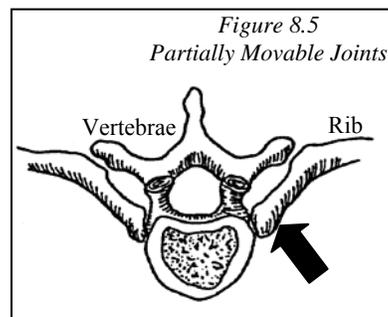
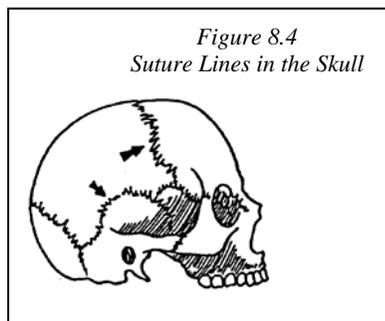
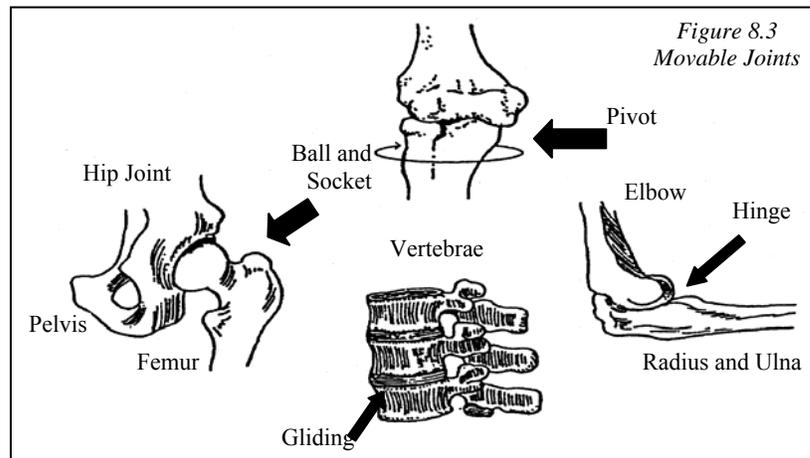
A. Structures.

1. Skeletal muscles – muscle connected to bone (see Figure 8.1).
2. Bones – dense solid connective tissue (see Figure 8.2).



3. Joints – point of juncture between two bones.
 - a. Movable (see next page Figure 8.3).

- 1) Pivot (e.g., wrist).
- 2). Ball and socket (e.g., shoulder or hip).
- 3) Gliding (e.g., vertebrae).
- 4) Hinge (e.g., elbow or knee).
 - i. Immovable – suture lines in the skull (see Figure 8.4).
 - ii. Partially movable – ribs at the spine (see Figure 8.5).



4. Additional structures include:
 - a. Tendons – bands of fibrous connective tissue that attach a muscle to a bone.
 - b. Ligaments – connect bone to bone.
 - c. Cartilage – connective tissue found in the joints.

B. Functions.

1. Skeleton – the skeleton contains 206 bones and provides:
 - a. Support.

- b. Protection.
 - c. Leverage.
 - d. Production of blood cells.
 - e. Calcium storage.
2. Muscles.
- a. Movement.
 - b. Heat production.
 - c. Posture.
 - d. Protection.
- C. Age related changes affecting the musculoskeletal system.
- 1. Muscular weakness and atrophy.
 - 2. Loss of height due to thinning of vertebrae and intervertebral disks.
 - 3. Stiffening and degeneration of the joints.
 - 4. Decrease in bone density due to reabsorption of calcium.
 - 5. Slumped posture due to spine deterioration.
 - 6. Loss of cartilage.
- D. Diseases and conditions affecting the Musculoskeletal System.
- 1. Fractures are a break in the bone due to trauma/injury or spontaneously from diseases like osteoporosis (pathological fractures). Hip fractures, which are common in the elderly, normally require surgical treatment. Compression fractures, fractures of vertebra from pressure, require stabilization of the spinal column and rest to allow healing.
 - a. Medications used to treat fractures include narcotic analgesics such as Vicodin, OxyContin.
 - 2. Arthritis.
 - a. Osteoarthritis – the most common form of arthritis is also called degenerative joint disease (DJD). Osteoarthritis is a chronic and progressive condition causing deterioration of the joint cartilage and formation of reactive new bone. Heberden’s nodes, abnormal cartilaginous enlargement of the knuckles is commonly seen when

the hands are involved. The hips and knees are the most commonly affected joints.

- 1) Medications used to treat osteoarthritis include non-steroidal anti-inflammatory drugs (NSAIDS) such as Motrin, non narcotic analgesics such as aspirin or Tylenol, and COX-2 inhibitors such as Celebrex. Corticosteroids such as Hydrocortisone and hyaluronic acid derivatives such as Hyalgan may be injected directly into the affected joints.
 - b. Rheumatoid arthritis – a chronic destructive inflammation of the joints and related structures that may result in deformities. Rheumatoid arthritis usually first appears in middle age and is more common in women. It is considered to have an autoimmune component. Rheumatoid arthritis can be treated with many of the same drugs used to treat osteoarthritis as well as gold compounds and drugs such as Remicade and Enbrel which reduce joint and tissue inflammation, pain and swelling, but whose mechanism of action is not known.
 - c. Gout – a metabolic disease that results in an increased production or decreased excretion of uric acid. The excess uric acid is converted into crystals that become deposited in joints and other tissues. It is more commonly seen in men than in women. The big toe and foot are most commonly affected. Anti-gout drugs include Benemid and Zyploprim which decrease uric acid levels.
3. Osteoporosis – a disorder characterized by loss of bone mass in which bone becomes “spongy” or “honeycomb” in appearance. It is more common in sedentary or immobilized individuals, patients on long term steroid therapy and post-menopausal females due to decreased estrogen production. Osteoporosis increases the risk of fractures and can cause compression of the chest cavity, low back pain, loss of stature and other deformities.
 - a. Medications include calcium supplements such as Oscal or Tums, Vitamin D, drugs that inhibit bone resorption such as Miacalcin and Fosamax and estrogen replacements/receptor modulators such as Premarin and Evista.
4. Sprains, strains and "pulled muscles" are acute conditions treated with rest and physical therapy. Medications used include analgesics, anti-inflammatory drugs, and skeletal muscle relaxants such as Paraflex or Robaxin.

V. Nervous System

A. Structures (see next page Figure 8.6).

1. Brain – large mass of nerve tissue that regulates and coordinates all body activity. The brain is divided into lobes which control special functions such as speech, hearing, sight, movement, memory, etc.
2. Spinal cord – cord of nerve tissue; extends from lower brain to lower back.
3. Nerves – carry electrical messages to and from different parts of the body.

NOTE: The brain and the spinal cord make up the *Central Nervous System (CNS)* and the cranial and spinal nerves make up the *Peripheral Nervous System (PNS)*.

B. Functions.

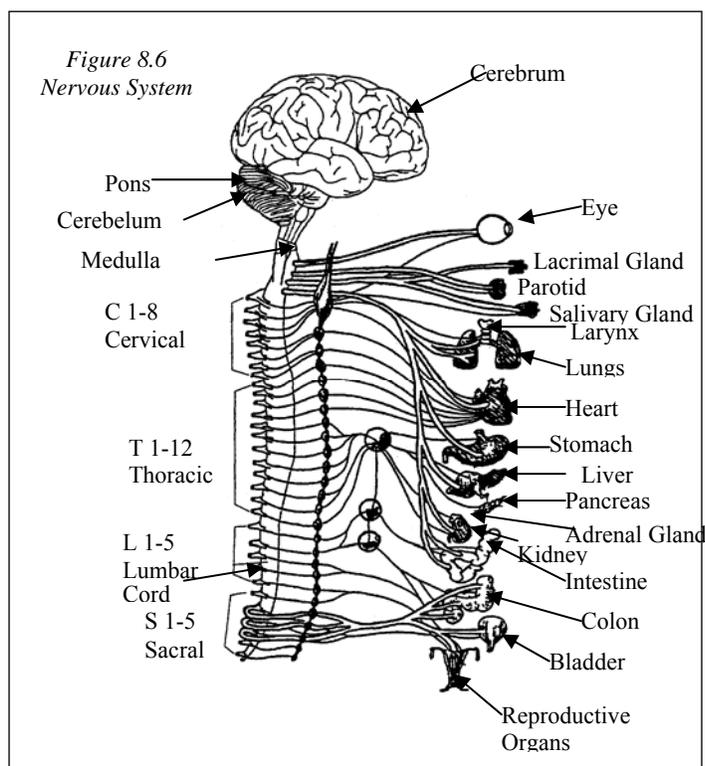
1. Controls and coordinates body activities.

C. Age related changes affecting the nervous system.

1. Nerve transmission time slows resulting in a slower reaction time.
2. Minimal shrinking of the brain that does not affect ADLs.
3. Temperature control center of the brain (hypothalamus) becomes less effective at regulating body temperature.
4. Pain threshold increases.
5. Change in sleep patterns that result in frequent awakening.

D. Diseases and conditions affecting the nervous system.

1. Alzheimer’s disease – a chronic disorder involving alterations in the number, structure and function of neurons in certain areas of the cerebral cortex. It is characterized by confusion, memory loss, restlessness, and speech disorders. It affects more females than males with usual onset after age 65.



- a. Treatment is aimed at slowing the progression of the disease. Current treatments do not “cure” the disease. Medications include Memantine, Aricept, Exelon, and Reminyl.
2. A cerebral vascular accident (CVA) – also known as “stroke,” is caused by hemorrhage, thrombus (clot), or other occlusion (blockages) in the blood vessels of the brain. Symptoms include headache, vomiting, disorientation, slurred speech, mouth drooping, unequal pupils. A CVA may result in unconsciousness, loss of cognitive functioning, and/or paralysis. Medications include anti-coagulants such as Coumadin or aspirin, and anti-hypertensives such as hydrochlorothiazide.
3. Amyotrophic lateral sclerosis (ALS) – also known as “Lou Gehrig’s disease.” ALS is a muscular weakness and atrophy due to degeneration of motor neurons of spinal cord, medulla, and cortex. No current medications reverse the disease.
4. Spinal cord injuries – usually result in paralysis below the level of injury. No current medication reverses the condition. Medications are used to treat spinal cord injury problems related to immobility, such as pressure ulcers, pneumonia, bowel and bladder problems and depression.
5. Parkinson’s Disease – a chronic disease of the brain cells that control movement characterized by, fine, slowly spreading tremors, muscular weakness and rigidity. Symptoms include a shuffling gait, frequent falls, and a stooped posture with the head bent forward or down. Medications include anti-Parkinson’s drugs such as Sinemet, Lodosyn, and Cogentin. Tremors may be treated with a drug such as Corgard or Inderal.
6. Multiple sclerosis (MS) – an inflammatory disease, possibly related to a virus that causes degeneration of the brain, spinal cord and nerves resulting in weakness/numbness of limbs, visual disturbances, and dizziness. MS is characterized by exacerbations and remissions. Medications include steroidal anti-inflammatory drugs such as prednisone.
7. Epilepsy and other seizure disorders – alterations of cerebral function characterized by sudden, brief episodes of altered consciousness, motor activity, or sensory phenomena. Symptoms range from a barely noticeable staring or lack of attention to a full tonic/clonic seizure with loss of consciousness, incontinence, muscle jerking, and tongue biting. Drugs called anticonvulsants such as Dilantin, Tegretol, phenobarbital, Mysoline, Zarontin, and Klonopin are commonly prescribed. No one drug is effective for all types of seizures.
8. Shingles (herpes zoster) – caused by the same virus as chickenpox; lays dormant and emerges as painful vesicular eruptions along peripheral nerves. Lesions may last for several weeks in the elderly with pain

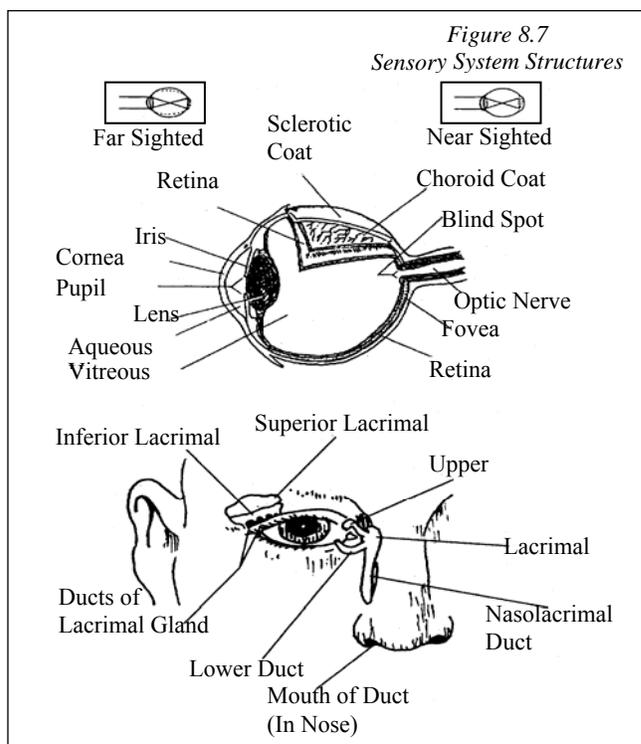
lasting for months after the lesions disappear. Medications include analgesics and topical or systemic antiviral medications such as Zovirax and tricyclic antidepressants such as Elavil to treat neuralgia.

9. Transient ischemic attack (TIA) – results from a temporary lack of blood flow to the brain due to a partial occlusion. Symptoms of a TIA vary with the site and degree of blockage. Visual disturbances, dizziness, weakness, numbness, and unconsciousness may occur. The attack is usually brief, lasting only a few minutes. A TIA may be referred to as a “mini-stroke.” Medications include anti-coagulants such as Coumadin or aspirin; anti-hypertensives such as hydrochlorothiazide; and antiplatelet agents such as Plavix and Aggrenox.
10. Anxiety and Neurosis – symptoms include intense anxiousness, tension and a feeling of apprehension or fear that is at a level not normally seen in that situation. Antianxiety drugs/tranquilizers such as Xanax, Ativan and BuSpar are commonly used.
11. Depression – caused by a decreased level of chemicals in the brain. Symptoms include appetite changes, lack of ability to concentrate, feelings of guilt or hopelessness, insomnia, crying, and lack of pleasure in any activity. Antidepressants called mood elevators are used to treat depressions. Medications commonly prescribed for depression include: Celexa, Effexor, Lexapro, Paxil, Prozac, Zoloft and Wellbutrin.
12. Psychosis – a serious disorder characterized by agitation, hallucinations, severe depression, and impaired thinking so severe that the person loses touch with reality. Schizophrenia is the most common form of psychosis. Antipsychotic drugs are commonly used to treat this condition. Examples of antipsychotic medications include: Risperdal, Zyprexa, Seroquel, and Thorazine.

VI. Sensory System

A. Structures (see Figure 8.7)

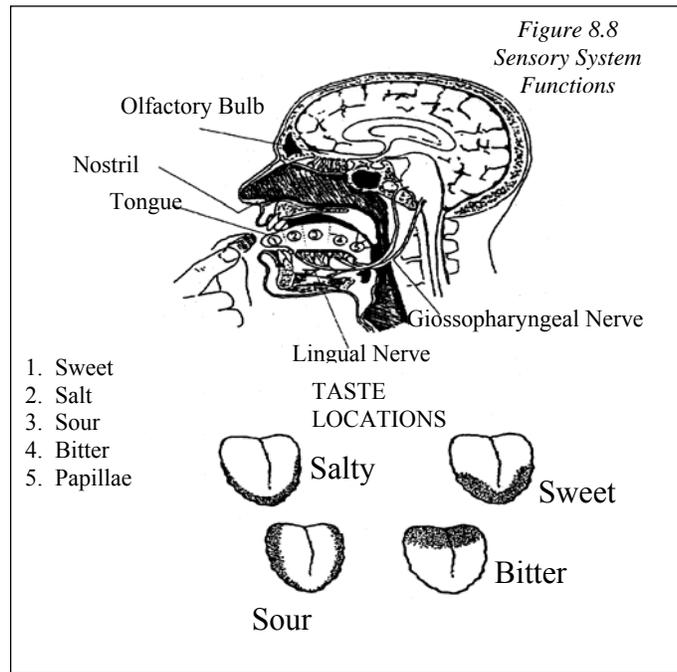
1. Eyes.
2. Ears.
3. Nose.
4. Mouth and throat.
5. Skin



B. Functions (see Figure 8.8).

1. Vision.
2. Hearing.
3. Balance.
4. Smell.
5. Taste.
6. Touch.

C. Age-related changes affecting the sensory system.



1. Difficulty distinguishing colors, especially pastels and the blue and green color ranges.
2. Decreased ability to see in dim lighting situations.
3. Diminished night vision and depth perception.
4. Dryness of the eyes due to decreased tear production.
5. Decreased peripheral vision.
6. Increased sensitivity to glare.
7. Eyes adjust more slowly to changes in lighting conditions.
8. Decreased ability to hear high-pitched and very low pitched sounds.
9. Decreased number of olfactory bulbs resulting in a diminished sense of smell.
10. Decreased number of taste buds resulting in a diminished sense of taste and enjoyment of meals.
11. Decreased perception of pain, pressure, touch, heat and cold.
12. Increased production and thickening of ear wax (cerumen) resulting in decreased hearing.
13. Slower reaction time.
14. Decreased finger dexterity.

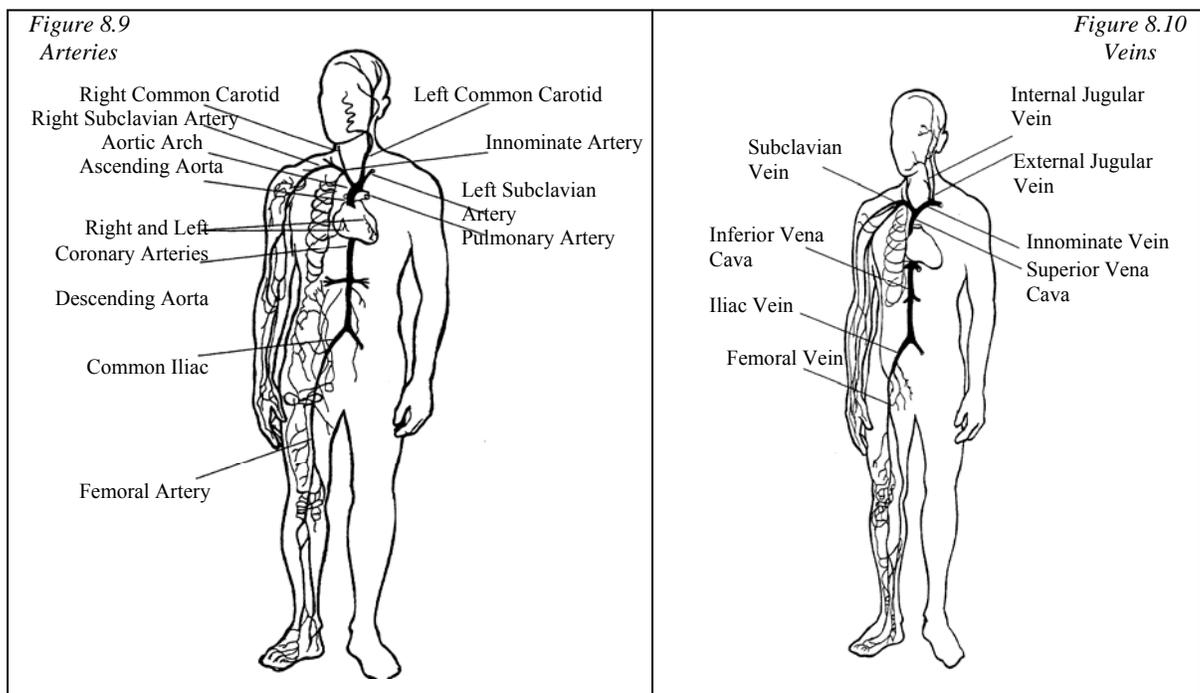
15. Diminished sense of balance. Difficulty maintaining balance while standing on one foot; leading to problems when stepping into a bathtub and walking up/down stairs.
- D. Diseases and conditions affecting the sensory system.
1. Eye.
 - a. Cataracts – clouding of the lens of the eye.
 - b. Glaucoma – increased intraocular pressure that may lead to blindness. Treated with ophthalmic drops such as Betoptic or Timoptic.
 - c. Blindness.
 - d. Conjunctivitis – inflammation of the mucous membranes lining the eye. Treated with antibiotic drops such as Sodium Sulamyd or ointments such as ophthalmic Neosporin Ophthalmic.
 - e. Macular degeneration – a progressive deterioration of the retina resulting in loss of central vision.
 - f. Retinopathy – a non-inflammatory eye disorder resulting in changes to the blood vessels of the eye; frequently associated with diabetes.
 - g. "Dry eyes" – diminished secretion of tears. Frequently treated with an over the counter (OTC) drop such as Artificial Tears and/or antihistamine drops such as Visine.
 2. Ear.
 - a. Hearing loss.
 - b. Cerumen impactions – “wax” accumulation in ear canal; frequently treated with products designed to loosen cerumen such as Cerumenex or Debrox.
 - c. Otitis media – inflammation of the middle ear; usually treated with an antibiotic/anti-inflammatory drop such as Cortisporin.
 - d. Deafness.

3. Nose.
 - a. Rhinitis – inflammation of the mucous membranes in the nose due to irritants or allergies. Medications used to treat allergic rhinitis include antihistamines such as Zyrtec or Claritin; decongestants such as Sudafed that act as vasoconstrictors and decrease blood flow to the swollen mucous membranes. Intranasal corticosteroids that may be prescribed to treat rhinitis include Rhinocort and Flonase.
 - b. Sinusitis – inflammation of sinuses.
4. Mouth, tongue and throat.
 - a. Tumors.
 - b. Excessive dryness of mouth.
 - c. Tooth and gum disorders.
5. Skin (HO 19).
 - a. Paresthesia – sensation of numbness or tingling.

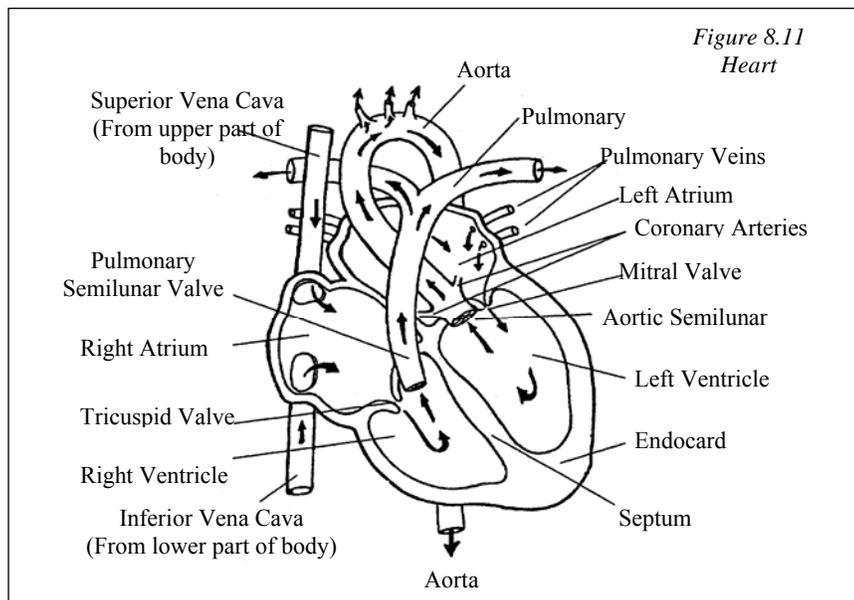
VII. Cardiovascular System

A. Structures.

1. Blood vessels-veins, arteries and capillaries (see Figures 8.9; 8.10).



2. Heart (see Figure 8.11).



3. Blood.

B. Functions.

1. Carries nutrients and oxygen to all cells of the body by way of blood vessels.
2. Removes waste products and carbon dioxide from cells.

C. Age related changes affecting the cardiovascular system.

1. Decreased ability of the heart to pump the blood throughout the body decreased cardiac output.
2. Narrowing of the blood vessels and loss of elasticity of vessel walls resulting in poor circulation and increased blood pressure.
3. Slowing of the pulse rate.
4. Decreased ability of the cardiovascular system to respond to position changes resulting in orthostatic hypotension.
5. Decreased ability of the cardiovascular system to respond to an increased demand for blood supply such as with exercise or exertion.
6. Thickening of the heart valves resulting in heart murmurs.
7. Heart rate takes longer to return to normal range after exercise.

- D. Diseases and conditions affecting the cardiovascular system.
1. Angina pectoris – chest pain, usually radiating to the left shoulder and down the arm. It is usually caused by atherosclerosis of the coronary arteries and lack of oxygen to the heart muscle. Angina is frequently related to exertion, emotional stress, or exposure to extreme cold.
 - a. Medications include nitrates to dilate the blood vessels such as Nitro-Bid, drugs to decrease the heart rate such as Tenormin and drugs such as Cardizem to relax the smooth muscles of the blood vessels.
 2. Arrhythmia – an abnormal rhythm or pattern of the heart beat. Atrial fibrillation, atrial flutter, heart block, and premature beats are examples of arrhythmias. Arrhythmias may be treated with a pacemaker; a device implanted in the chest to stimulate and regulate the heart rate. Antiarrhythmics medications include Catapres, Norpace, Tambocor, Tenormin, and Cardizem.
 3. Congestive heart failure (CHF) – a condition resulting from failure of the heart to maintain adequate circulation of the blood. Right sided heart failure results in a backup of blood from the right ventricle into the venous circulation. This results in liver enlargement and edema in the extremities. Left sided heart failure results in a backup of blood from the left ventricle into pulmonary circulation resulting in pulmonary edema and difficulty breathing.
 - a. Medications used to treat CHF include diuretics such as Lasix to decrease fluid buildup and cardiac glycosides such as Lanoxin which make the heart beat more slowly and more efficiently.
 4. Myocardial infarction (MI) – also called a “heart attack”. MI is caused by occlusion of one or more of the coronary arteries. Symptoms include nausea, sweating, fatigue, weakness, dizziness, irregular heart rate, hypotension, tachypnea, shortness of breath, and squeezing pain in the center of the chest that may spread to the shoulder, neck, arm, jaw, and fingers.
 - a. Medications include platelet aggregation inhibitors such as Plavix and injectable thrombolytic drugs such as Streptase and Activase.
 5. Hypertension – a condition in which BP is higher than normal, generally readings above 150/90 are considered hypertension. Medications used to treat hypertension include diuretics such as Lasix and anti-hypertensives such as Inderal, Calan, and Lopressor
 6. Ischemic heart disease – occurs when there is a lack of oxygen (O₂) supply to the heart. It is usually caused by atherosclerosis. It may be called coronary heart disease or arteriosclerotic heart disease. Treatment

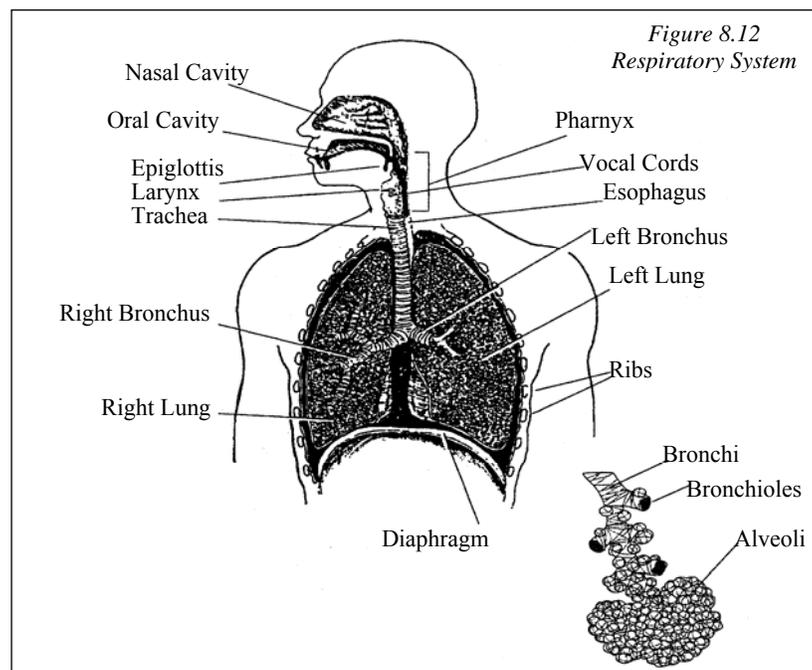
is aimed at improving oxygen supply to the heart, or decreasing the need for O₂.

- a. Medications include calcium channel blockers such as Procardia or Cardizem.
7. Anemia is a disorder characterized by a decrease in hemoglobin in the blood to a level below normal range. Medications include iron replacement drugs such as Feosol.

VIII. Respiratory System (see Figure 8.12).

A. Structures.

1. Nose.
2. Mouth.
3. Pharynx – passageway from nasal cavity to larynx and from mouth to esophagus.
4. Larynx – upper end of trachea; organ of voice.
5. Trachea – tube from larynx to bronchi.
6. Lungs – organs of respiration.
7. Bronchi – two main branches from trachea to lungs.
8. Bronchioles – smaller branches from bronchi.
9. Alveoli – the many terminal sacs where gases are exchanged in respiration.



B. Functions.

1. Provides oxygen to cells.
2. Removes wastes in form of CO₂.

C. Age-related changes affecting the respiratory system.

1. Loss of elasticity of lungs, lungs do not expand or contract as well.
2. Chest muscle weakness results in shallow breathing and less effective cough.

D. Diseases and conditions affecting the respiratory system.

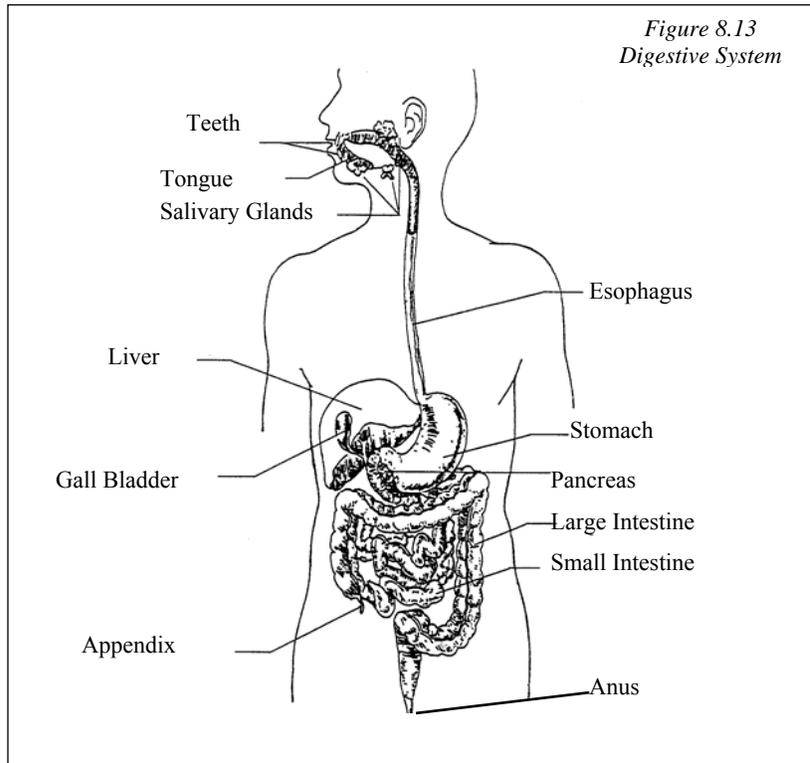
1. Chronic Obstructive Pulmonary Disease (COPD), also known as Chronic Obstructive Lung Disease (COLD), or Emphysema. This disease results in a decreased ability of the lungs to perform the function of ventilation. COPD may be related to exposures to chemicals inhaled in the workplace. COPD is treated with bronchodilators such as Theodur and mucolytics that help to liquefy and loosen thick mucous secretions such as Mucomyst.
2. Pneumonia – an inflammation/infection of the lungs caused by bacteria, viruses, aspiration, and chemical irritants. Treatment is based on the cause, usually with antibiotics such as amoxicillin and corticosteroids such as Pulmicort to decrease inflammation.
3. Lung Cancer – a malignancy in the respiratory system usually caused by cigarette smoking. Symptoms of lung cancer include persistent cough, dyspnea, and chest pain. Surgery is the most effective treatment.
4. Tuberculosis (TB) – caused by a bacteria. Treatment with a combination of anti-tuberculosis drugs such as INH and Rifadin is usually necessary.

IX. Digestive System (see next page Figure 8.13)

A. Structures.

1. Mouth – Includes the teeth, tongue and salivary glands. Takes food in, chews it and mixes food with saliva; one liter of saliva is produced daily.
2. Esophagus – tube from mouth to stomach.
3. Stomach – mixes food and fluids with digestive juices.
4. Liver – largest internal organ in the body and the primary organ of drug metabolism. The liver secretes substances that aid in digestion and

produces approximately 1 pint of bile per day. The liver stores iron, vitamins A, D, and excess glucose. It also metabolizes fats, proteins and carbohydrates, and detoxifies medications and other substances.



5. Gallbladder – stores bile.
6. Pancreas – also part of the endocrine system. Secretes insulin used to break complex carbohydrates into simple useable energy.
7. Small intestine – is twenty feet long and made up of 3 sections; the duodenum, the jejunum and the ileum. Food is absorbed into the bloodstream in the small intestine.
8. Large intestine – is five to six feet long and made up of 3 sections; the ascending, the transverse and the descending colon. The large intestine reabsorbs water and moves waste products through the system to the rectum.
9. Rectum – connects the large intestine to the anus.

NOTE: Bacteria live all along the 30-foot Digestive tract.

B. Functions.

1. Ingests food and fluids.

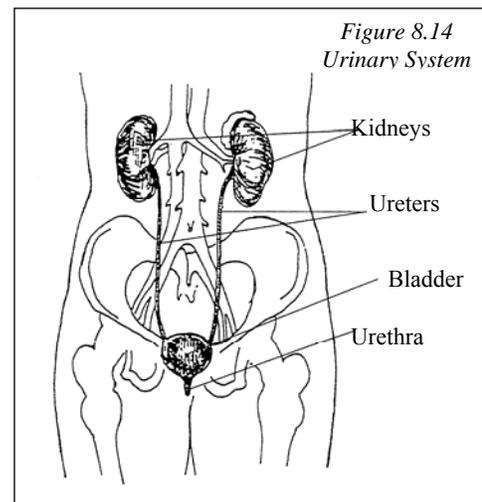
2. Prepares food for use by the body – breaks food into 3 main nutrients: carbohydrates, fats, and proteins.
 3. Excretes wastes.
- C. Age related changes affecting the digestive system.
1. Loss of teeth results in decreased dietary intake and weight loss.
 2. Nutritional needs remain the same, but the need for calories decreases as activity and metabolic rate decreases.
 3. Slower peristalsis results in constipation and increased intestinal gas (flatus).
 4. Saliva production diminishes which can make swallowing difficult and leads to a drier mouth.
 5. Decreased blood flow to the liver and decrease liver enzymes results in less efficient drug metabolism and detoxification.
 6. Decreased gastrointestinal secretions affect digestion and absorption of food and drugs.
- D. Diseases and conditions affecting the digestive system.
1. Cancer of the mouth, stomach, liver and intestines.
 2. Cirrhosis of the liver – due to fibrous tissue formed as a result of infection or obstruction of bile ducts.
 3. Constipation – the passage of unusually hard dry stools. It may be caused by inadequate fluid and/or fiber intake, and lack of exercise. If left untreated constipation can lead to fecal impaction; the buildup of hard stool that cannot pass through the rectum normally. Laxatives such as Milk of Magnesia, Colace, and castor oil, or enemas such as Fleet Enema may be used to treat constipation. Bulk producing laxatives such as Metamucil may be ordered on a daily basis to prevent constipation.
 4. Diarrhea – the frequent passage of unformed watery stool is treated with Anti-diarrheals such as Lomotil or Imodium. Bacterial diarrhea, also called “traveler’s diarrhea,” is also treated with an antibiotic such as Cipro.
 5. Gallstones – when a stone is formed by bile pigments and calcium salts that may cause pain and jaundice. Patients who are unable to undergo surgery to remove gallstones may be given drugs such as Actigall to help dissolve the stones.

6. Gastritis – an inflammation of the stomach. It is frequently treated with antacids such as Mylanta and drugs such as Zantac to decrease stomach acid.
7. Gastro Esophageal Reflux Disease (GERD) – occurs when the stomach acid flows back into the esophagus causing pain and irritation. Drugs such as Prevacid that decrease the production of acid and GI stimulants that increase the rate of gastric emptying such as Reglan may be used.
8. Hemorrhoids – enlarged veins in the lower rectum or anus. They are usually treated with anti-inflammatory suppositories, ointments, or creams such as Anusol.
9. Hepatitis.
 - a. Type A – transmitted by the fecal/oral route.
 - b. Type B – transmitted by blood and/or body fluids.
 - c. Type C – transmitted by blood and/or body fluids.
 - d. Type D – transmitted by blood and/or body fluids.
 - e. Others.
10. Hiatal hernia – protrusion of part of the stomach upwards through the diaphragm.
11. Ulcers – open lesions on gastric mucosa. Antacids such Maalox, and drugs that block the release of stomach acids such as Tagamet and Prevacid are commonly prescribed.

X. Urinary System (see Figure 8.14)

A. Structures.

1. Kidneys – filter the blood.
2. Ureters – transports urine from the kidneys to bladder.
3. Bladder – muscular sac that stores urine.
4. Urethra – connect the bladder to the urinary meatus, the external opening through which urine passes.



B. Functions.

1. Normally produces 1000cc-1500cc of clear yellow urine each day.
2. Removes waste products from the blood stream.
3. Maintains a stable balance of water and body chemicals (homeostasis).

C. Age related changes affecting the urinary system.

1. Bladder opening weakens and may result in incontinence and dribbling of urine.
2. Decrease in bladder muscle tone results in incomplete emptying of the bladder which leads to chronic retention and urinary tract infections.
3. Decreased ability of the kidneys to filter wastes and concentrate urine.

D. Diseases and conditions affecting the urinary system.

1. Urinary tract infections (UTI) can occur at any point in the urinary system. The most frequent cause of infection is *E. Coli* – a pathogen from the intestinal tract. Urinary tract infections are treated with antibiotics such as Cipro; sulfonamides such as Gantrisin; and combination drugs such as Septra. Pyridium, a urinary analgesic, may be used to relieve the pain associated with a UTI.
2. Renal failure – the inability of the kidneys to excrete wastes, concentrate urine and conserve electrolytes. Antibiotics and diuretics may be used.
3. Benign prostatic hypertrophy (BPH) – common in men over the age of 50. Symptoms include difficulty urinating and decreased urinary stream. Medications include Proscar and Hytrin.
4. Urinary retention – the inability to empty the bladder. Antispasmodic drugs such as Urispas maybe used to relax the smooth muscle in the urethra and bladder and promote normal bladder function.
5. Urinary incontinence – the inability to control the release of urine from the bladder. Antispasmodic drugs such as Ditropan may be used to relax the smooth muscle in the urethra and bladder and promote normal bladder function.

XI. Reproductive System

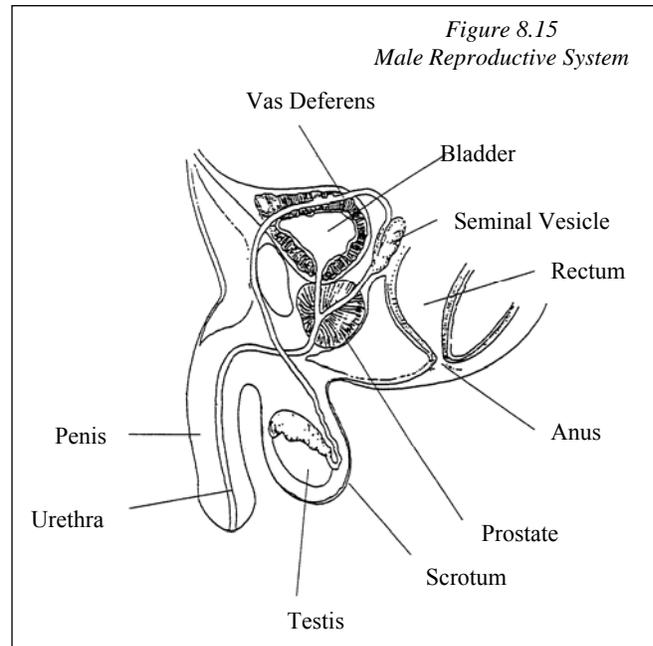
A. Structures.

1. Male (see next page Figure 8.15).

- a. Testes (gonads).
- b. Prostate.
- c. Penis.
- d. Urethra.
- e. Ducts.

2. Female
(see Figure 8.16).

- a. Ovaries.
- b. Fallopian tubes.
- c. Uterus.
- d. Vagina.

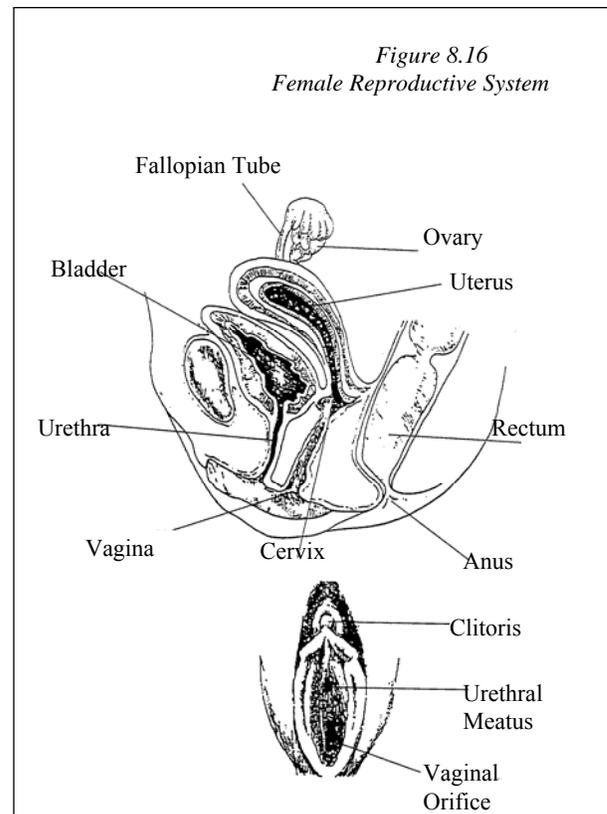


B. Function.

1. Produce reproductive cells.
 - a. Male – sperm.
 - b. Female – ovum or egg.
2. Produce hormones responsible for secondary sex characteristics.
 - a. Male – testosterone.
 - b. Female – estrogen and progesterone.

C. Age related changes affecting the reproductive system.

1. Slight decrease in testosterone and sperm production in men.
2. Enlargement of the prostate gland.
3. Significant decrease in estrogen production after menopause in women.

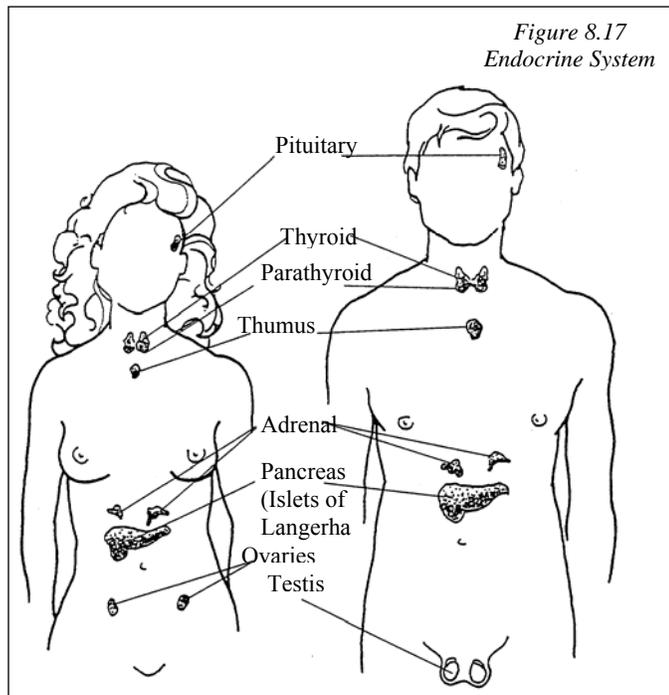


4. Vaginal dryness resulting in increased risk of infection.
- D. Diseases and conditions affecting the reproductive system.
1. Male.
 - a. Prostate Cancer.
 - b. Sexually transmitted diseases (STD) – cause widespread inflammation and scarring. Treatment is based on the bacteria, protozoa, or virus causing the infection. Anti-protozoal/antibiotics such as Flagyl and Vibramycin are sometimes prescribed.
 2. Female.
 - a. Uterine cancer.
 - b. Ovarian cancer.
 - c. Dysmenorrhea – painful menstruation. Treatment may include analgesics such as Tylenol or a non-steroidal anti-inflammatory such as Advil or Aleve.
 - d. Pregnancy.
 - e. Vaginitis – an inflammation of the vagina sometimes caused by a lack of hormones in post-menopausal women. Treatment may include estrogen replacement therapy such as Premarin.
 - f. Vaginal yeast infections – caused by *Candida albicans*. Topical drugs use to treat this infection include Monistat and Mycelex.
 - g. Sexually transmitted diseases (STD) – cause widespread inflammation and scarring. Treatment is based on the bacteria, protozoa, or virus causing the infection. Anti-protozoal/antibiotics such as Flagyl and Vibramycin are sometimes prescribed.

XII. Endocrine System (see next page Figure 8.17)

- A. Structures.
1. Pituitary.
 2. Thyroid.
 3. Parathyroid.
 4. Adrenal.
 5. Pancreas.

6. Gonads.



B. Functions.

1. Secretes hormones to regulate body processes.
2. Controls growth and development.
3. Metabolism.
4. Reproduction.

C. Age related changes affecting the endocrine system.

1. Decreased hormone production.
2. Decreased ability to tolerate stress.

D. Diseases and conditions affecting the endocrine system.

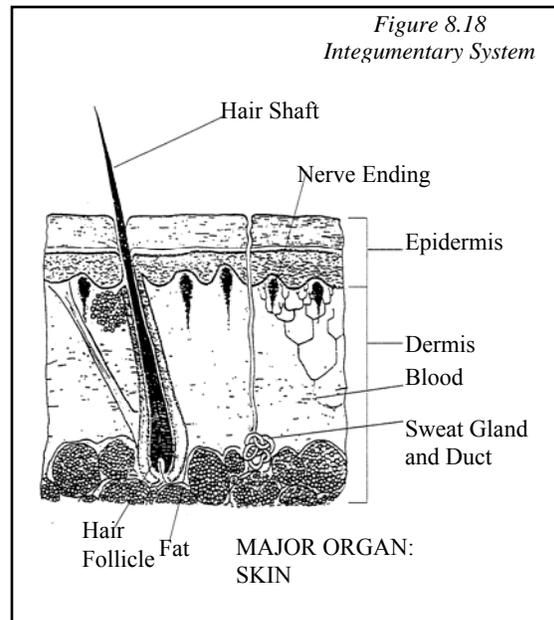
1. Hypothyroidism – condition resulting from decreased activity of the thyroid gland. Symptoms include weight gain, mental and physical lethargy, dry skin, and constipation. Medications include Armour Thyroid and Synthroid.
2. Hyperthyroidism – results from hyperactivity of the thyroid gland. Symptoms include nervousness, tremor, constant hunger, weight loss, fatigue, palpitations, and diarrhea. Anti-thyroid medications include Tapazole and Iodotope.

3. Diabetes mellitus – occurs when the pancreas fails to produce any insulin (type I); when the pancreas either produces an insufficient amount of insulin or the body cells are not receptive to the insulin being produced (type II). Diabetes is the leading cause of blindness, amputation, and kidney failure. The incidence of diabetes increases with age. Medications include insulins such as Humulin or oral antidiabetic drugs such as Glucotrol and Actos.

XIII. Integumentary System

A. Structures. (see Figure 8.18)

1. Skin – largest organ of the body.
2. Nails.
3. Hair.
4. Sebaceous glands – oil secreting glands.
5. Sweat glands.



B. Functions.

1. Provides protection.
2. Regulates body temperature.
3. Excretes wastes.
4. Manufactures vitamin D.

C. Age related changes affecting the integumentary system.

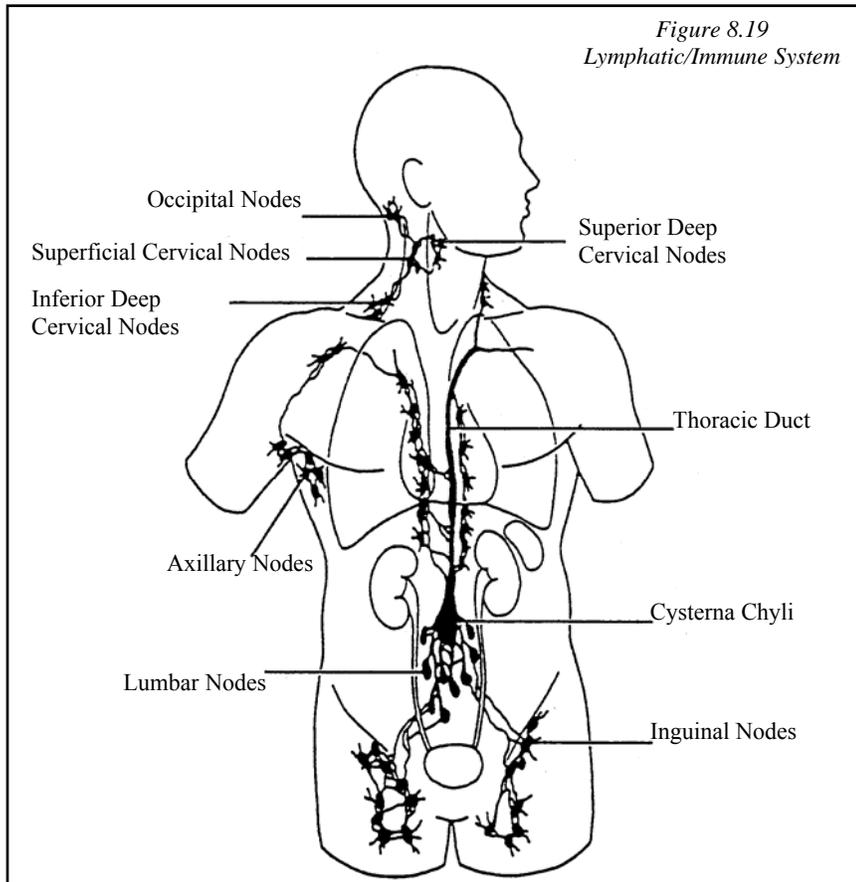
1. Decreased subcutaneous fat and thinning of the skin results in wrinkles.
2. Cell replacement takes longer and results in slower wound healing and increased chance of infection.
3. Skin becomes dry and less elastic.
4. Loss of sweat glands and subcutaneous fat makes temperature regulation more difficult.
5. Hair pigment decreases and hair becomes white or gray.
6. Hair thins and becomes fine.

7. Nails may become thick and brittle.
- D. Diseases and conditions affecting the integumentary system.
1. Skin cancer.
 2. Burns and skin ulcers – may contain a large amount of necrotic (dead) tissue. Topical enzymes such as Santyl ointment dissolve necrotic tissue and allow new tissue to form. The topical drug Regranex stimulates the formation of healthy granulation tissue. Topical antibiotics such as Silvadene may also be applied to prevent infection (HO 19).
 3. Scabies/lice – a skin condition caused by tiny parasites called mites. It is transmitted by skin to skin contact and causes persistent itching. Topical medications include Nix and RID.
 4. Skin infections – boils, yeast infections, fungal infections and infections around the nails. Treatment is based on the cause of the infection. Bacterial infections may be treated with a topical antibiotic such as Garamycin or Polysporin. Fungal infections such as ringworm or athlete's foot can be treated with a topical antifungal such as Lotrimin or Lamisil. Yeast is commonly treated with an anti-yeast drug such as Mycostatin.
 5. Dry skin – it is very important to keep skin moist. Dry skin is caused by a lack of water; not a lack of oil. Dry skin is more prone to cracking and becoming infected.
 6. Dermatitis – inflammation and itching of the skin; can be caused by many factors including poison ivy, insect bites, psoriasis and eczema. Topical corticosteroids such as Cortaid or Topicort are commonly prescribed. Topical antihistamines such as Benadryl inhibit redness and itching due to an allergic skin reaction. For more severe reactions, systemic corticosteroids such as Medrol may be prescribed.

XIV. Lymphatic/Immune System

- A. Structures (see next page Figure 8.19).
1. Lymph – fluid in lymphatic system.
 2. Lymph nodes – rounded bodies of lymphatic tissue.
 3. Tonsils – masses of lymphatic tissue in the pharynx.
 4. Thymus – lymphatic organ.
 5. Spleen – organ of lymphatic tissue; stores and filters blood.

Figure 8.19
Lymphatic/Immune System



B. Functions.

1. Produces antibodies.
2. Protects the body from bacterial invasion.
3. Manufactures white blood cells (lymphocytes).
4. Filters impurities such as dead cells.

C. Age related changes affecting the lymphatic/immune system.

1. Less resistance to disease and infections.
2. Slower wound healing.
3. Loss of ability to differentiate between normal and abnormal cell results in increase in autoimmune diseases and cancer.

D. Diseases and conditions affecting the lymphatic/immune system.

1. Lymphatic cancer.

2. Infections – can occur in any body system. The best method of treating an infection is to prevent it from occurring. Influenza and Pneumonia vaccines are commonly given to those at high risk of developing the disease. Anti-infective, antibiotic, antifungal, and antiviral medications are used to treat the causes of infection.
3. Acquired Immune Deficiency Syndrome (AIDS) – caused by the human immunodeficiency virus (HIV). HIV is transmitted through contact with an infected individual, contaminated blood, or used needles. An infected mother can transmit the virus to her fetus before birth or after delivery by breast feeding. Current medications are designed to suppress the virus and treat secondary infections. Medications include Retrovir, Epivir, Rescriptor, Agenerase, and combination drugs.

XV. Summary and Conclusion

- A. Body plan.
- B. Changes in “Normal,” older adults that affect drug effectiveness.
- C. Special risks of ill older adults.
- D. Musculoskeletal system.
- E. Nervous system.
- F. Sensory system.
- G. Cardiovascular system.
- H. Respiratory system.
- I. Digestive system.
- J. Urinary system.
- K. Reproductive system.
- L. Endocrine system.
- M. Integumentary system.
- N. Lymphatic system.

In this lesson we have examined the body systems, their structures, and functions and related diseases. The next lesson is introduction to pharmacology.

STAGES OF PRESSURE ULCERS

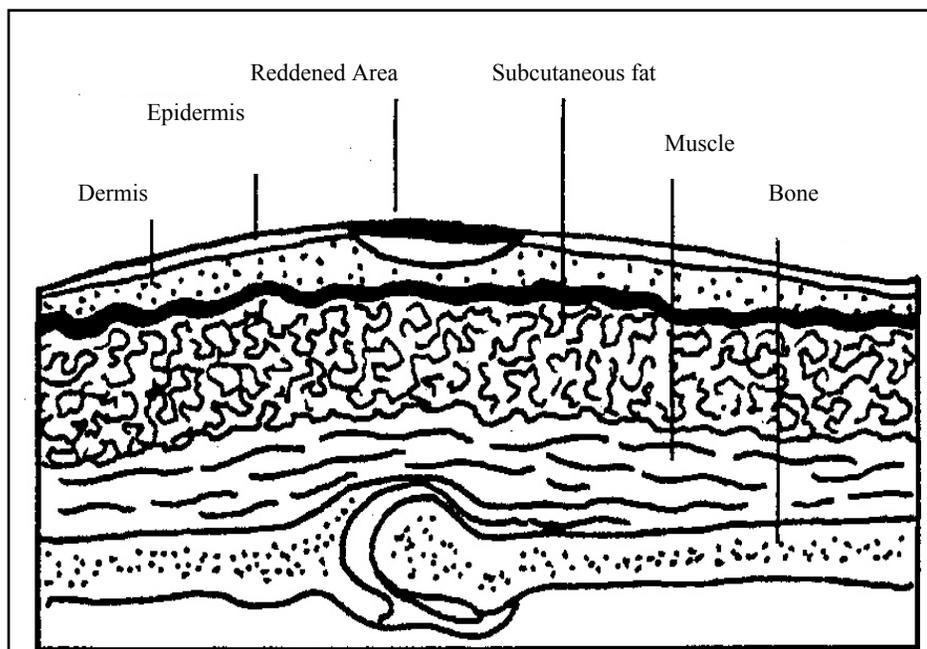
The staging system is one method of summarizing certain characteristics of pressure ulcers, including the extent of tissue damage. This is the system used within the RAI.

Stage I pressure ulcers may be difficult to identify because they are not readily visible and they present with greater variability. Advanced technology (not commonly available in nursing homes) has shown that a Stage I pressure ulcer may have minimal to substantial tissue damage in layers beneath the skin's surface, even when there is no visible surface penetration. The Stage I indicators identified below will generally persist or be evident after the pressure on the area has been removed for 30-45 minutes.

The definitions for the stages of pressure ulcers identified below, are from the NPUAP and used with permission.

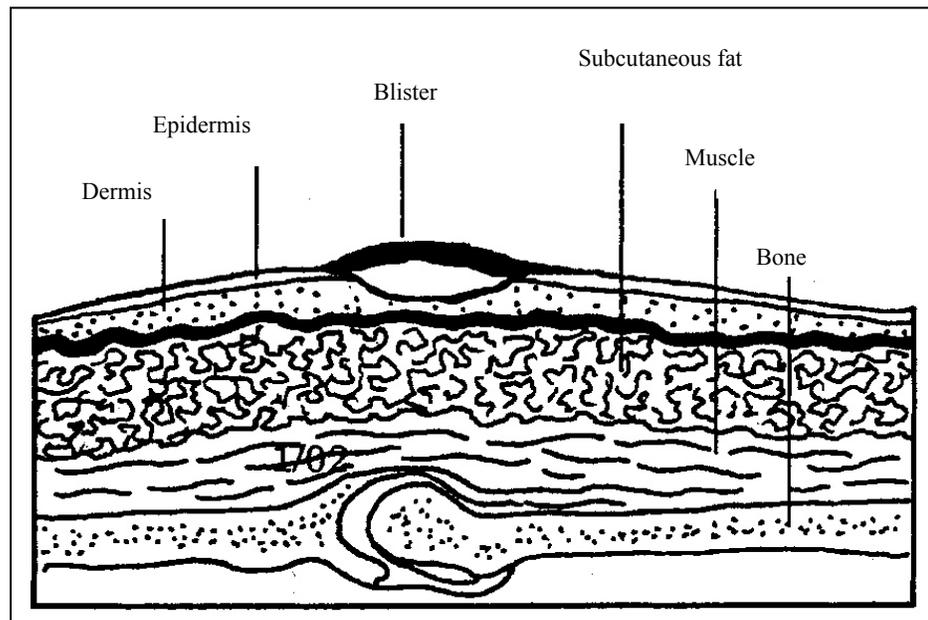
- A. Stage I – an observable, pressure-related alteration of intact skin, whose indicators as compared to an adjacent or opposite area on the body may include changes in one or more of the following parameters:
1. Skin temperature (warmth or coolness);
 2. Tissue consistency (firm or boggy);
 3. Sensation (pain, itching); and/or
 4. A defined area of persistent redness in lightly pigmented skin, whereas in darker skin tones, the ulcer may appear with persistent red, blue, or purple hues.

Stage I.



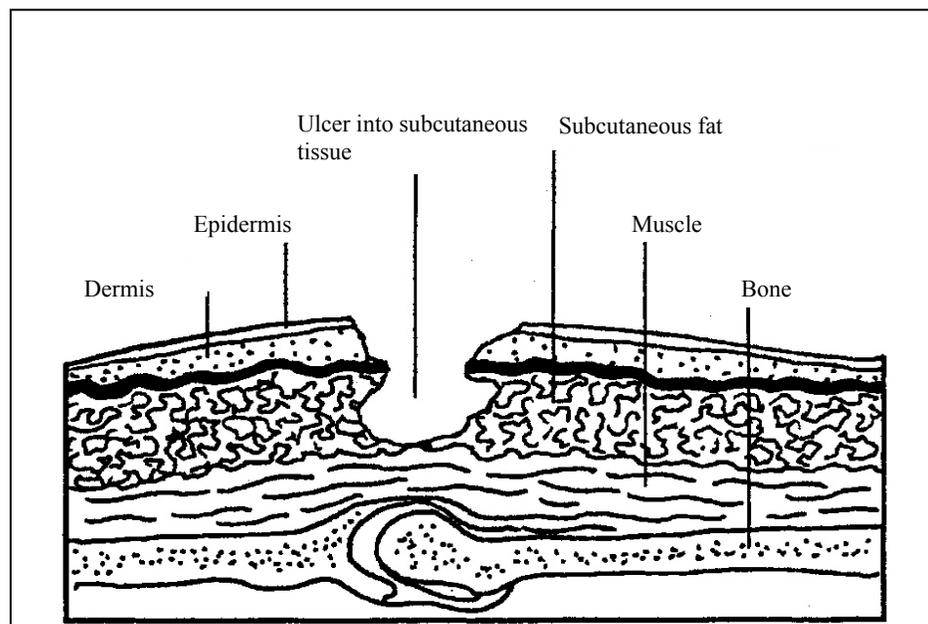
- B. Stage II – partial thickness skin loss involving epidermis, dermis, or both. The ulcer is superficial and presents clinically as an abrasion, blister, or shallow crater.

Stage II.



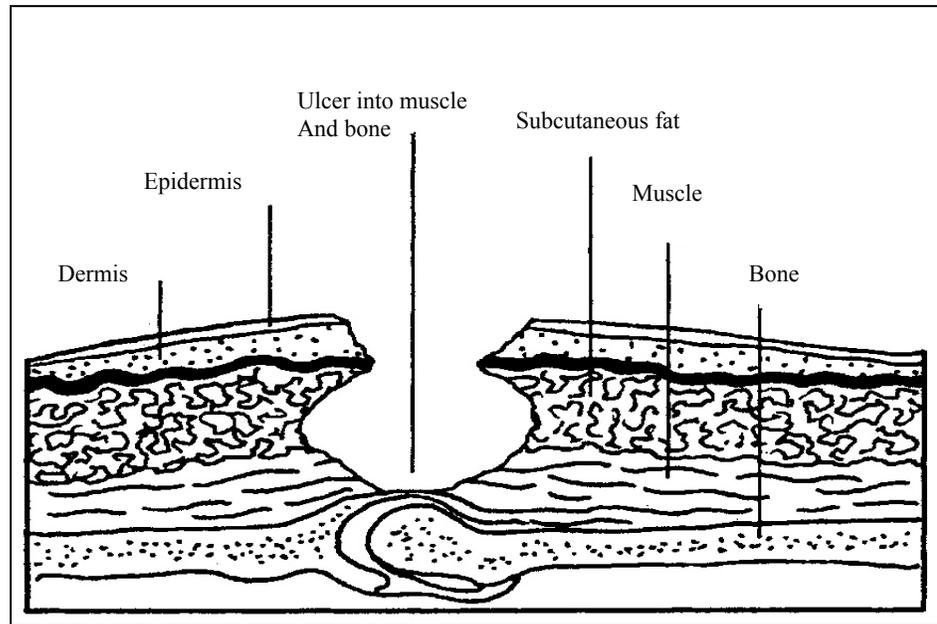
- C. Stage III – Full thickness skin loss involving damage to, or death of, subcutaneous tissue that may extend down to, but not through, underlying fascia. The ulcer presents clinically as a deep crater with or without undermining of adjacent tissue.

Stage III.



- D. Stage IV – full thickness skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone, or supporting structures (e.g., tendon, joint capsule). Undermining and sinus tracts also may be associated with Stage IV pressure ulcers.

Stage IV.



LESSON PLAN: 8

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

EVALUATION ITEMS:

1. What are the four main parts of the body plan?

Match the changes occurring in “normal” older adults with how they affect drug effectiveness.

- | | | |
|--------|-------------------------------|--|
| ___ 2. | Decrease in liver function | a. changes affecting absorption of drugs |
| ___ 3. | Lowered cardiac output | b. changes affecting distribution of drugs |
| ___ 4. | Reduced filtration by kidneys | c. changes affecting metabolism of drugs |
| ___ 5. | Less gastric acidity | d. changes affecting elimination of drugs |
6. List one special risk for ill older adults.

LESSON PLAN: 8

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

Match body system to body function.

- | | |
|--------------------|-----------------|
| A. Cardiovascular | G. Nervous |
| B. Digestive | H. Reproductive |
| C. Endocrine | I. Respiratory |
| D. Integumentary | J. Sensory |
| E. Lymphatic | K. Urinary |
| F. Musculoskeletal | |

- ___ 7. Vision, hearing, and balance
- ___ 8. Gives body movement and support
- ___ 9. Controls and coordinates body activities
- ___ 10. Prepares food for use and excretes wastes
- ___ 11. Provides oxygen for cells
- ___ 12. Carries nutrients and oxygen to cells
- ___ 13. Produces urine
- ___ 14. Manufactures Vitamin D
- ___ 15. Regulates metabolism
- ___ 16. Produces hormones responsible for secondary sex characteristics.
- ___ 17. Filters body impurities

Name two structures in each system.

18. Musculoskeletal system.
- A.
- B.

19. Nervous system.

A.

B.

20. Sensory system.

A.

B.

21. Cardiovascular system.

A.

B.

22. Respiratory system.

A.

B.

23. Digestive system.

A.

B.

24. Urinary system.

A.

B.

25. Reproductive system.

MALE:

A.

B.

FEMALE:

A.

B.

26. Endocrine system.
- A.
- B.
27. Integumentary system.
- A.
- B.
28. Lymphatic system.
- A.
- B.

Match disease/condition to the appropriate definition.

- | | |
|-------------------------------------|------------------------|
| A. Cerebral Vascular Accident (CVA) | G. Deafness |
| B. Congestive Heart Failure | H. Glaucoma |
| C. Cataracts | I. Shingles |
| D. Epilepsy | J. Hypertension |
| E. Fracture | K. Alzheimer's Disease |
| F. Arthritis | L. Parkinson's Disease |
29. ___ A condition in which the heart does not work effectively and fluid builds up in the feet, legs, and the lungs.
30. ___ A condition in which the lens in the eye becomes cloudy, impairing vision.
31. ___ A clot, hemorrhage, or other occlusion blocks circulation to area of brain & causes tissue damage and often paralysis.
32. ___ A condition in which joints become inflamed and stiffened.
33. ___ A condition in which the blood moves through the vessels with too much pressure.
34. ___ A neurological condition characterized by brief alternations of consciousness and seizures.
35. ___ A break in a bone.

36. ___ A condition of not being able to hear sounds.
37. ___ A condition of the eye caused by too much pressure in the eye; may lead to blindness.
38. ___ A condition in which the herpes virus from chicken pox has laid dormant and emerges again in the form of a painful lesion on the peripheral nerves.
39. ___ A chronic nervous system disease characterized by fine, slowly spreading tremors.
40. ___ A chronic organic disorder of the brain characterized by confusion, memory loss, restlessness, and speech disturbances; with no current treatment.

Circle the letter of the best answer.

41. Laxatives would be used to treat a disease or condition of which body system?
- a. Digestive.
 - b. Cardiac.
 - c. Nervous.
 - d. Urinary.
42. Antidepressants would be used to treat a disease or condition of which body system?
- a. Digestive.
 - b. Cardiac.
 - c. Nervous.
 - d. Urinary.
43. Vasodilators would be used to treat a disease or condition of which body system?
- a. Cardiovascular.
 - b. Endocrine.
 - c. Musculoskeletal.
 - d. Sensory.
44. Tranquilizers would be used to treat a disease or condition of which body system?
- a. Lymphatic.
 - b. Nervous.
 - c. Musculoskeletal.
 - d. Sensory.

45. Thyroid medications would be used to treat a disease or condition of which body system?
- a. Urinary.
 - b. Sensory.
 - c. Respiratory.
 - d. Endocrine.
46. Dermatological medications would be used to treat a disease or condition of which body system?
- a. Endocrine.
 - b. Integumentary.
 - c. Nervous.
 - d. Sensory.
47. Antiarthritic medications would be used to treat a disease or condition of which body system?
- a. Cardiovascular.
 - b. Endocrine.
 - c. Musculoskeletal.
 - d. Urinary.
48. Hypoglycemics would be used to treat a disease or condition of which body system?
- a. Endocrine.
 - b. Integumentary.
 - c. Nervous.
 - d. Respiratory.

LESSON PLAN: 9

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

SCOPE OF UNIT:

This unit includes body systems, drug classifications, and observing and reporting.

INFORMATION TOPIC: III-9 OR DEMONSTRATION:

INTRODUCTION TO PHARMACOLOGY
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. List the steps in the drug cycle.
2. Identify the main organ of drug metabolism.
3. Identify the main organs of drug excretion.
4. Differentiate between local and systemic effects of medications.
5. Identify basic drug classifications and their corresponding body system.
6. List observations that must be reported to the licensed nurse.

SUPPLEMENTAL TEACHING/LEARNING ITEMS:

HO 20: Common drug categories.

HO 21: Common drug side effects.

HO 22: Pain control – Use of Analgesics.

HO 23: Worksheet of OTC Analgesics.

HO 24: Worksheet – Drug Information Cards.

INFORMATION ASSIGNMENT:

Read Lesson Plan 9 prior to class and be prepared to discuss the information presented.

INTRODUCTION

Pharmacology is the study of drugs and how they affect living organisms. After a medication is administered, it goes through several steps before it is excreted from the body. While it is in the body the drug can act either locally or systemically. In order to safely administer medications in a long term care setting, the medication technician must have an understanding of basic pharmacology including the steps in the drug cycle, drug effects, and how drugs are classified based on their affect on body systems. Observations to make about each classification of drug are also vital to a safe medication pass.

From the moment it is discovered, every drug has a chemical name that describes its molecular structure. The generic name of a drug is determined by the drug company and an agency called the United States Adopted Names Council. Once the drug has received final FDA approval, the drug company releases it with a brand or trade name.

LESSON PLAN: 9

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

OUTLINE:

- I. Drug cycle – after a medication is administered, it goes through several steps before it is excreted from the body. These steps include:
 - A. Absorption – from the site of administration. The speed at which the medication is absorbed depends on the route of administration. For example, medications injected into a muscle would usually be absorbed more quickly than medications given orally.
 - B. Distribution – to the body by the circulatory system. Once the drug has entered the blood stream it moves throughout the body by attaching to proteins in the blood.
 - C. Metabolism – of the medication. The main organ of drug metabolism is the liver. Because of this, any condition that causes a decrease in liver function, such as hepatitis, affects the way a drug is metabolized in the body.
 - D. Excretion – of the medication from the body. Excretion of drugs is an important step because it rids the body of waste products. The kidneys are the main organs of drug excretion. Poor kidney function can prolong the effects of some drugs and lead to a toxic build up of the drug in the body.

- II. Local vs. Systemic Effects of Medications
 - A. Drugs can act either locally or systemically on the body.
 - B. A local effect means that the drug affects only those tissues at the site of administration and immediately surrounding it. When an antihistamine cream is applied to an area of itching on the skin it produces a local effect and the itching stops. The drug (an antihistamine) is not absorbed into the body and it does not affect any other body system.
 - C. A systemic effect means that the drug effect is felt throughout the body. For example, when an analgesic is taken for a headache and the person also has a sore back, the medication will affect both parts of the body and should relieve both areas of pain. Because of the different types of effects possible, it is very important that the medication be administered by the correct route to maximize its positive effects and avoid potentially dangerous negative effects.

III. Drug Categories

- A. Drugs are listed under a variety of categories based on the way in which they affect the body as well as the body system affected. Some drugs work on several body systems and are used for many different conditions. Other drugs are more specific and affect only one body system and are rarely used for more than one condition. Handout 20 provides an easy reference for basic information about the common categories of drugs. Handout 21 contains information about common drug side effects (HO 20, HO 21).

IV. Musculoskeletal System

- A. Analgesics are used to relieve pain. The strongest analgesics are opioid (narcotic) controlled substances. Non steroidal anti-inflammatory medications decrease both pain and inflammation (HO 22).
 - 1. Opioid (narcotic) analgesics – most are Schedule II and Schedule III (C-II and C-III) controlled substances because of their high abuse potential. Combination with non-controlled substances usually poses less abuse potential than single ingredient products. They relieve pain, produce feelings of euphoria, drowsiness, mental clouding and, in higher doses, induce deep sleep. It is very important to know that narcotic analgesics depress respirations. Always check the resident's respiratory rate before giving narcotic analgesics. Generally do not administer if respirations are below 12/min or if systolic BP is below 90, without specific guidelines. Length of action:
 - a. Demerol (meperidine), C-II, 2-4 hours.
 - b. Morphine, C-II, 4-5 hours.
 - c. MS Contin (morphine ER) C-II, 8-12 hours
 - d. Codeine, C-II, 4-6 hours.
 - e. Dilaudid (hydromorphone), C-II, 3-4 hours.
 - f. Duragesic (fentanyl), C-II, transdermal patch, 48-72 hours.
 - g. Darvon; Darvon N (propoxyphene), C-IV, 4-6 hours.
 - h. Roxycodone (oxycodone), C-II, 2-4 hours.
 - i. OxyContin (oxycodone extended release), C-II, 8-12 hours.
 - 2. Opioid (narcotic) combinations.
 - a. Tylox, Percocet (oxycodone/acetaminophen), C-II, 4-5 hours.

- b. Percodan (oxycodone/aspirin), C-II, 4-5 hours.
 - c. Lortab, Lorcet, Vicodin (hydrocodone/acetaminophen), C-III, 4-5 hours.
 - d. Tylenol with Codeine (codeine/acetaminophen), C-III, 4-5 hours.
 - e. Empirin with Codeine (codeine/aspirin), C-III, 4-5 hours.
 - f. Darvocet N, Propacet (propoxyphene acetaminophen), C-IV, 4-5 hours.
3. Non-opioid analgesics.
- a. Fiorinal (butalbital/aspirin/caffeine), C-III.
 - b. Fioricet (butalbital/acetaminophen/caffeine), not a controlled substance.
 - c. Ultram (tramadol), not a controlled substance.
4. Adjuvant analgesics – drugs from other categories that affect the perception of pain, especially useful in treating neuropathic pain.
- a. Antidepressants – Norpramin, Aventyl.
 - b. Anticonvulsants – Tegretol, Klonopin, Neurontin, Lyrica
 - c. Antiarrhythmics – Mexilit.
 - d. Antispasmodics – Lioresal.
5. Anti-pyretic analgesics (relieve pain and fever) Tylenol (acetaminophen).
6. Anti-inflammatory/anti-pyretic analgesics (relieve inflammation, fever, and pain).
- a. Aspirin (acetylsalicylic acid).
 - b. Ecotrin (aspirin, enteric coated).
 - c. Aspirin E.C. (aspirin, enteric coated).
 - d. Analgesic combinations-many are C-III controlled substances because of their potential for abuse.

7. Non-Steroidal Anti-Inflammatory Drugs (NSAID) – very irritating to the gastrointestinal (GI) tract. Observe for signs of stomach upset, burning, or any evidence of GI bleeding.
 - a. Motrin (ibuprofen) is marketed in many OTC (over-the-counter) preparations: Datril, Advil, Motrin II, and many store brands of ibuprofen.
 - b. Toradol (ketorolac).
 - c. Indocin (indomethacin).
 - d. Feldene (piroxicam).
 - e. Anaprox (naproxen sodium).
 - f. Mobic (meloxicam)
8. Synthetic prostaglandin, Cytotec (misoprostol) – inhibits gastric acid secretions. Used to prevent GI ulceration caused by NSAIDs. May also stimulate uterine contractions and are contraindicated during pregnancy.
9. Anti-gout medications are used specifically to treat the form of arthritis caused by a build up of uric acid crystals in the joints.
 - a. Benemid (probenecid).
 - b. Zyloprim (allopurinol).
10. Cox-2 inhibitors such as Celebrex (celecoxib) – used to treat osteoarthritis.
11. Skeletal muscle relaxants – used to relax skeletal muscles.
 - a. Paraflex; Parafon Forte DSC (chlorzoxazone).
 - b. Robaxin (methocarbamol).
 - c. Lioresal (baclofen) – spasticity of MS; other spasms.
 - d. Dantrium (dantrolene) – for spasticity related to spinal cord injury, stroke, MS.
12. Calcium supplements.
 - a. Oscal, Tums, Caltrate (calcium carbonate).
13. Parathyroid-like drugs, Miacalcin.
14. Osteoporosis treatments

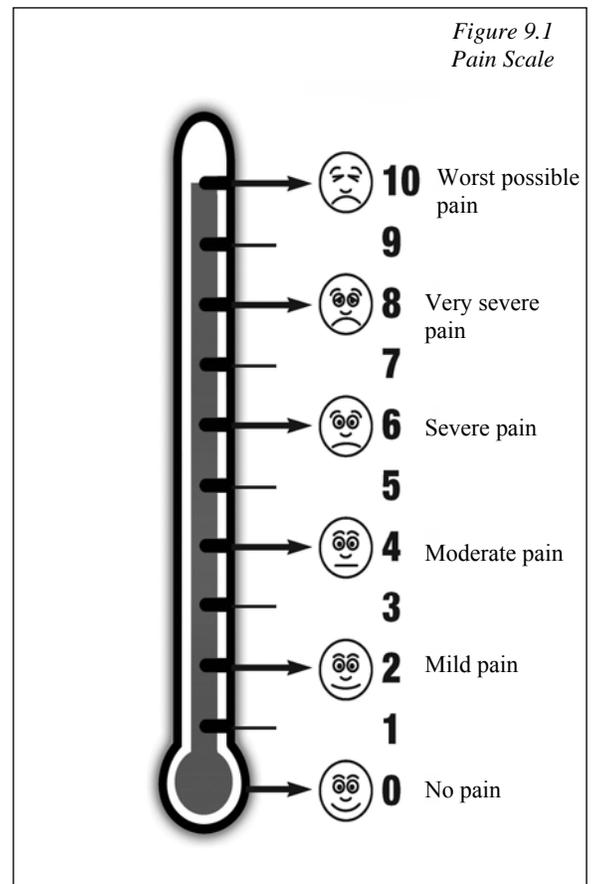
- a. Fosamax (alendronate sodium)
- Actonel (risendronate sodium)

B. Observations to report to the licensed nurse.

1. All abnormal vital signs should be reported and recorded.
2. All undesired effects of prn or routine medications, (e.g., decreased respiratory rate or hypotension from narcotic pain medication).
3. Joint stiffness not relieved by prn meds, movement, and/or rest and warmth.
4. Redness and swelling to joints, skin over painful bony areas.
5. Gait difficulties and/or changes in ability to move.
6. Unreported deformities of limb or joint.
7. Dizziness or difficulty retaining balance in bed, on chair or during ambulating.
8. Decreased range of motion.
9. Pain – exact location, type of pain and duration; elderly may not experience severe pain with fracture.

C. Pain assessment each shift.

1. Document the individual's statement of pain as whatever he or she says it is. Is the pain new or different than before?
2. Quality of pain.
 - a. Somatic (well localized) such as pain in skin or bone (e.g., aching, stabbing, throbbing, and pressure).
 - b. Visceral (poorly localized) such as pain in organs or viscera (e.g.,



gnawing, cramping, aching and sharp).

- c. Neuropathic such as pain in nerves (e.g., burning, tingling, shooting, and lancinating).
3. Identify the intensity of pain using the thermometer tool, or a pain assessment tool required by the facility policy, and document the number corresponding with scale used (see previous page Figure 9.1).
 - a. Show the scale and explain its purpose. “This is a pain rating scale that will help me understand your pain so that I may help you obtain pain relief. I will ask you regularly about pain, but anytime you have pain you must also let me know.”
 - b. If they are alert, oriented, and cognitively intact, you may use the numbers on the thermometer to rate pain: “On this pain rating scale, 0 is no pain, 2 is mild pain, 4 moderate pain, 6 severe pain, 8 very severe pain, and 10 is the worst possible pain.”
 - c. For those unable to use the numbers have them point to the face that best describes how they currently feel due to their pain.
 - d. If the individual is either incoherent or comatose, utilize the non-communicative tool to identify the presence and degree of pain. Document the number that best describes your observation(s) and judgment that your assessment is based on (see Figure 9.2).

Figure 9.2, Non-Communicative Pain Tool

Verbal/Vocal		Body Movement		Facial		Touching	
0	Positive	0	Moves easily	0	Smiling	0	No extraneous touching of self
2-4	Whimper/ moan	5	Neutral, shifting, pacing	2-4	Neutral	5	Rubbing, patting
5-7	Repetitive speech, crying	10	Tense, not moving	5-7	Frown, grimace	10	Clenched hands, tight muscles
8-10	Screaming			8-10	Clenched teeth		

4. Document individual’s response, utilizing the assessment tool, to all medication or non-medication pain relief treatment.

V. Nervous System

- A. Anti-Parkinson drugs used to treat the symptoms of Parkinson's disease.

1. Sinemet (levodopa-carbidopa).
 2. Eldepryl (selegiline).
 3. Parlodel (bromocriptine).
 4. Symmetrel (amantadine).
 5. Cogentin (benztropine).
 6. Artane (trihexyphenidyl).
 7. Lodosyn (carbidopa).
 8. Requip (ropinirole)
 9. Mirapex (pramipexole)
- B. Corticosteroids used to treat inflammatory conditions such as MS.
1. Deltasone (prednisone).
 2. ACTH (adrenocorticotrophic hormone).
 3. Medrol (methylprednisolone).
- C. Anticonvulsants to control certain types of seizures.
1. Dilantin (phenytoin).
 2. Tegretol (carbamazepine).
 3. Phenobarbital.
 4. Depakene/Depakote (valproic acid).
 5. Mysoline (primidone).
 6. Zarontin (ethosuximide).
 7. Klonopin (clonazepam).
 8. Valium (diazepam).
 9. Felbatol (felbamate).
 10. Neurontin (gabapentin).

11. Zonegran (zonisamide)
 12. Keppra (levetiracetam)
 13. Gabitril (tiagabine hydrochloride)
 14. Lyrica (pregabalin)
 15. Lamictal (lamotrigine)
- D. Antidepressants – also called mood elevators; given to relieve symptoms of depression.
1. Elavil (amitriptyline).
 2. Tofranil (imipramine).
 3. Sinequan (doxepin).
 4. Pamelor (nortriptyline).
 5. Desyrel (trazodone).
 6. Prozac (fluoxetine).
 7. Paxil (paroxetine).
 8. Zoloft (sertraline).
 9. Effexor (venlafaxine).
 10. Celexa (citalopram).
 11. Lexapro (escitalopram oxalate).
 12. Remeron (mirtazapine).
 13. Wellbutrin (bupropion).
 14. Cymbalta (duloxetine)
- E. Anti-psychotic agents – used in the management of psychoses.
1. Phenothiazines.
 - a. Thorazine (chlorpromazine).
 - b. Mellaril (thioridazine).

- c. Prolixin (fluphenazine).
 - 2. Haldol (haloperidol).
- F. Atypical antipsychotics
- 4. Loxitane (loxapine).
 - 1. Risperdal (risperidone).
 - 2. Clozaril (clozapine).
 - 3. Zyprexa (olanzapine).
 - 4. Seroquel (quetiapine).
 - 5. Geodon (ziprasidone HCl)
- G. Sedative/hypnotic used in treatment of insomnia or restlessness.
 - 1. Noctec (chloral hydrate).
 - 2. Dalmane (flurazepam).
 - 3. Restoril (temazepam).
 - 4. Halcion (triazolam).
 - 5. Ambien (zolpidem).
- H. Anti-anxiety agents/tranquilizers – calm the central nervous system.
 - 1. Ativan (lorazepam).
 - 2. Librium (chlordiazepoxide).
 - 3. Valium (diazepam).
 - 4. Tranxene (clorazepate).
 - 5. Xanax (alprazolam).
 - 6. Buspar (buspirone).
 - 8. Atarax (hydroxyzine).
 - 9. Vistaril (hydroxyzine).
- I. Medications used to slow the progression of Alzheimer’s disease.

1. Aricept (donepezil).
 2. Reminyl (galantamine).
 3. Exelon (rivastigmine tartrate).
 4. Namenda (memantine).
- J. Observations to report to the licensed nurse.
1. All abnormal vital signs should be reported and recorded.
 2. All undesired effects of prn or routine medications, (e.g., bleeding, swollen, tender gums) for a resident receiving Dilantin.
 3. Any change in mental status: unusually excited, animated, or lethargic.
 4. Any dramatic change in personality and/or behavior.
 5. Any change in communication skills, (e.g., suddenly unable to speak clearly).
 6. Slurred or absent speech.
 7. Complaints of headaches or dizziness.
 8. Vision changes.
 9. Nausea or vomiting.
 10. Change in ability to balance, gait changes, tremors.
 11. Dysphagia or choking.
 12. Fainting.
 13. Chills and/or convulsion.
 14. Signs of tardive dyskinesia: sucking and smacking motions of lips, lateral jaw movements, puffing of cheeks with tongue thrusting and rolling, making fly catching movements.

VI. Sensory System

- A. Related medications.
1. Ophthalmic preparations.
 - a. Glaucoma medications.

- 1) Betoptic (betaxolol).
 - 2) Timoptic (timolol).
 - 3) Cosopt (dorzolamide/ timolol)
 - 4) Isopto-carpine (pilocarpine).
 - 5) Alphagan P (brimonidine).
 - 6) Trusopt (dorzolamide)
 - 7) Xalatan (latanoprost)
 - 8) Lumigan (bimatoprost)
 - 9) Travatan (travaprost)
- b. Anti-histamine drops – decreases inflammation and moistens eyes.
- 1) Vasocon (naphazoline).
 - 2) Visine (tetrahydrozoline).
 - Zaditor (ketotifen fumarate)
- c. Antibiotic drops to treat infection.
- 1) Neosporin (polymyxin B, neomycin, and gramicidin).
 - 2) Garamycin (gentamicin).
 - 3) NeoDecadron (neomycin and dexamethasone).
 - 4) Sodium Sulamyd (sulfacetamide).
 - 5) Zymar (gatifloxacin)
 - 6) Ciloxan (ciprofloxacin)
- d. Artificial tears – moisten the eye.
- 1) Tears Naturale.
 - 2) Artificial tears.
 - 3) Liquifilm.

2. Otic (ear) preparations – medications for various ear problems; ear preparations should be warmed to body temperature, but care must be taken not to overheat.
 - a. Cortisporin – steroid (hydrocortisone) and antibiotic (neomycin) combination used to treat otitis media.
 - b. Cerumenex (triethanolamine) – for removal of excessive earwax.
 - c. Debrox (carbamide peroxide) – for removal of excessive earwax.
 - d. Auralgan (antipyrine, benzocaine, glycerin) – for relief of ear pain.
 - e. Antibiotic drops.
3. Nasal preparations.
 - a. Decongestant sprays such as Afrin (oxymetazoline HCl) nasal spray.
 - b. Nasal inhalers to treat allergy symptoms such as Nasacort (triamcinolone), Rhinocort (budesonide), and Flonase (fluticasone).
 - c. Sodium chloride sprays such as Ocean Mist to relieve dry nasal membranes.

B. Observations to report to the licensed nurse.

1. All abnormal vital signs should be reported and recorded.
2. All undesired effects of prn or routine medications.
3. Pain to skin, eyes, ears, nose, mouth, or throat.
4. Vision difficulties or changes.
5. Hearing changes or abnormal drainage from ears.
6. Speech or swallowing difficulties.
7. Foul drainage from mouth or nose.
8. Discharge from eyes or redness/swelling of sclera or conjunctiva.
9. Unusual or excessive itching to eyes or ears.
10. Redness or open areas on the skin – may be the early stages of pressure ulcers.

11. Acute tingling, prickling, or numbness of body – note exact location and onset.
12. Reported changes in taste sensations.

CAUTION: Watch for allergic reactions.

VII. Cardiovascular System

A. Related medications.

1. Cardiac glycoside.
 - a. Lanoxin (digoxin) – increases the force of the heart's contractions. Take apical pulse for one full minute. If apical pulse is below 60 or greater than 110, check with the nurse before giving medication.
2. Anti-cholesterol agents – used to lower blood cholesterol.
 - a. Mevacor (lovastatin).
 - b. Questran (cholestyramine).
 - c. Vytorin (ezetimibe/simvastatin).
3. Anti-hypertensives.

NOTE: Normal systolic BP in the elderly is 100-150 mm/Hg. Normal diastolic BP in the elderly is 60-90 mm/Hg.

- a. Miscellaneous.
 - 1) Catapres (clonidine) – also comes in patch form.
 - 2) Minipres (prazosin).
 - 3) Hytrin (terazosin).
- b. Beta blockers – block “message” that causes heart to beat fast. Pulse should be taken for one full minute prior to administration. If pulse is less than 60, check with the nurse before giving the medication.
 - 1) Inderal (propranolol) – also used to treat arrhythmias.
 - 2) Corgard (nadolol).
 - 3) Blocadren (timolol).

- 4) Lopressor (metoprolol).
 - 5) Tenormin (atenolol).
 - c. ACE (Angiotensin-converting enzyme) inhibitors.
 - 1) Capoten (captopril).
 - 2) Prinivil (lisinopril).
 - 3) Vasotec (enalapril).
 - d. ARB (angiotensin receptor blockers)
 - 1) Atacand, (candesartan)
 - 2) Tevetan,(eprosartan)
 - 3) Avapro, (irbesartan)
 - 4) Mycardis, (telmisartan)
 - 5) Diovan, (valsartan)
 - 6) Cozaar (losartan)
4. Anti-arrhythmic – used to treat irregular heart beats.
- a. Pronestyl (procainamide).
 - b. Procan SR (procainamide sustained release).
 - c. Quinidex (quinidine).
 - d. Norpace (disopyramide).
 - e. Tambocor (flecainide).
5. Anti-anginal agent – to improve the blood supply to the heart muscle and prevent angina pain.
- a. Nitrostat (nitroglycerin) – sublingual, these drugs have short shelf life and must be protected from the light.
 - b. Nitropaste (nitroglycerin) – apply to the chest wall.
 - c. Nitrodisc, Transderm-Nitro (nitroglycerin transdermal patch).
 - d. Isordil (isosorbide).
 - e. Cardizem (diltiazem).
6. Calcium channel blockers – blocks calcium ions and causes heart to beat slower; relieves and controls angina.

- a. Procardia (nifedipine).
 - b. Cardizem (diltiazem).
 - c. Calan, Isoptin (verapamil) – also used for arrhythmia.
 - d. Calan SR, Isoptin SR (verapamil, sustained release).
 - e. Norvasc (amlodipine besylate)
7. Anti-coagulants – these drugs increase the time it takes for blood to clot, commonly referred to as “blood thinners.”
- a. Coumadin (warfarin sodium) – always observe for signs of bleeding, bruising, blood in stool or urine; tarry stools, dizziness, and coffee ground emesis.
8. Platelet aggregation inhibitors – prevent platelets from sticking together and causing a clot to form.
- a. Plavix (clopidogrel).
 - b. Aspirin – also used to thin blood.
 - c. Persantine (dipyridimole) used with anti-coagulants.
9. Vitamins, minerals, electrolytes.
- a. Vitamins – most common multiple vitamins.
 - 1) Fat soluble – A, D, E, K.
 - 2) Water soluble – C and B vitamins.
 - b. Minerals.
 - 1) Feosol (ferrous sulfate, "iron").
 - c. Electrolytes.
 - 1) Potassium chloride-dilute in juice.
 - 2) K-lyte.
10. Diuretics – see urinary system.
- B. Observations to report to the licensed nurse.
1. All abnormal vital signs should be reported and recorded.

2. All undesired effects of prn or routine medications.
3. Tachycardia: pulse rate greater than 100 consistently and not associated with distress or pain.
4. Bradycardia: pulse rate less than 60 consistently and not associated with sleep; some residents will have artificial pacemakers to correct this.
5. Edema: swelling of the soft tissues, extremities, or eyes.
6. Sudden weight gain of more than 5 pounds in one week.
7. Shortness of breath or difficulty breathing – elevate head.
8. Any complaint of chest pain should be reported immediately.

IMPORTANT NOTICE: The elderly may not experience severe chest pain with a major heart attack! Pain in the neck, jaw, shoulder or epigastric area, dyspnea, tachypnea, irregular pulse, hypotension, restlessness, dizziness, fatigue and weakness can all be signs of an MI in the elderly.

9. Change in level of consciousness.
10. Hypertension – high blood pressure readings greater than 150 systolic or 90 diastolic.
11. Hypotension – low blood pressure; readings less than 100 systolic or 60 diastolic.
12. Irregular rhythm of heart beats – skipped beats or complaints of palpitations.
13. Weak heartbeat.
14. Unusual skin color, extreme pallor, cyanosis, gray, "ashy," or olive.
15. Diaphoresis not associated with fever or environment.
16. Extreme fatigue.
17. Persistent rhythmic hiccups – may be an indication that a pacemaker wire is out of position.

VIII. Respiratory System

- A. Related medications.

1. Bronchodilators – used to open air passages. May be given orally, through an inhaler, or as a nebulizer treatment.
 - a. Theo-Dur (theophylline).
 - b. Proventil (albuterol) – comes in oral and inhalant.
 - c. Atrovent (ipratropium) – available only in inhalant.
 - d. Alupent (metaproterenol).
 - e. Serevent (salmeterol).
 - f. Spiriva (tiotropium)- inhaler
2. Anti-inflammatory – used to treat inflammation in the respiratory tract.
 - a. Vanceril (beclomethasone).
 - b. Advair (fluticasone/salmeterol).

CAUTION: When using Vanceril or Advair, thrush may develop if resident does not rinse his/her mouth well after each use.

- c. Pulmicort Respule or Turbuhaler (budesonide).
3. Cough/cold preparations.
 - a. Antihistamines – decreases allergic reactions. Drowsiness is the most common side effect.
 - 1) Periactin (cyproheptadine).
 - 2) Benadryl (diphenhydramine).
 - 3) Drixoral (decongestant/antihistamine).
 - 4) Dimetane (brompheniramine).
 - 5) Phenergan (promethazine).
 - 6) Claritin (loratadine).
 - 7) Zyrtec (cetirizine).
 - b. Decongestants – used to relieve sinus pressure and cold symptoms.
 - 1) Sudafed (pseudoephedrine) – contraindicated with some antihypertensive medications.

- 2) Actifed (antihistamine/decongestant combination).
 - 3) Dimetapp (antihistamine/decongestant combination).
- c. Expectorants – loosens secretions so that they are more easily coughed up.
- 1) Robitussin (guaifenesin) – available in several varieties. Be sure you are giving the RIGHT one.
 - 2) Tussi-Organidin NR (guaifenesin/codeine).
 - 3) Mucinex (guaifenesin).

NOTE: Unless the resident is on restricted fluids, always give extra fluids for colds to thin mucous.

4. Anti-infective – drugs used to combat infections.

a. Antibiotics.

- 1) Penicillin – used less because of allergies.
- 2) Keflex (cephalexin).
- 3) Amoxil (amoxicillin).
- 4) Polycillin N (ampicillin).
- 5) Bactrim (trimethoprim and sulfamethoxazole).
- 6) Septra (trimethoprim and sulfamethoxazole).
- 7) E-mycin (erythromycin).
- 8) Sumycin (tetracycline).

CAUTION: Do not give Sumycin (tetracycline) with food, milk, or antacids.

- 9) Cipro (ciprofloxacin).
- 10) Vancocin (vancomycin).
- 11) Geocillin (carbenicillin).
- 12) Vibramycin (doxycycline).
- 13) Zithromax (azithromycin).

- 15) Biaxin (clarithromycin).
- 16) Levaquin (levofloxacin).
- 18) INH (isoniazid).
- 19) Rifadin (rifampin).
- 20) Macrochantin (nitrofurantoin)

B. Cough suppressants – used to reduce coughing for dry coughs.

1. Robitussin (dextromethorphan) – available in several varieties. Be sure you are giving the RIGHT one.
2. Tessalon Perles (benzonatate)-do not crush or chew

NOTE: In most cases, cough suppressants should not be given with or followed by water. It should be the last medication given as it has a local effect on the cough receptors in the throat.

C. Observations to report to the licensed nurse.

1. All abnormal vital signs should be reported and recorded.
2. All undesired effects of prn or routine medications (e.g., drowsiness from an antihistamine).
3. Dyspnea – difficult breathing, shortness of breath.
4. Cheyne-stokes breathing or other irregular patterns – note length of time of periods of apnea.
5. Cough – note if productive or non-productive.
6. Expectorations – secretions coughed or spit out of the trachea and lungs; note amount and color; bloody expectorations are called hemoptysis.
7. Chest pain.
8. Complaint of sore throat or difficulty swallowing.
9. Respiratory rate above 20, or less than 14.

IX. Digestive System

A. Related medications.

1. Anticholinergic/gastrointestinal drugs – used for peptic ulcers.

- a. Combination drugs.
 - 1) Librax (clidinium/chlordiazepoxide) (see Librium).
- b. Histamine H₂ antagonists – decrease stomach acid production; do not give with antacids.
 - 1) Tagamet (cimetidine).
 - 2) Zantac (ranitidine).
 - 3) Pepcid (famotidine).
2. Other gastrointestinal drugs.
 - a. Carafate (sucralfate) – take on empty stomach.
 - b. Prilosec (omeprazole) – decrease acid production.
 - c. Reglan (metoclopramide) – GI stimulant.
 - e. Prevacid (lansoprazole).
3. Antacids – relieve heartburn/acid stomach by neutralizing acid; best to give one hour before, or 2 hours after oral medications.
 - a. Mylanta (magnesium hydroxide) – may cause diarrhea.
 - b. Maalox, Almag suspension (aluminum hydroxide and magnesium hydroxide).
4. Anti-diarrheals – used to treat diarrhea.
 - a. Lomotil (diphenoxylate with atropine).
 - b. Imodium (loperamide).
 - c. Kaopectate (bismuth subsalicylate).
5. Anti-emetics – used to treat nausea and vomiting.
 - a. Tigan (trimethobenzamide).
 - b. Compazine (prochlorperazine).
 - c. Dramamine (dimenhydrinate).
 - d. Antivert (meclizine).

6. Laxatives – used to treat constipation, give with 6-8 ounces of fluids.
 - a. Saline type – attracts water into intestine.
 - 1) Milk of magnesia.
 - b. Bulk producing type – retains water in feces.
 - 1) Metamucil (psyllium).
 - 2) Citrucel (methylcellulose).
 - c. Irritant/stimulant type – stimulates peristalsis.
 - 1) Dulcolax (bisacodyl).
 - d. Emollient – lubricates the bowel.
 - 1) Mineral oil.
 - e. Fecal softeners – promotes water retention in the fecal mass.
 - 1) Colace (docusate sodium).
 - 2) DSS (docusate sodium).
 - 3) Diocto (docusate sodium).
 - f. Enemas.
 - 1) Fleet (sodium phosphate).
 - 2) Oil retention (mineral oil).
 - 3) Other.
 - g. Chronulac (lactulose) – synthetic sugar that causes the stool to retain water.
 7. Gallstone Solubilizers – Acitigall (ursodiol).
 8. Hemorrhoidal preparations – Anusol (emollient, protectant combination).
- B. Observations to report to the licensed nurse.
1. All abnormal vital signs should be reported and recorded.

2. All undesired effects of prn or routine medications.
3. Bleeding from mouth, nose, or rectum – hematemesis (vomiting blood), coffee ground emesis, black tarry stools.
4. Nausea/vomiting – note amount, type, character, and color of emesis.
5. Halitosis – bad breath or any unusual breath odor.
6. Distended abdomen.
7. Any complaint of abdominal pain.
8. Dysphagia – difficult swallowing.
9. Poor appetite.
10. Poorly fitting, lost, or broken dentures.
11. Constipation or symptoms of impaction.
12. Diarrhea – check for cause; may be too many laxatives.

X. Urinary System

A. Related medications.

1. Diuretics “water pills” – remove excess fluids from the body. Administer so action will occur during waking hours.
 - a. Thiazide types – commonly used to treat edema and high blood pressure.
 - 1) HydroDIURIL (hydrochlorothiazide).
 - 2) Dyazide (hydrochlorothiazide and triamterene).
 - 3) Hygroton (chlorthalidone).
 - 4) Diuril (chlorothiazide).
 - b. Loop diuretics – causes potassium loss and usually requires potassium replacement.
 - 1) Lasix (furosemide).
 - 2) Bumex (bumetanide).
 - 3) Edecrin (ethacrynic acid).

- c. Other.
 - 1) Aldactazide (spironolactone and hydrochlorothiazide).
 - 2) Diamox (acetazolamide) used often for glaucoma.
- 2. Urinary antiseptics and anti-infectives.
 - a. Macrochantin (nitrofurantoin).
 - b. Noroxin (norfloxacin) – urinary anti-infective.
 - c. Hiprex, Mandelamine, Urex (methenamine) – urinary anti-infective.
 - d. Septra DS (trimethoprim and sulfamethoxazole).
- 3. Urinary analgesics/antispasmodics.
 - a. Pyridium (phenazopyridine).
 - b. Urispas (flavoxate).
 - c. Ditropan (oxybutynin).
 - Detrol (tolterodine)
- B. Observations to report to the licensed nurse.
 - 1. All abnormal vital signs should be reported and recorded.
 - 2. All undesired effects of prn or routine medications.
 - 3. Pain.
 - 4. Urine abnormalities.
 - a. Blood.
 - b. Stones.
 - c. Sediment.
 - d. Mucous.
 - e. Unusual color.
 - f. Foul odor.

5. Frequency – need to empty the bladder more often than normal.
6. Retention – inability to empty bladder; retaining urine.
7. Males.
 - a. Difficulty starting the urinary system and/or voiding small amounts (less than 60 cc).
 - b. Edema of head of penis or foreskin.

XI. Reproductive System

A. Related medications.

1. Hormones – these medications replace or supplement hormones that are normally secreted by the glands of the endocrine system.
 - a. Estrogens.
 - b. Premarin (estrogens, conjugated) – female hormone.
 - c. Provera (medroxyprogesterone).
 - d. Oral contraceptives (estrogens and progestin/progesterone).
 - e. Testosterone.
2. Anti-fungals – drugs that combat fungal infections.
 - a. Nilstat (nystatin).
 - b. Monistat (miconazole).
 - c. Nizoral (ketoconazole).
 - d. Mycelex (clotrimazole)
3. Anti-protozoals – used to treat infections caused by protozoa.
 - a. Flagyl (metronidazole) – used to treat infection of the genitourinary system.
 - b. Vibramycin (doxycycline).
4. Prostate medications.
 - a. Hytrin (terazosin).

- b. Proscar (finasteride).
 - c. Flomax (tamsulosin hydrochloride)
- B. Observations to report to the licensed nurse.
- 1. All abnormal vital signs should be reported and recorded.
 - 2. All undesired effects of prn or routine medications.
 - 3. Pain in genital area.
 - 4. Female – post menopausal bleeding.
 - 5. Foul odor in the genital region with or without unusual discharge.
 - 6. Severe itching in the genital region.
 - 7. Skin abnormalities.
 - a. Warts.
 - b. Redness.
 - c. Lesions.
 - d. Rashes.

XII. Endocrine System

A. Related medications.

1. Hormones and synthetic substitutes – these medications replace or supplement hormones that are normally secreted by the glands of the endocrine system.
2. Corticosteroids – Used to treat inflammation; commonly referred to as “steroids.”
 - a. Orasone (prednisone).
 - b. Hydrocortone (hydrocortisone).
 - c. Cortone (cortisone).
 - d. Medrol (methylprednisolone).
3. Thyroid – used when the thyroid gland does not produce enough.
 - a. Synthroid – (levothyroxine).
 - b. Armour thyroid (thyroid-desiccated).
4. Anti-thyroid – to treat conditions when thyroid over-produces.
 - a. Tapazole (methimazole).
 - b. Iodotope (radioactive iodine).
5. Insulin – always injectable.
6. Oral hypoglycemics.
 - a. Orinase (tolbutamide).
 - b. Avandia (rosiglitazone).
 - c. Micronase, Glynase (glyburide).
 - d. Glucotrol (glipizide).
 - e. Actos (pioglitazone).
 - f. Glucophage (metformin).
 - g. Prandia (repaglinide)

- B. Observations to report to the licensed nurse.
1. All abnormal vital signs should be reported and recorded.
 2. All undesired effects of prn or routine medications.
 3. Hypoactivity or hyperactivity.
 4. “Moon” face that may develop from cortisone therapy.
 5. Mental status change.
 6. Weight gain or loss of more than 5 pounds in one week.
 7. Signs/symptoms of hyperglycemia (high blood sugar).
 - a. Flushed.
 - b. Hot, dry skin.
 - c. Fruity, alcohol or acetone odor to breath.
 - d. Extreme thirst.
 - e. Frequent urination.
 - f. Hunger.
 - g. Blurred vision.
 - h. Nausea.
 - i. Drowsiness.
 - j. Blood glucose above 110mg/dL.
 8. Signs/symptoms of hypoglycemia (low blood sugar).
 - a. Pale.
 - b. Cool, clammy skin.
 - c. Shaking/tremors.
 - d. Dizziness.
 - e. Hunger.
 - f. Anxiety.

- g. Unusual weakness/fatigue.
- h. Headache.
- i. Irritability.
- j. Blurred vision.
- k. Blood glucose below 70mg/dL.
- l. Extreme thirst.
- m. Excessive urination.

XIII. Integumentary System

A. Related medications.

1. Topical products.

- a. Vaginal anti-infectives – used to treat candida albicans, a yeast infection.
 - 1) Mycostatin (nystatin).
 - 2) Monistat (miconazole).
- b. Burn preparations; Silvadene (silver sulfadiazine) – cream for prevention of infections in burns.
- c. Anti-seborrheic – used when the sebaceous glands overproduce sebum on skin.
 - 1) Selsun shampoo (selenium) – removes sebum from scalp.
- d. Topical anti-infective – used to treat bacterial infections of the skin.
 - 1) Bacitracin.
 - 2) Neosporin (neomycin, polymyxin B, bacitracin).
 - 3) Polysporin (polymyxin B, and bacitracin).
 - 4) Garamycin (gentamicin sulfate).
 - 5) Aerosporin (polymyxin B).

- e. Topical anti-fungals – used to treat fungal infections of the skin.
 - 1) Desenex, Lotrimin (clotrimazole) – for athlete’s foot, ringworm, and prickly heat.
 - 2) Mycostatin (nystatin).
 - 3) Mycolog (nystatin/triamcinolone).
 - 4) Lamisil (terbinafine).
- f. Scabies/pediculocides – used to treat scabies or lice.
 - 1) Kwell (lindane) – FOLLOW DIRECTIONS EXACTLY.
 - 2) Elimite/NIX (permethrin).
 - 3) RID (pyrethrin).
- g. Topical corticosteroids – used to treat skin inflammation.
 - 1) Cortef, Cortaid (hydrocortisone).
 - 2) Kenalog, Aristocort (triamcinolone).
 - 3) Medrol (methylprednisolone).
 - 4) Topicort (desoximetasone).
- h. Topical antihistamines-Benadryl (diphenhydramine).
- i. Topical antivirals; Zovirax (acyclovir).
- j. Topical anesthetic; Nupercainal (dibucaine) – especially used for hemorrhoids.
- k. Wet dressings and soaks.
 - 1) Domeboro tablets (aluminum sulfate) – used to make Burow’s Solution.
 - 2) Normal saline.
- l. Topical enzyme preparations – used to remove dead tissue which allows healing to take place.
 - 1) Elase (fibrinolysin and desoxyribonuclease).
 - 2) Santyl ointment (collagenase).

- m. Antiseptics – used to cleanse the skin.
 - 1) Betadine (povidone-iodine).
- n. Miscellaneous rectal preparations.
- o. Hemorrhoidal preparations – Anusol (emollient, protectant combination).
 - 1) Anusol HC (emollient, protectant/hydrocortisone).

B. Observations to report to the licensed nurse.

1. All abnormal vital signs should be reported and recorded.
2. All undesired effects of prn or routine medications.
3. Pain.
4. Abnormal color of skin; pallor, redness, blue, gray, jaundice.
5. Abnormal lesions; skin tears, decubitus, changing sores, purulence.
6. Itching rashes, urticaria (hives), extreme dry skin.
7. Unusual bruising, petechiae.
8. Unusual loss of hair.
9. Abnormal nail color and/or nail loss or inflammation.
10. Numbness or tingling of skin.
11. Rash on inter-digital webs on hands with severe night itching.

XIV. Immune/Lymphatic System

A. Related Medications.

1. Anti-infective – used to treat infections.
2. Influenza vaccine – used to prevent influenza.
3. Pneumonia vaccine – used to prevent pneumonia.
4. Antivirals
 - a. Retrovir (zidovudine).

- b. Epivir (lamivudine).
- c. Rescriptor (delaviridine mesylate).
- d. Agnerase (amprenavir).

B. Observations to report to the licensed nurse.

- 1. All abnormal vital signs should be reported and recorded.
- 2. All undesired effects of prn or routine medications.
- 3. Pain to abdomen, flank, neck, or groin/genital area.
- 4. Nodules – lump developing, usually in the axilla or groin.

COMMON DRUG CATEGORIES

This information is not intended to be inclusive of all categories, but is included to provide an easy reference for students.

1. Analgesics – relieve pain; divided into narcotic and non-narcotics analgesics.
2. Antacids – neutralize stomach acid and are used to treat ulcers, gastritis and GERD.
3. Antianginal – used to treat angina (chest pain).
4. Anti-anxiety/tranquilizers – decrease anxiety and tension.
5. Antiarrhythmics – used to treat abnormal heart rate or rhythm (arrhythmias).
6. Antibiotics – used to treat bacterial infections.
7. Anticoagulants – prevent blood clots, commonly called “blood thinners.”
8. Anticonvulsants/antiepileptics – used to control or prevent seizures.
9. Antidepressant/mood elevators – used to treat depression.
10. Antidiabetics – used to treat diabetes, includes insulins and oral hypoglycemics.
11. Antidiarrheals – used to treat diarrhea.
12. Antiemetics – used to treat nausea or vomiting.
13. Antifungals – used to treat fungal infections.
14. Antihistamines – used to treat allergy symptoms and allergic reactions.
15. Antihypertensives – used to treat high blood pressure.
16. Anti-infectives – used to treat infections.
17. Antiparkinsons – used to treat symptoms associated with Parkinson’s disease.
18. Antivirals – used to treat viral infections.
19. Antipsychotics – used to treat mental illness.
20. Bronchodilators – open breathing passages.
21. Cardiovascular drugs – used to treat conditions of the cardiovascular system.

22. Corticosteroids – used to treat inflammation and severe allergic reactions.
23. Dermatologicals – used to treat conditions of the hair, skin and nails.
24. Diuretics – used to remove excess body fluids, commonly called “water pills.”
25. Electrolytes – used to replace chemicals such as potassium, sodium or chloride in the body.
26. Laxatives – used to treat constipation.
27. Nonsteroidal anti-inflammatory drugs (NSAIDS) – used to treat inflammation.
28. Sedatives/hypnotics – used to promote sleep.
29. Skeletal muscle relaxants – decrease muscle tone, anxiety and tension.
30. Thyroid replacements – replace thyroid hormone in residents with hypothyroidism.
31. Vitamins/minerals – used to supplement or replace chemicals lacking in the diet.

COMMON DRUG SIDE EFFECTS

This information is not intended to be inclusive of all side effects, but is included to provide an easy reference for students.

1. Analgesics – GI irritation if aspirin based. Respiratory depression, constipation, urinary retention, dizziness, hypotension, nausea, and confusion with narcotic analgesics.
2. Antacids – constipation.
3. Antianginal – headaches.
4. Anti-anxiety/tranquilizers – dizziness, drowsiness, lethargy, slurred speech, ataxia, blurred vision, falls.
5. Antiarrhythmic – confusion, slurred speech, lightheadedness, seizures, hypotension.
6. Antibiotics – secondary yeast infections, diarrhea, secondary clostridium difficile infections.
7. Anticoagulants – uncontrolled bleeding, bruising.
8. Anticonvulsants/antiepileptics – dizziness, lethargy.
9. Antidepressant/mood elevators – dry mouth, constipation, blurred vision, postural hypotension, dizziness, tachycardia, urinary retention, interactions with alcohol.
10. Antidiabetics – low blood sugar.
11. Antidiarrheals – constipation.
12. Antifungals – nausea if alcohol used while on some medications.
13. Antihistamines – dizziness, lethargy, urinary difficulty, short-term memory dysfunction.
14. Antihypertensives – dizziness, falls, orthostatic hypotension.
15. Antiparkinsons – uncontrolled movements such as grimacing, tongue movements, rapid eye blinking, twisting of the necks, arm and legs, dark urine.
16. Antipsychotics – jaundice, sedation, dizziness, falls, ocular changes. Orthostatic hypotension, scaling on the skin with sunlight exposure, uncontrolled movements such as grimacing, tongue movements, rapid eye blinking, twisting of the neck, arm and legs.

17. Bronchodilators – restlessness, nervousness, confusion, palpitations, tachycardia, chest pain, increased blood pressure.
18. Cardiovascular drugs – fatigue, loss of appetite, nausea, vomiting, vision disturbances, nightmares, nervousness, drowsiness, hallucinations, bradycardia, arrhythmias, and hypokalemia with cardiac glycosides.
19. Diuretics – fluid and electrolyte imbalance, dehydration, hypotension, increased blood glucose levels.
20. Corticosteroids – sodium retention, increased blood pressure, insomnia, psychotic behavior, osteoporosis with long-term use.
21. Laxatives – diarrhea, malabsorption, reduced absorption of fat-soluble vitamins, and magnesium toxicity with magnesium based laxatives.
22. Nonsteroidal anti-inflammatory drugs (NSAIDS) – GI irritation, prolonged bleeding time, tinnitus, vertigo, increase risk of toxicity in residents with impaired renal function.
23. Sedatives/hypnotics – dizziness and falls.
24. Skeletal muscle relaxants – lethargy, drowsiness.

PAIN CONTROL – USE OF ANALGESICS

Analgesics: Group of drugs given for the control of pain.

“Pain isn’t an easy condition to define. It is a sensation. Sensations can be interpreted in different ways. The perception of pain is influenced by:

1. Fatigue.
2. Anxiety.
3. Fear.
4. Anticipation of pain.

How we feel pain:

1. Free nerve endings act as pain receptors.
2. Impulses (special messages) travel through specialized pain fibers to the spinal cord and then to the brain.
3. Brain sends a message to the body about the pain. EXAMPLE: If you are touching a hot stove, the brain will tell your hand to pull away.

Understanding pain assessment.

1. Pain assessment is the duty of the licensed nurse and physician.

CMT’s have an obligation to understand the pain assessment and management process:

1. Document the individuals statement of pain as whatever her/she says it is.
2. In the case of chronic or intractable pain, give analgesics in doses high enough and frequent enough to control the pain.
3. For chronic or intractable pain, treat the pain before it returns.
4. For any other pain, treat without delay as soon as it is reported. In the case of residents who are not able to report pain, treat as soon as symptoms are noted:
 - A. Be alert for behaviors that may indicate pain. Actions speak louder than words when residents are in pain. Pay particular attention to physical aggression, verbal aggression, facial expressions, restlessness, and resistance to caregivers. When implementing a facility behavior intervention program, start with considering the pain assessment of each resident. The following list of actions may represent pain.

- B. Facial expressions – frown, grimace, fearful, sad, teeth clenched, eyes wide open or shut tight.
 - C. Physical movements – restless, fidgeting, absence of movement, slow or cautious movements, guarding, rocking, rigidity, rubbing, holding parts of body, wandering.
 - D. Vocalizations – groaning, moaning, repeated phrases, yelling out, and noisy breathing.
 - E. Social – sleepless or sleeping most of the time, irritability, agitated, combative, crying, trying to get attention, refusal to go to activities, loss of appetite, withdrawn, resist care.
 - F. Aggression – physical or verbal.
5. Acute pain must be evaluated by a physician to treat the cause.

WORK SHEET OF OTC ANALGESICS

Instructions: Take this work sheet to your grocery store, discount center, pharmacy, or convenience store and read labels on the following.

Strength in mg.						
Drug Name	Aspirin	Acetaminophen	Ibuprofen	Caffeine	Other	\$
Anacin						
Anacin Free						
Datril						
Excedrin						
Extra Strength Excedrin						
Aleve						
Bufferin						
Advil						
Tylenol Arthritis						
Buffered Aspirin						
Ibuprofen						
Alka-seltzer						
Tylenol						
Extra Strength Tylenol						
Acetaminophen						

WORK SHEET – DRUG INFORMATION CARDS

Directions: Look up the 25 most commonly used medications in your facility. Your instructor may determine which medications to look up. Record the information on a 4" x 6" index card for each medication.

You may need to use the back of the card for some medications. One example has been included below. Include the following:

- Brand name
- Generic name
- Classification
- Indications
- Contraindications
- Normal dosage for age group
- Forms available
- Side effects
- Nursing interventions

Sample Drug Information Card:

BRAND NAME: Lanoxin.

GENERIC NAME: digoxin.

CLASSIFICATION: cardiacglycoside.

INDICATIONS: congestive heart failure; atrial fibrillation.

CONTRAINDICATIONS: fibrillation, previous adverse reactions;

NORMAL DOSAGE FOR AGE GROUP: 0.125 mg/day.

FORMS AVAILABLE: oral tablet, pediatric elixir, injectables.

SIDE EFFECTS: fatigue, weakness, loss of appetite or nausea, visual disturbances, low blood pressure.

NURSING INTERVENTIONS: take apical pulse for one full minute before giving, report to charge nurse. Hold medication if apical pulse is below 60 or above 110.

LESSON PLAN: 9

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS AND OBSERVATIONS

EVALUATION ITEMS:

1. List the four (4) steps in the drug cycle and give a short explanation of each step
 - a.
 - b.
 - c.
 - d.
2. What is the main organ of drug metabolism?
3. What is the main organ of drug excretion?
4. What is the difference between local and systemic effects of medications?
5. List five (5) signs/symptoms of hyperglycemia
 - a.
 - b.
 - c.
 - d.
 - e.

6. List five (5) signs/symptoms of hypoglycemia
- a.
 - b.
 - c.
 - d.
 - e.

Match the drug each drug classification with the correct description of its use.

- A. Analgesic
- B. Antacid
- C. Anticoagulant
- D. Antiarrhythmic
- E. Antiemetic
- F. Anti-infective
- G. Corticosteroid
- H. Bronchodilator
- I. Diuretic
- J. Electrolyte
- K. Skeletal muscle relaxant
- L. Thyroid
- M. Tranquilizer
- N. Vitamin/Mineral

- ___ 7. Used to supplement the diet. A,B,C, D, E, K and iron are examples.
- ___ 8. Used to relieve pain.
- ___ 9. Used to decrease anxiety.
- ___ 10. Neutralized acid in the stomach.
- ___ 11. Used to replace hormones in patients with hypothyroidism.
- ___ 12. Prevents blood clots.
- ___ 13. Used to relax muscles after a sprain or strain.
- ___ 14. Prevents or treats abnormal heart rate or rhythm.
- ___ 15. Used to replace chemicals, such as potassium, in the body.
- ___ 16. Used to treat nausea and vomiting.
- ___ 17. Removes excess fluids from the body.

- ___ 18. Used to treat an infection.
- ___ 19. Opens air passages in person with lung disease.
- ___ 20. Decreases inflammation.

LESSON PLAN: 10

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

SCOPE OF UNIT:

This unit includes guidelines for observing and reporting.

INFORMATION TOPIC: III-10 OR DEMONSTRATION: III-10

OBSERVING AND REPORTING
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

Information:

1. List three major problems encountered in drug use at home.
2. Identify major problems of drug use in long-term care facility.
3. Identify approaches to special problems in medication administration.
4. Name five (5) techniques used in observation.
5. Recognize physical and psychosocial changes in residents, which must be reported to the charge nurse.

Demonstration:

1. Count apical pulse.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 25: Look-Alike and Sound-Alike Drugs.
2. HO 26: Types of Hearing Aids.
3. HO 27: Operation of a Hearing Aid.
4. HO 28: Communicating with the Aphasic Resident.

INFORMATION ASSIGNMENT:

Read Lesson Plan 10 prior to class and be prepared to discuss the information presented and return the demonstration on counting the apical pulse.

INTRODUCTION

Adverse drug reactions are a serious problem regardless of age. It is essential that the medication technician develop skills in observing responses to drug therapy. This lesson includes the major problems encountered by the drug user, techniques in observations, and the changes in behavior that require immediate attention.

LESSON PLAN: 10

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

OUTLINE:

- I. Major problems of Drug Use at Home
 - A. Availability of drugs such as herbals and over-the-counter (OTC) drugs.
 - B. Self-medication.
 1. Prescription drugs not taken correctly due to expense, “sharing” of prescription medications, several medications from the same classification from different physicians.
 2. Influence of advertising.
 - C. Treated by more than one physician.
 - D. High cost of drugs.
 - E. Inability to open containers.
 - F. Forgetting to take medications.
 - G. Inability to read directions due to poor vision.
 - H. Limited access to pharmacy for refills.
 - I. Expired medications.
 - J. Improper storage of medications such as not refrigerating a medication that must be refrigerated.
- II. Major problems of Drug Use in the Long-Term Care Facility
 - A. Physical changes and drug effects.
 - B. Disorientation.
 - C. Potential for medication errors due to look-alike and sound-alike drugs (HO 25), illegible handwriting, use of improper abbreviations, incorrect orders and misplaced decimal points.
 - D. Adverse drug reaction – any drug effect other than what is therapeutically intended. It may be expected and benign or unexpected and potentially harmful.

- E. Side effects – mild, but predictable, adverse reactions.
- F. Hypersensitivity reaction (allergic response) – result of an antigen-antibody immune reaction that occurs in the body when a drug is given to a susceptible individual.
- G. Anaphylactic reaction (life threatening allergic response) – immediate hypersensitivity or anaphylaxis. Typically begins 1 to 30 minutes following exposure to the offending antigen. Tingling sensations and a generalized flush may proceed to fullness in the throat, chest tightness, or a “feeling of impending doom.” Generalized rash and sweating are common. Severe reactions include life-threatening involvement of the airway and cardiovascular system.
- H. Physical or psychological dependence – certain drugs, especially those subject to abuse (e.g., narcotics for pain), cause dependence. Signs of dependence are increased tolerance to the drug. The body craves more and more analgesics.
- I. Cumulative effects – some medications are not metabolized or excreted very fast especially in the elderly, so the drug builds up or accumulates in the body. This can produce toxic or overdose-like effect.
- J. Drug interactions – when one drug is administered in combination with or shortly after another drug, the effects of one or both drugs is altered.
 - 1. Synergism – two unlike drugs whose effects are greater than those of either drug alone.
 - 2. Antagonism – two unlike drugs whose effects are less than the effect of either drug alone.
- K. Unnecessary use of drugs. An unnecessary drug is any drug used:
 - 1. In an excessive dose.
 - 2. In duplicate therapy.
 - 3. For excessive duration.
 - 4. Without adequate indication for use.
 - 5. Without adequate monitoring.
 - 6. When adverse effects indicate the dose should be decreased or the drug discontinued.
- L. Polypharmacy refers to:
 - 1. Use of a drug with no apparent need.

2. Use of more than one drug for the same purpose.
3. Use of drugs to treat adverse drug reactions.

III. Approach to Special Problems in Medication Administration

A. Confusion.

1. Speak slowly, at a normal level, and in a low-pitched voice.
2. Use short, familiar words and simple sentences. Example: "Please drink this glass of water."
3. Give positive instruction, avoiding "don't" or negative commands. Example: "Please sit down in your chair."
4. Avoid questions or topics of conversation that require a lot of thought, memory, and words. Instead, be specific about what you are doing or what you want the resident to do. Example, "Mr. James, I have your cough syrup, please drink it."
5. Avoid instructions that require the resident to remember more than one action at a time. Instead, break the task down into simpler actions. Example: "Mrs. Jennings, lie down on your bed." (After Mrs. Jennings is lying down, give the next action.) "Mrs. Jennings, please roll on your side."

B. Blindness.

1. Observe for signs indicating deteriorating eyesight.
 - a. Stumbling or falling.
 - b. Holding on to objects when walking.
 - c. Using touch to find personal things.
2. Encourage use of eyeglasses; clean daily with a soft cloth.
3. Use verbal communication if resident can hear; use normal tone of voice.
4. Use touch.
4. Identify self when entering or leaving a room.
6. Keep surroundings the same – do not rearrange personal items or furniture without asking the resident.

7. When communicating with the blind resident, try the following tips.
 - a. With your guidance, show the resident the location of the glass of water.
 - b. Tell the resident how many tablets or capsules you have. Indicate if they are large or small.
- C. Deafness.
1. Signs indicating hearing loss.
 - a. Loss of interest in group activity, in other persons, or in what is being said to him/her.
 - b. Apparent disregard for directions or suggestions.
 - c. An attempt to lip-read.
 2. When communicating with the deaf resident, try the following tip. Write a note to the resident, (e.g., “Mr. Smith, I have your 10 AM medication”).
 3. Encourage the resident to use a hearing aid and give him/her time to adjust it (HO 26, HO 27).
 4. Face the resident in a lighted area; stand where he/she can see you.
 5. Use moderate tone of voice; do not shout at resident.
 6. Reduce background noise.
 7. Attempt to learn some sign language.
- D. Speech disorder
1. Dysarthria – weakness or paralysis of muscles of lips, tongue, and throat; may be due to brain damage from stroke or accident
 2. Aphasia – language disorder in which resident has difficulty understanding words and using them correctly due to damage of the part of the brain that controls speech (HO 28).
 - a. Expressive – resident has difficulty saying what he/she is thinking and wants to say; may also have trouble writing and making gestures to act out what he/she is trying to say.
 - b. Receptive – resident cannot understand what is being said to him/her; gestures and pantomime may be confuse him/her; may

have difficulty understanding what he/she is reading or recognizing the words.

- c. Global – a combination of expressive and receptive aphasia.
3. How to communicate to the resident with speech disorder.
 - a. Encourage the resident to express self in any way possible.
 - b. Continue to talk to the resident and encourage other to also talk to the resident.
 - c. Use short, simple sentences and use the same words each time when you give directions.
 - d. Watch the resident for gestures of body movements with which he/she may be communicating.
 - e. Be patient, do not speak for the resident, although you may want to help him/her with the words with which he/she is having difficulty.
 - f. Do not talk with another person in front of the resident if he/she cannot understand.
 - g. Remember the resident is still considered an adult.
 - h. Remember the basic principles of effective communication.
- E. Disabled.
1. Do not hurry resident.
 2. Assist only as needed.
- F. Uncooperative.
1. Sit down, make yourself comfortable. Explain procedure, respect resident's rights, and use a positive attitude!
- G. Difficulty swallowing.
1. Offer resident drink of water first to lubricate throat.
 2. Place medication on unaffected side, one at a time. If tablet is large (and is scored), break tablet in half using clean technique.
 3. Offer plenty of fresh water following each tablet. Do NOT hurry resident. Communicate with charge nurse, it is possible the resident may need medications crushed and/or require a liquid medication form.

IV. Techniques of Observation

- A. Vital signs.
 - 1. TPR (including apical pulse).
 - 2. BP.
- B. Using your senses, what you can tell by:
 - 1. Sight.
 - 2. Smell.
 - 3. Touch.
 - 4. Hearing.

V. Observations to Report to the Licensed Nurse

- A. Physical changes such as changes in skin color or temperature, facial expressions, drooping on one side of the mouth, wound drainage, shortness of breath, or any change from what is "normal" for the resident.
- B. Psychosocial (emotional/social) conditions associated with the aging process.
 - 1. Depressive reactions.
 - 2. Hypochondriasis/hypochondriac.
 - 3. Paranoid reaction.
 - 4. Catastrophic reaction.
 - 5. Transient situational reactions.
 - 6. Sleep disturbances.
 - 7. Organic mental syndrome (formerly organic brain syndrome).

VI. Demonstrate the Procedure for Counting Apical Pulse

VII. Summary and Conclusion

- A. Major problems of drug use at home.

- B. Major problems of drug use in the long-term care facility.
- C. Approach to special problems in medication administration.
- D. Techniques of observation.
- E. Observations to report to the licensed nurse.
- F. Review procedure for counting apical pulse.

The next lesson is on basic guidelines for medication administration.

LESSON PLAN: 10

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

PROCEDURE FOR COUNTING APICAL PULSE:

1. Wash your hands.
2. Assemble necessary equipment.
3. Identify and greet resident. Identify self.
4. Explain what you are going to do.
5. Provide privacy.
6. Resident should be in sitting/supine position.
7. Clean the earpieces and diaphragm of the stethoscope with alcohol wipes.
8. Raise the resident's gown to expose the nipple area of the left chest. Do not expose more of the chest than necessary.
9. Warm the diaphragm of the stethoscope with your hands before placing it on the chest.
10. Place the stethoscope earpieces in your ears.
11. Locate the apical pulse. The diaphragm should be placed just below the left nipple. Listen carefully.
12. Count the pulse for 1 full minute. Note if the pulse is regular or irregular. Record the pulse on a sheet of paper.
13. Cover the resident.
14. Remove the earpieces from your ears and clean them with alcohol wipes. Also clean the diaphragm with alcohol wipes.
15. Return stethoscope to its proper place.
16. Wash your hands.
17. Make the resident comfortable; place call signal within reach.
18. Record observations and report anything unusual to the charge nurse.

LESSON PLAN: 10

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

EVALUATION ITEM:

NAME OF STUDENT:

COUNT APICAL PULSE

EQUIPMENT:

1. Watch with second hand
2. Alcohol wipes
3. Stethoscope with diaphragm
4. Pencil and paper

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash your hands		
2. Assemble necessary equipment		
3. Identify and greet resident. Identify self.		
4. Explain what you are going to do.		
5. Provide privacy.		
6. Resident should be in sitting/supine position.		
7. Clean the earpieces and stethoscope's diaphragm with alcohol wipes.		
8. Raise the resident's gown to expose the nipple area of the left chest. Do not expose more of the chest than necessary.		
9. Warm the stethoscope's diaphragm with your hands before placing it on the chest.		
10. Place the stethoscope's earpieces in your ears.		
11. Locate the apical pulse. The diaphragm should be placed just below the left nipple. Listen carefully.		
12. Count the pulse for 1 full minute. Note if the pulse is regular or irregular. Record pulse on sheet of paper.		

13. Cover the resident.		
14. Remove the earpieces from your ears and clean them with alcohol wipes. Also clean the diaphragm with alcohol wipes.		
15. Return stethoscope to its proper place.		
16. Wash your hands.		
17. Make the resident comfortable; place call signal within reach.		
18. Record observations and report anything unusual to the charge nurse.		

The student has satisfactorily completed the procedure “COUNT APICAL PULSE” according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LOOK ALIKE AND SOUND ALIKE DRUGS

Accolate	Accupril		Amikin	Avandamet	Avandia
	Accutane		Omacor	Avandia	Avalide
	Aclovate	amikacin	Amicar		Avandamet
Accupril	Accolate	amiloride	amlogarone		Coumadin
	Accutane		amlodipine		Prandin
	Aciphex	aminophylline	amitriptyline	Aventyl	Bentyl
Accutane	Accupril		ampicillin	Avinza	Invanz
Acetazolamide	acetohexamide	amiodarone	amiloride		Evista
Acetohexamide	acetazolamide	amitriptyline	aminophylline	Avitene	Ativan
Acetylcholine	acetylcysteine		nortriptyline	Avonex	Avelox
Acetylcysteine	acetylcholine	amolodipine	amiloride	Axert	Antivert
Aciphex	Accupril	amoxapine	amoxicillin	azatadine	azathioprine
	Aricept	amoxicillin	amoxapine	azathioprine	azatadine
Aclovate	Accolate	ampicillin	aminophylline		Azulfidine
Acnomel	Actonel	Amvaz	Amvisc	azidothymidine	azathioprine
Actonel	Acnomel	Amvisc	Amvaz	azithromycin	erythromycin
	Actos	Anafranil	alfentanil	Azulfidine	azathioprine
Actos	Actonel		enalapril		
Adderall	Inderal		nafarelin		
Adriamycin	Aredia	Anaprox	Anaspaz		
Advair	Advicor	Anaspaz	Anaprox		
Advicor	Advair		Antispas		
Afrin	aspirin	Antivert	Axert	bacitracin	Bactrim
Aggraslat	Aggrenox	Anusol	Anusol-HC		Bactroban
	argatroban		Aplisol	baclofen	Bactroban
Aggrenox	Aggrastat		Aquasol	Bactrim	bacitracin
Albutein	albuteral	Aplisol	Anusol		Bactroban
albuterol	Albeutein	Aquasol	Anusol	Bactroban	Bacitracin
	atenolol	Aranesp	Aricept		baclofen
Aldactazide	Aldactone	Aredia	Adriamycin		Bactrim
Aldactone	Aldactazide	argatroban	Aggrastat	Benadryl	benazepril
Aldara	Alora	Aricept	Aciphex		Bentyl
Aleve	Alesse		Aranesp	benazepril	Benadryl
Alfenta	Sufenta		Ascriptin	Bentyl	Aventyl
affentanil	Anafranil	Artane	Altace		Benadryl
	fentanyl	Asacol	Os-Cal	benztropine	bromocriptine
	sufentanil	Ascriptin	Aricept	Betadine	betaine
Alkeran	Leukeran	asparaginase	pegaspargase	betaine	Betadine
Alora	Aldara	aspirin	Afrin	betaxolol	bethanechol
alprazolam	alprostadil	atenolol	albuterol	bethanechol	betaxolol
	lorazepam		timolol	bromocriptine	benztropine
alprostadil	alprazolam	Atgam	Ativan	bupivacaine	mepivacaine
Altace	alteplase	Ativan	Atgam	bupropion	bupirone
	Artane		Avitene	bupirone	bupropion
alteplase	Altace	Atrovent	Alupent		risperidone
Altacor	Advicor	Avalide	Avandia	butabarbital	butalbital
Alupent	Atrovent			butalbital	butabarbital
Amaryl	Amerge				
Amerge	Amaryl				
Amicar	amikacin				

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Cafegot	Carafate	Cepastat	Capastat	Comvax
Caladryl	calamine	Cerebyx	Celebrex	Recombivax HB
calamine	Caladryl		Cerezyme	Copaxone
Calan	Colace	Ceredase	Cerezyme	Cordarone
calcifediol	calcitriol	Cerezyme	Cerebyx	Cordran
calcitonin	calcitriol		Ceredase	Coreg
calcitriol	calcifediol		Chlorambuc	Corgard
	calcitonin		Chloromycetin	Cortef
calcium	glubionate	Chloromycetin	chlorambucil	co-trimoxazole
	calcium			Coumadin
	gluconate	Chlorpromazine		
calcium	gluconate		chlorpropamide	
	calcium		clomipramine	Covera HS
	blubionate		prochlorperazine	Cozaar
Capastat	Cepastat	chlorpropamide		Zocor
Capitrol	captopril		chlorpromazine	Cyclophosphamide
captopril	Capitrol	Cidex	Lidex	Cyclosporine
Carafate	Cafegot	Ciloxan	cinoxacin	
Carbatrol	Cartrol		Cytoxan	Cycloserine
carboplatin	cisplatin	Cimetidine	simethicone	cyclobenzaprine
Cardend	Cardura	cinoxacin	Ciloxan	cyclosporine
	codeine	cisplatin	carboplatin	cyclosporine
Cardizem CD (SR, LA)		Citracal	Citrucel	cyclophosphamide
Cardizem SR (CD, LA)		Citrucel	Citracal	cycloserine
Cardura	Cardene	Clarinox	Claritin	Cyklokapron
	Cordarone	Claritin	Clarinox	Cyklokapron
	Coumadin	Clinoril	clozaril	Cyproheptadine
	K-Dur	Clomiphene	clomipramine	cyclobenzaprine
	Ridaura		clonidine	Cytadren
carteolol	carvedilol	clomipramine	chlorpromazine	cytarabine
Cartrol	Carbatrol		clomiphene	Cytadren
carvedilol	carteolol	clonazepam	clorazepate	Cytogam
Cefol	Cefzil		forazepam	Cytotec
Cefotan	Ceftin	clonidine	clomiphene	Cytoxan
cefotaxime	cefoxitin		clonazepam	Ciloxan
	cefizoxime		quinidine	CytoGam
	cefuroxime	clotrimazole	co-trimoxazole	dacarbazine
cefotetan	cefoxitin	Clozaril	Clinoril	dactinomycin
cefoxitin	cefotaxime		colazal	Dalmane
	Cefotetan	codeine	Cardene	Dantrium
	Cytoxan		Lodine	Daraprim
ceftazidime	ceftizoxime	Colace	Calan	Daraprim
Ceftin	Cefotan	Colazal	Cloazril	
	Cefzil	combivent	Combivir	
ceftozoxime	cefotaxime	combivir	Combivent	Darvocet-N
	ceftazidime	Compazine	Copaxone	Darvon-N
cefuroxime	cerotaxime			Darvon-N
	deferoxamine			daunorubicin
Cefzil	Cefol			dactinomycin
	Ceftin			doxorubicin
Celebrex	Celex			idarubicin
	Cerebyx			deferoxamine
				cefuroxime

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Delsym	Desyrel	Ditropan	diazepam	Eldonpaque Forte	
Demerol	Demulen		Diprivan		Eldoquin Forte
	Detrol		dithranol	Eldoquin Forte	
Demulen	Dalmane	doutamine	dopamine		Eldopaque Forte
	Demerol	Dolobid	Slo-bid	Elmiron	Imuran
Depo-Medrol	Solu-Medrol	donepezil	doxepin	Emcyt	Eryc
Dermatop	Dimetapp	dopamine	dobutamine	Enablex	Enbrel
desipramine	disopyramide		Dopram	enalepril	Anafranil
	imipramine	Dopram	dopamine		Eldepryl
Desogen	Digoxin	doxapram	doxazosin	Enbrel	Enablex
Desoximetasone			doxepin	enflurane	isoflurane
	dexamethasone		doxorubicin	Entex	Tenex
Desoxyn	digoxin	doxazasin	doxapram	ephedrine	epinephrine
Desyrel	Delsym		doxepin	epinephrine	ephedrine
	Zestril		doxonrubicin	Epogen	Neupogen
Dexamethasone		doxepin	digoxin	Eryc	Emcyt
	desoximetasone		donepezil	Erythrocin	Ethmozine
Dexedrine	Dextran		doxapram	erythromycin	azithromycin
Dexedrine	Excedrin		Doxazosin		Ethmozine
Dextran	Dexedrine		Doxidan	ethambutol	Ethmozine
DiaBeta	Zebeta	Doxidan	doxepin	Ethamolin	ethanol
Diamox	Trimox	Doxil	Doxy	ethanol	Ethamolin
diazepam	diazoxide		Paxil		Ethyol
	Ditropan	doxorubicin	dactinomycin	Ethmozine	Erythrocin
diazoxide	diazepam		daunorubicin		erythromycin
	Dyazide		doxacurium		ethambutol
dichloroacetic acid			doxapram	ethosuximide	methsuximide
	trichloroacetic acid		doxazosin	Ethyol	ethanol
diclofenac	Diflucan		idarubicin	etidronate	etomidate
	Duphalac	Doxy	Doxil	etomidate	etidronate
dicyclomine	doxycycline	doxycycline	dicyclomine	Eurax	Evoxac
	dyclonine		doxylamine		Serax
Diflucan	diclofenac	doxylamine	doxycycline		Urex
	Diprivan	dronabinol	droperidol	Evoxac	Eurax
	disulfiram	droperidol	dronabinol	Excedrin	Dexedrine
digoxin	Desogen	duloxetine	fluoxetine		
	Desoxyn	Duphalac	diclofenac		
	doxepin	Dyazide	diazoxide		
Dilantin	Dilaudid	Dynabac	Dynacin	Factrel	Sectral
Dilaudid	Dilantin		DynaCirc	Fareston	Fosrenol
Dimenhydrinate		Dynacin	Dynabac	Faslodex	Fosamax
	dimenhydrinate		DynaCirc	Femara	Femhrt
Diprivan	Ditropan	DynaCirc	Dynabac	Femhrt	Femara
Diprosone	dapsone		Dynacin	Femiron	Femring
dipyridamole	disopyramide			Femring	Femiron
disopyramide	desipramine			fentanyl	altentanil
	dipyridamole				sufentanil
disulfiram	Diflucan	Ecotrin	Edecrin	Feosol	Fer-in-Sol
dithranol	Ditropan	Edecrin	Ecotrin	Feridex	Fertinex
		Eldepryl	enalapril		

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Fer-In-Sol	Feosol			Indocin	Imodium
Fertinex	Feridex	Halcinonide	Halcion		Vicodin
fioricet	Fiorinal	Halcion	halcinonide	Inspra	Spiriva
Fiorinal	Fioricet		Haldol	interferon 2	interleukin 2
	Florinef		Healon	interferon alfa-2a	
flecainide	fluconazole	Haidol	Halcion		interferon alfa-2b
Flexeril	Floxin		Halog	interferon alfa-2b	
Flomax	Fosamax		Stadol		interferon alfa-2a
	Volmax	Halog	Haldol	interleukin 2	interferon 2
Florinef	Fiorinal	Healon	Halcion		interleukin 11
Floxin	Flexeril		Hyalgan	Invanz	Avinza
fluconazole	flecainide	Heparin	Hespan	iodine	Iopidine
Fludara	FUDR	Hespan	Heparin		Lodine
Flumadine	flunisolide	Humalog	Humulin	ionamin	imodium
	flutamide	Humulin	Humalog	iopamidol	indapamide
flunisolide	Flumadine	Hyalgan	Healon	Iopidine	iodipamide
	fluocinonide	Hycodan	Vicodin		iodine
flucinolone	fluocinonide	hydralazine	hydroxyzine		Lodine
fluocinonide	flunisolide	hydrochlorothiazide		isoflurane	enflurane
	flucinolone	hydroflumethiazide		Isopto Carbachol	
fluoxetine	duloxetine	hydrocodone			Isopto Carpine
	fluvastatin	hydrocortisone		Isopto Carpine	
flutamide	flumadine	hydrocortisone	hydrocodone		Isopto Carbachol
fluvastatin	fluoxetine	hydroxychloroquine		Isordil	Inderal
folid acid	folinic acid	hydroflumethiazide			Isuprel
folinic acid	folic acid	hydrochlorothiazide		Isuprel	Isordil
Foradil	Toradol	hydromorphone	morphine		
Fosamax	Faslodex	hydroxychloroquine			
	Flomax		hydrocortisone	Kaletra	Keppra
Fosrenol	Fareston	hydroxyurea	hydroxyzine	K-Dur	Cardura
fosinopril	lisinopril	hydroxyzine	hydralazine	Kemadrin	Coumadin
FUDR	Fludara		Hydrogesic	Keppra	Kaletra
furosemide	Torsemide		hydroxyurea	Kiaron	Klo-Con
Furoxone	Fuzeon	Hytone	Vytone	Klor-Con	Klaron
Fuzeon	Furoxone			K-Phos Neutral	
Glimepiride	glipizide				Neutra-Phos-K
glipizide	glimepiride	Idarubicin	daunorubicin		
	glyburide		doxorubicin		
Glucotrol	glyburide	Iletin	Lente		
glyburide	glipizide	Imdur	Imuran	lactose	Lactulose
	Glucotrol		K-Dur	lactulose	lactose
GoLYTELY	NuLytely	imipramine	desipramine	Lamictal	Lamisil
guaifenesin	guanfacine	Imodium	Indocin		Lomotil
guanabenz	guanadrel		Ionamin	Lamisil	Lamictal
	guanfacine	Imuran	Elmiron	lamivudine	lamotrigine
guanadrel	guanabenz		Imdur	lamotrigine	lamivudine
guanethidine	guanidine		Inderal	Lanoxin	Levsinex
guanfacine	guaifenesin	indapamide	iopamidol		Lonox
	guanabenz		lopidine	Lantus	Lente
	guanidine	Inderal	Adderall	Lasix	Lidex
guanidine	guanethidine		Imuran		Lusiq
			Inderide	Lente	Iletin
	guanfacine		Isordil		Lantus
		Inderide	Inderal	leucovorin	Leukera

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	Leukeran		magnesium sulfate	Monopril	Monurol
Leukeran	Alkeran	Maxidex	Maxzide	Monurol	Monopril
	leucovorin	Maxzide	Maxidex	Morphine	
	Leukine	Mebaral	Medrol		hydromorphone
Leukine	Leukeran	Medrol	Mebaral	Mucinex	Mucomyst
Leustatin	lovastatin	medroxyprogesterone		Mucomyst	Mucinex
Levatol	Lipitor		methylprednisolone	Myambutol	Nembutal
Levbid	Lithobid		methyltestosterone	Mycelelex	Myoflex
	Lorabid	melphalan	Mephyton	Mydfrin	Midrin
Levitra	Lexiva	mephobarbital		Mylanta	Mynatal
Lexiva	Levitra		methocarbamol	Myleran	Mylicon
levothyroxine	liothyronine	Mephyton	melphalan	Mylicon	Myleran
Librax	Librium		mephenytoin	Mynatal	Mylanta
Librium	Librax	mepivacaine	bupivacaine	Myoflex	Mycelelex
Lidex	Cidex	metaproterenol	metipranolol		
	Lasix			nafarelin	Anafranil
Lioresal	lisinopril		metoprolol	Naldecon	Nalfon
liothyronine	levothyroxine	methazolamide	metolazone	Nalfon	Naldecon
Lipitor	Levatol	methenamine	methionine	naloxone	naltrexone
lisinopril	fosinopril			naltrexone	naloxone
	Lioresal			Nasarel	Nizoral
Lithobid	levbid	methionine	methenamine	Navane	Norvasc
	Lithostat	methocarbamol	mephobarbital		Nubain
	Lithotabs	methsuximide	ethosuximide	Nembutal	Myambutol
Lithostat	Lithobid	methylprednisolone		Nephro-Calci	Nephrocaps
	Lithotabs		medroxyprogesterone	Nephrocaps	Nephro-Calci
Lithotabs	Lithobid	methyltestosterone		Neulasta	Neumega
	Lithostat		medroxyprogesterone	Neumega	Neulasta
Lodine	codeine	metipranolol	metaproterenol		Neupogen
	iodine	metolazone	methazolamide	Neupogen	Epogen
Lomotil	Lamictal		metoprolol		Nutramigen
Lonox	Lanoxin	metoprolol	metaproterenol	Neurontin	Neutrexin
	Loprox		metolazone		Noroxin
Loprox	Lonox		misoprostol	Neutra-Phos-K	K-Phos
Lorabid	Levbid	metyrapone	metyrosine	Neutral	
	Lortab	metyrosine	metyrapone	Neutrexin	Neurontin
lorazepam	alprazolam	Mevacor	Mivacron	niacin	Minocin
	clonazepam	miconazole	Micronase	nicardipine	nifedipine
Lortab	Cortef		Micronor	Nicorette	Nordette
	Lorabid	Micro-K	Micronase	nifedipine	nicardipine
Lotensin	lovastatin	Micronase	miconazole		nimodipine
Lotrimin	Lotrisone		Micro-K	nimodipine	nifedipine
Lotrisone	Lotrimin		Micronor	nitroglycerin	nitroprusside
lovastatin	Leustatin	Micronor	miconazole	nitroprusside	nitroglycerin
	Lotensin		Micronase	Nitrostat	Hyperstat
Lovenox	Lotronex	Midrin	Mydfrin		Nystatin
Lupron	Nuprin	Mifeprex	Mirapex	Nizoral	Nasarel
Luxiq	Lasix	mifepristone	misoprostol	Nordette	Nicorette
		Minocin	niacin	Noroxin	Neurontin
		MiraLax	Mirapex	nortriptyline	amitriptyline
		Mirapex	Mifeprex	Norvasc	Navane
Magnesium sulfate			MiraLax	Nubain	Navane
	manganese sulfate	misoprostol	mifepristone	NuLyteLy	GoLYTELY
manganese sulfate		Mivacron	Mevacor	Nuprin	Lupron

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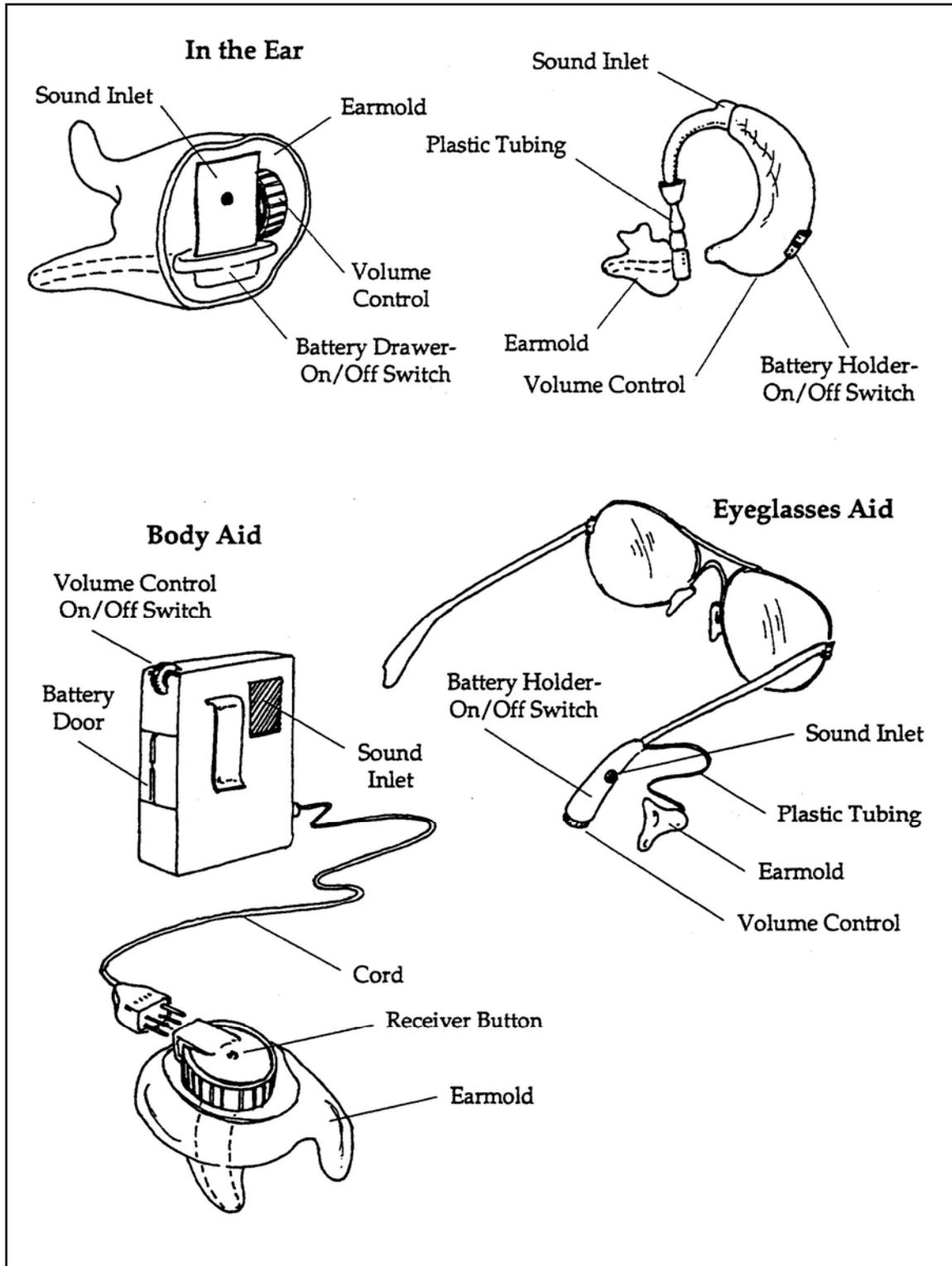
Nutramigren	Neupogen	pegaspargase	asparaginase	prednisolone	prednisone
Nystatin	nitrostat	penicillamine	penicillin	prednisone	prednisolone
		penicillin	penicillamine		primidone
		penicillin G	potassium	Premarin	Primaxin
		penicillin g procaine			Remeron
Occlusal-HP	Ocuflox		penicillin g	Premphase	Prempro
OctreoScan	octreotide		procaine	Prempro	Premphase
	Oncoscint	penicillin g	potassium	Prevacid	Prevachol
octreotide	OctreoScan	pentobarbital	phenobarbital		Prevpac
Ocufen	Ocuflox	pentosan	pentostatin	Prevpak	Prevacid
Ocuflox	Occlusal-HP	pentostatin	pentosan	prilocaine	Polocaine
	Ocufen	Pentrax	Permax		Prilosec
olanzapine	olsalazine	Percocet	Percodan	Prilosec	prilocaine
olsalazine	olanzapine	Percodan	Percocet		Prinivil
Omacor	Amicar		Percogesic		Prozac
OnoScint	OctreoScan		Periactin	Primaxin	Premarin
opium tincture	camphorated	Percogesic	Paregoric		Primacor
tincture of opium (paragoric)			Percodan	primidone	prednisone
opium tincture, camphorated		Perdiem	Pyridium	Prinivil	Prilosec
(paregoric)	opium	Peridex	Precedex		Proventil
tincture		Permax	Pentrax	ProAmatine	protamine
Optiray	Optivar		Pernox	probenecid	Procanbid
Optivar	Optiray	Pernox	Permax		Procanbid
Ortho-Cept	Ortho-Cyclen	phenobarbital	pentobarbital	Procanbid	probenecid
Ortho-Cyclen	Ortho-Cept	phentermine	phentolamine		probenecid
Os-Cal	Asacol	phentolamine	phentermine	procarbazine	dacarbazine
oxybutynin	OxyContin	pHisoDerm	pHisoHex	prochlorperazine	
OxyContin	oxybutynin	pHisoHex	pHisoDerm		chlorpromazine
	oxycodone	Phos-Flur	PhosLo	propranolol	Prevachol
oxymetazoline	oxymetholone	PhosLo	Phos-Flur	propylthiouracil	Purinethol
oxymetholone		physostigmine	Prostigmin	Proscar	ProSom
	oxymetazoline		pyridoxigmine		Prozac
	oxymorphone	pindolol	Panadol		Psorcon
oxymorphone	oxymetholone		Parlodel	ProSom	Proscar
Oxytrol	Roxanol		Plendil		Prozac
	Uroxatral	Pitocin	Pitressin		Psorcon
		Pitressin	Pitocin	Prostigmin	
		Platinol	Paraplatin		physostigmine
paclitaxel	paroxetine		Patanol	protamine	ProAmatine
	Paxil	Plavix	Paxil		Protonix
	paroxetine	Plendil	pindolol		Protopam
Pamelor	Panlor		Pletal	Protonix	protamine
Panadol	pindolol		Prinivil		Protopic
Panlor	Pamelor	Pletal	Plendil	Protopic	Protonix
Paraplatin	Platinol	Polocaine	prilocaine	Protopam	protamine
paregoric	Percogesic	prafidoxime	Pramoxine	Proventil	Prinivil
Parlodel	pindolol		pyridoxine	Provera	Covera HS
paroxetine	paclitaxel	Pramoxine	pralidoxime	Prozac	Prilosec
	pyridoxine	Prandin	Avandia		Proscar
Patanol	Platinol	Prevachol	Prevacid		ProSom
Paxil	Doxil		propranolol	Psorcon	Proscar
	paclitaxel	Pre-Care	Precose		ProSom
	Plavix	Precedex	Peridex	Purinethol	
	Taxol	Precose	Pre-Care		propylthiouracil

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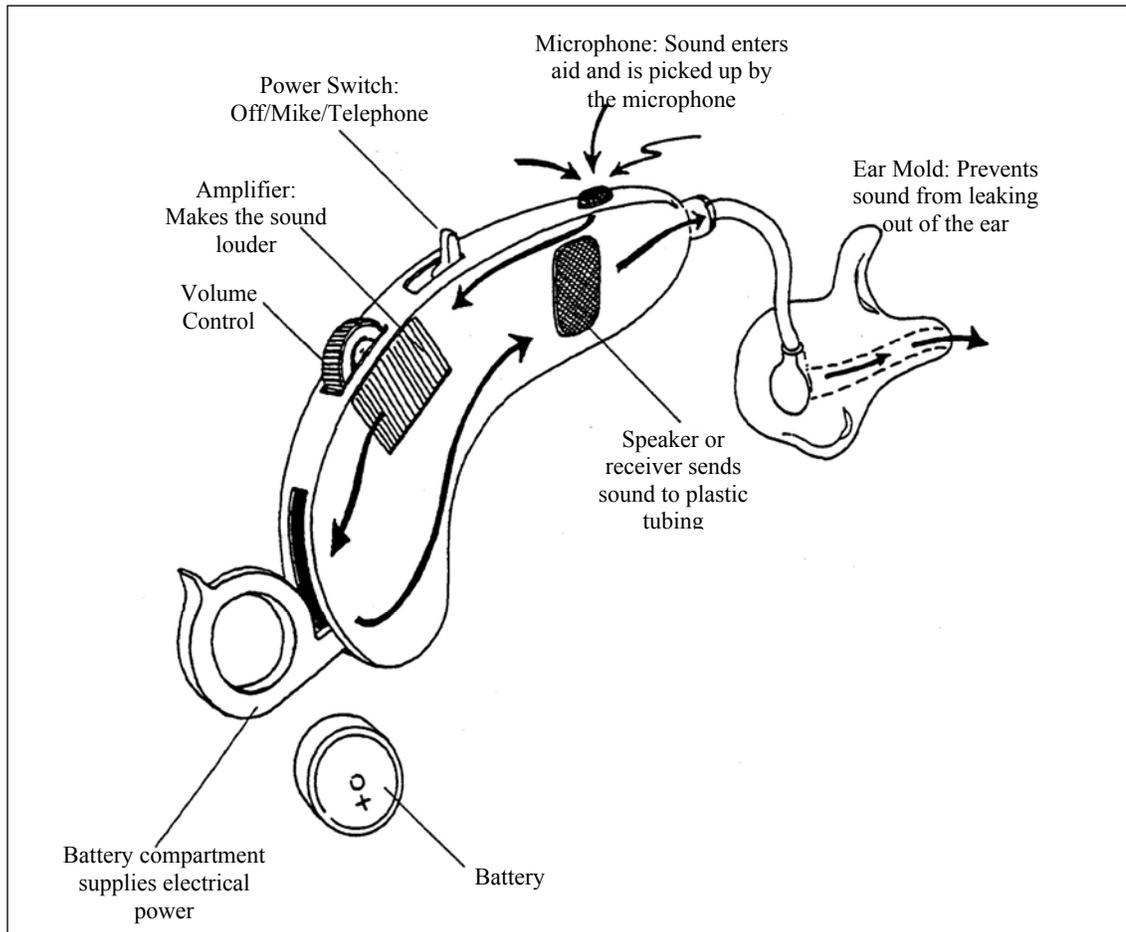
Travatan	Xalatan	Verelan	Virilon	Xopenex	Xanax
trazodone	tramadol		Vivarin		
Trental	Tegretol		Voltaren	Zantac	Xanax
	Trandate	Versacaps	Vesicare		Zofran
tretinoin	trientine	Versed	VePresid		Zyrtec
triameterene	trimipramine	Vesicare	Versacaps	Zarontin	Zaroxolyn
trichloroacetic acid	triamterene	Viagra	Vaniqa	Zaroxolyn	Zarontin
	dichloroacetic acid	Vicodin	Hycodan	Zebeta	DiaBeta
Tricor	Tracleer		Indocin	Zelnorm	Zemuron
trientine	tretinoin	Vigamox	Vigomar	Zemuron	Zelnorm
trimipramine	triameterene	Vigomar	Vigamox	Zestril	Desyrel
Trimox	triamterene	Volmax	Flomax		Restoril
	Diamox	vinblastine	vincristine		Vistaril
	Tylox		vinorelbine		Zetia
Trobicin	tobramycin	vincristine	vinblastine		Zostrix
Tylenol	Tylox	vinorelbine	vinblastine	Zetia	Zestril
Tylox	Trimox	Vioxx	Zyvox	Ziac	Tiasac
	Tylenol	Virilon	Verelan	Zocor	Cozaar
Ultane	Ultram	Viroptic	Timoptic	Zofran	Zantac
Ultram	Ultane	Vistaril	Restoril		Zosyn
Urex	Eurax	Vivarin	Verelan	ZORprin	Zyloprim
Urised	Urispas	Voltaren	Verelan	Zostrix	Zestril
Urispas	Urised	Vytone	Hytone		Zovirax
Uroxatral	Oxytrol			Zosyn	Zofran
	Roxanol				Zyfox
		Welbutrin SR	Wellbutrin	Zovirax	Zostrix
		XL			Zyvox
				Zylprim	ZORprin
Valcyte	Valium			Zymar	Zymine
Valium	Valcyte	Xalatan	Travatan	Zymine	Zymar
Vaniqa	Viagra	Xanax	Tenex	Zyprexa	Zyrtec
Vantin	Ventolin		Xopenex	Zyrtec	Zyprexa
Vasocidin	Vasodilan		Zantac	Zyvox	Vioxx
Vasodilan	Vasocidin	Xeloda	Xenical		Zosyn
Ventolin	Vantin	Xenical	Xeloda		Zovirax
VePesic	Versed	Xerac	Serax		

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TYPES OF HEARING AIDS



OPERATION OF A HEARING AID



COMMUNICATING WITH THE APHASIC RESIDENT

Aphasia – Language difficulty, due to brain damage, which can affect listening, speaking, reading, and writing skills.

Comprehension:

Simplify

1. Talk about only one idea at a time.
2. Use short sentences with simple, common words.
3. Use gestures, facial expressions, vocal inflections.

Allow Time

1. Pause between short sentences
2. Slow down rate of speech and allow the resident time to process information.

Orient Resident

1. Discuss topics of interest in the resident's life.
2. Orient resident to people, place, and time by pointing out and discussing people and items in the environment.
3. Keep resident aware of time of day via mealtimes, medications, and announcements of visitors and times they frequently come.

Confirm

Resident may respond to gestures or sound of your voice without understanding you.

1. Ask resident question.
2. Allow resident to respond.
3. Ask resident an opposite question; if resident responds the same to both questions, you are not communicating.
4. Be sure you have resident's attention.
5. Let resident know there was a misunderstanding.
6. Speak more slowly.
7. Repeat message.
8. Use gestures, pointing, and facial expressions. Do not speak more loudly if client did not understand you. Confusion increases with added noise and distractions, and when more than one person is talking.

Expression:

Allow Time

1. Be patient and accepting of resident's attempts to communicate.

Guess

1. Determine the subject by asking more specific questions.
2. Make statements about what you think the resident means.

Alternative Communication

1. Communication board
2. Gestural system – If you use gestures when communicating with aphasic residents, this may stimulate their use of gestures.

Verbal Communication

1. Ask questions requiring yes/no one-word response.
2. With more verbal residents who have word-finding difficulties, encourage substitute ways of expressing meaning by asking questions like:
“What do you use it for?”
“Where is it?”
“What does it look like?”
“Why do you need it?”
3. When a resident does convey what he/she wants, in a way other than verbal, say the word for him/her.

Respect

1. Speak to the resident in an adult manner, she/he is an intelligent adult who is aware of her/his surroundings even though language function is impaired.
2. Include the resident in the conversation; don't talk as though he/she is not there, is deaf, or is mentally impaired.

LESSON PLAN: 10

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: III BODY SYSTEMS, DRUGS, AND OBSERVATIONS

EVALUATION ITEMS:

1. List three major problems encountered in drug use at home.
 - a.
 - b.
 - c.
2. Identify three major problems of drug use in the long-term care facility.
 - a.
 - b.
 - c.

Circle the letter of the best answer.

3. Which of the following techniques would not be appropriate to use with the resident who is blind?
 - a. Keep surrounding environment the same.
 - b. Speak in a loud voice.
 - c. Tell resident how many tablets you have.
 - d. Use touch to direct the resident.
4. Which of the following techniques would be appropriate to use with a confused resident?
 - a. Speak in a loud voice.
 - b. Keep surrounding environment the same.
 - c. Change the procedure every time you give a medication.
 - d. Give negative instructions such as "don't call out."
5. Name five techniques used in observation.
 - a.
 - b.
 - c.
 - d.
 - e.
6. What are three psychosocial changes that must be reported to the charge nurse?
 - a.
 - b.
 - c.

LESSON PLAN: 11

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

SCOPE OF UNIT:

Guidelines and procedures for preparation, administration, reporting, and recording of oral, ophthalmic, otic, topical, transdermal, oral metered dose inhaler, nasal, rectal, vaginal, as well as administration of oxygen by nasal cannula.

INFORMATION TOPIC: IV-11 OR DEMONSTRATION:

BASIC GUIDELINES
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Identify general principles in medication administration.
2. Identify responsibilities in preparing medications.
3. Identify responsibilities in administering medications.
4. Identify what should be reported to the charge nurse.
5. Identify information to be recorded on medication chart.
6. List the five “Rights” of medication administration.
7. Identify different medication errors.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Video Presentation “General Principles of Drug Administration in the Long-Term Care Facility.”
2. HO 29: Do Not Crush List.
3. HO 30: Incident Report Form.
4. HO 31: Guidelines for “Leave of Absence” (LOA) Medications for Long-Term Care Facilities.

INFORMATIONAL ASSIGNMENT

Read Lesson Plan 11 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

Medications are an important part of the care plan for residents in long term care facilities. Medication errors cause 7,000 deaths annually and account for 20% of all medical errors. In Missouri, the most frequent deficiencies in LTC facilities are related to medications. By following the general principles for medication administration, the risk of errors and resident injuries can be dramatically reduced.

LESSON PLAN: 11

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

OUTLINE:

- I. General Principles of Medication Administration
 - A. Concentrate on safe preparation and administration of medications. Avoid distractions and interruptions.
 - B. Wash hands or cleanse hands with antibacterial gel before preparing medication and before and after resident contact. Use gloves when necessary.
 - C. Note the diagnosis and reason for each medication.
 - D. Note resident allergies.
 - E. Know the medications – if in doubt consult the supervising nurse, reference book, pharmacist, or physician. Do not give a medication until you know
 1. Normal dosages.
 2. Expected results.
 3. Common side effects.
 4. Contraindications for use.
 5. Specific guidelines for administration (e.g., give with food; give ½ hour before meals, etc.).
 - F. Administer only medications that you have prepared.
 - G. Prepare, administer, and record medications within one hour before or after the scheduled time. If unable to complete the medication pass in the time permitted, notify the charge nurse immediately.
 - H. Review new medication orders with a licensed nurse or pharmacist before giving initial dose for verbal or telephone orders.
 - I. Know how to check the physician's order with the MAR. The order should include:
 1. Name of the drug.
 2. Dosage and form to be administered.
 3. Route of administration (if other than oral).

4. Frequency of administration.
 5. PRN orders must also include the reason to give the medication and time parameters such as “every 4 hours prn pain.” Always check with the licensed nurse before giving prn medications.
- J. Clean up after medication administration.
1. Clean medication trays, the top of the cart, inside of drawers and cabinets.
 2. Wipe up spills or drips from liquid containers paying special attention to labels.
 3. Make sure all medications are stored properly.
 4. Verify all medications are appropriately secured in a locked cart, medicine room, or cabinet.
 5. Empty the trash container on the medication cart.
 6. Restock supplies such as medicine cups or spoons as needed.

II. Five Rights of Medication Administration

To avoid medication errors, remember the five “Rights” of Medication Administration.

- A. Right resident.
- B. Right drug.
- C. Right dose.
- D. Right route.
- E. Right time.

In recent years "Right Charting" has been considered by some to be a “right” as well, however, documentation errors are viewed differently than actual errors in the administration of the medication.

III. Preparation of Medications

- A. Arrive in your work area on time and ready to begin work.
- B. Obtain report from CMT on the previous shift and the charge nurse.
- C. Complete the controlled substance count per facility policy.

- D. Wash hands or cleanse with antibacterial gel.
- E. Gather all necessary equipment such as stethoscope and BP cuff to avoid interruption.
- F. Check medication cart for supplies such as medicine cups and applesauce; restock as needed.
- G. Clean, organize and set up your work surface.
- H. Follow acceptable Infection Control guidelines.
 - 1. Wash hands or cleanse with antibacterial gel prior to preparing medications and before and after resident contact.
 - 2. Avoid touching tablets or capsules. From a container, pour into the lid then dispense into a medication cup. From a punch card, dispense directly into the medication cup.
- I. Compare label of medications bottle or unit dose package with the medication card or medication administration record (MAR). The information must match exactly.
 - 1. Check the resident's name.
 - 2. Check the name of drug, dosage form, and designated route of administration.
 - 3. Check the expiration date on the medication.
 - 4. Check the MAR for resident allergies.
 - 5. Check the label three times and compare with MAR; they must match exactly.
 - a. Check when taking the medication from storage.
 - b. Check before removing the medication from the package.
 - c. Check when returning the medication to storage.
 - 6. Always store medications in the container in which they were received from pharmacy.
 - 7. Any medication that is expired should be set aside for disposal. Medications must be destroyed in the facility by a pharmacist and a licensed nurse or two licensed nurses. Follow facility policies and regulations regarding medication disposal.

8. Return any container that is damaged, incorrect, or with illegible label to pharmacy for re-labeling.

NOTE: Only the pharmacist can put a new label on the container. The CMT is not permitted to write on the label but may apply a change of direction sticker.

9. Be cautious when reading label of look-alike or sound-alike medications.
- J. Check medication for deterioration – abnormal color, smell, or texture.
- K. Follow manufacturer’s guidelines for administration of medications. (e.g., administer on an empty stomach, resident to remain upright for 30 minutes after administration, etc.).
- L. Preparing tablets.
 1. Crushing.
 - a. A doctor’s order is required to crush medications.
 - b. Any medications appearing on the “DO NOT CRUSH” list should not be crushed (e.g., enteric coated, time released) (HO 29).
 2. Most medications can be mixed in a small amount of food (e.g., applesauce) for easier swallowing. Never place medications on the resident's meal tray.
 3. Follow the facility policy and procedure and manufacturer’s instructions for crushing medications. There are many different types of pill crushers on the market. Make sure to thoroughly clean the pill crusher before and after each use to minimize the chance of medication contamination.

CAUTION: Be certain it is not contraindicated before mixing medications with food.

- M. Preparing liquid medications.
 1. Observe the physical appearance of the product. Check the label for special handling and administration instructions such as “shake well” or “do not shake.”
 2. Remove the cap from the bottle and set it upside down on a clean surface to avoid contaminating the cap.
 3. Hold the bottle with the label next to palm of your hand so you pour out of the bottle on the opposite side of label. This prevents medication from running down the bottle and obscuring the label.

4. Use the proper measuring device: a calibrated medicine cup, dropper, or syringe.
 5. Place the medication cup on a flat surface at eye level. Read the measurement at the bottom of meniscus, the lowest point of the liquid in the cup.
 6. When liquid medications are supplied in a pre-measured cup, remove the lid carefully so as not to spill the contents.
 7. Dilute in proper liquids when required by manufacturer's guidelines (e.g., potassium chloride (KCl) liquid in juice or water).
- N. Prepare and organize tray in order of administration (traditional).
- O. Prepare and administer one resident's medications at a time (unit dose; also called modified unit dose or modified traditional).
- P. Transport medications safely. All medications should be clearly identified.
- Q. Never allow a medicine tray or unlocked medication cart out of your sight. Lock the cart if you cannot see it.
- R. Never leave medications unattended on top of the cart.
- S. Cover or close MAR to maintain privacy of the resident's records.

IV. Administration of Medications

- A. Knock on the door before entering the resident's room and wait for permission to enter.
- B. Identify yourself and explain your purpose.
- C. Identify the resident – compare with the med card or MAR.
 1. ID band.
 2. Current picture identification.
 3. Third party identifies resident.
 4. Have the resident tell you his/her name (may be done in addition to one of the above).
- D. Make necessary resident observations prior to administering medication (e.g., check apical pulse prior to dispensing digoxin or check blood pressure according to doctor's orders prior to dispensing antihypertensive).

- E. Do not dispense medication or punch medication from the bubble card until you see the resident.
 - F. Give the resident adequate water. Encourage the resident to take a drink before taking medication to lubricate throat and assist in swallowing medications.
 - G. Stay with the resident (assist as necessary) until all medications are taken.
 - 1. Verify consumption of the medication; do not delegate responsibility to another.
 - 2. Never leave medications at the resident's bedside to be taken later.
 - 3. Discard the empty medication cup in the resident's room and wash hands or use antibacterial gel before moving on to the next resident.
 - H. Administer in a systematic pattern to avoid omissions.
 - I. Administering tablets or capsules.
 - 1. Sublingual – placed under the tongue to dissolve; NO water is given.
 - 2. Buccal – placed between cheek and gum to dissolve; NO water is given.
 - 3. Lozenges – placed in the mouth to dissolve, NO water is given.
 - J. Administering liquids
 - 1. Measure carefully before giving.
 - 2. Cough medication – unless the resident is on a fluid restriction, encourage increased water intake before giving cough medication. Cough medications should be given after other ordered medications and should NOT be followed by water or other liquids.
 - K. Follow facility's policy for medication administration when resident is away from the premises.
- V. Report to the Licensed Nurse
- A. Unusual symptoms new to the resident – hold medication.
 - B. Abnormal vital signs – hold medication.
 - C. Refusal to take a medication or suspicion that resident is not swallowing medications.
 - D. Administration problems.

- E. Adverse drug reaction.
- F. Medication error.
- G. Any PRN medications given and results.

V. Principles of Medication Documentation

- A. Purposes of documentation.
 - 1. Communication tool with other healthcare team members.
 - 2. Legal document – permanent record of care the resident received.
 - 3. Reimbursement from government agencies or insurance companies.
- B. Medications should be recorded as they are dispensed to each resident by the person who administered the medication.
- C. What to record.
 - 1. Name of drug.
 - 2. Dosage and dosage form.
 - 3. Time medication was given.
 - 4. Route by which the medication was given.
 - 5. Initial and name of person administering the medication.
- D. Refusal/omission of a dose.
 - 1. Circle the time the dose should have been given and place your initials inside of the circle.
 - 2. Document why the medication was omitted on the back of the MAR.
 - 3. Notify the charge nurse of what medications were omitted and why.
- E. PRN medications.
 - 1. On front of MAR initial under the date the medication was given.
 - 2. On the back of the MAR document.
 - a. Date and time medication was given.
 - b. Name, dosage and route of medication.

- c. Why medication was given. If given for pain, include the pain scale or behavior indicators.
 - d. Results of the prn medication.
3. Signature.

VI. Medication Errors

- A. Errors may be charting or documentation errors.
 1. Inaccurate spelling of the resident's or doctor's name.
 2. Failure to record a resident's or doctor's full name on subsequent MAR or physician order sheets.
 3. No date (include month, day and year).
 4. Wrong date.
 5. Failure to record an unusual condition, symptom, reaction, or PRN results.
 6. Failure to chart medications when given.
 7. Failure to get doctor's signature on verbal orders.
 8. Failure to sign a record when required.
 9. Failure to identify initials on medication record.
 10. Failure to chart a change in a medication order.
 11. Failure to chart refusal of a medication.
- B. May be an actual medication error. Types of medication errors:
 1. Wrong resident – medication is given to the wrong person.
 2. Omission – any dose of medication that is not given as ordered by the physician.
 3. Wrong dosage – any dose that is either above or below the correct dosage.
 4. Extra dosage – any dose that is given in excess of the total number of times ordered by the physician.

5. Unordered drug – the administration of any medication not ordered for that resident.
 6. Wrong dosage form – a dosage form which is different from the form ordered by the physician.
 7. Wrong time – any medications given more than 1 hour before or after it was schedule to be given. This does not include PRN orders.
 8. Wrong route of administration – the administration of a drug by a different route than was specified by the physician (e.g., giving by mouth a drug ordered by injection).
- C. All medication errors require the completion of an incident report form (per facility policy) and should be reported to the charge nurse immediately (HO 30).

VIII. Leave of Absence Medication (HO 31)

- A. LOA medications are provided when the resident will be away from the facility at the time he/she is scheduled to receive a medication.
- B. Each facility develops a policy and procedure for providing LOA medication.
- C. Facility staff are not permitted to repackage or dispense medication.

IX. Summary and Conclusion

- A. General principles of medication administration.
- B. Preparation of medications.
- C. Administration of medications.
- D. Report to the licensed nurse.
- E. Record on medication chart.
- F. Five rights of medication administration.
- G. Medication error.

In this lesson, we've covered key points in the administration of medications that can virtually eliminate medication errors. Remember the five "RIGHTS" to medication administration, concentrate and avoid interruptions, and know about your resident and his/her drug regimen.

DO NOT CRUSH LIST

Abbreviations	TYPE	REASONS FOR THE FORMULATION
CD controlled dose		Designed to pass through the stomach intact with drug being released in the intestines to:
CR controlled release		(1) prevent destruction of drug by stomach acids
CRT controlled release tablet		(2) prevent stomach irritation
LA long acting	Enteric-coated	(3) delay onset of action
NG nasogastric		Designed to release drug over an extended period of time.
SA sustained action		Such products include:
SR sustained release		(1) multiple-layer tablets releasing drug as each layer is dissolved
TD time delayed		(2) mixed release pellets that dissolve at different time intervals
TR time release	Extended-release	(3) special matrixes that are themselves inert, but slowly release drug from the matrix
XL extended release		Designed to dissolve quickly in oral fluids for rapid absorption by the abundant blood supply of the mouth
XR extended release	Sublingual	Drugs that
		(1) produce oral mucosa irritation
		(2) are extremely bitter
		(3) contain dyes or inherently could stain teeth and mucosal tissue
	Miscellaneous	(4) drugs that, if handled without adequate protection, are potentially carcinogenic

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Aciphex	Tablet	Show-release
Accutane	Capsule	Mucous membrane irritant
Actiq	Lozenge	Show-release; NOTE: this lollipop delivery system requires the patient to slowly allow dissolution
Actonel	Tablet	Irritant; NOTE: chewed, crushed, or sucked tablets; may cause oropharyngeal irritation
Adalat CC	Tablet	Slow-release
Adderall XR	Capsule	Slow-release (a)
AeroHist Plus	Tablet	Slow-release (h)
Afeditab CR	Tablet	Slow-release
Alavert Allergy Sinus 12 Hour	Tablet	Slow-release
Allegra-D	Tablet	Slow-release
Allfen Jr	Tablet	Slow-release
Allfen Jr	Capsule	Slow-release (a)
Alprazolam ER	Tablet	Slow-release
Altoprev	Tablet	Slow-release
Ambien CR	Tablet	Slow-release
Aptivus	Capsule	NOTE: oil emulsion within spheres; taste
Aquatab C	Tablet	Slow-release (h)
Aquatab D	Tablet	Slow-release (h)
Arthrotec	Tablet	Enteric-coated
Asacol	Tablet	Slow-release
Ascriptin A/D	Tablet	Enteric-coated
Augmentin XR	Tablet	Slow-release (b,h)
Avinza	Capsule	Slow-release (a; not pudding)

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Avodart	Capsule	NOTE: drug may cause fetal abnormalities; women who are, or may become, pregnant should not handle capsules; all women should use caution in handling capsules, especially leaking capsules
Azulfidine EN-tabs	Tablet	Enteric-coated
Bayer Enteric-coated	Caplet	Enteric-coated
Bayer Low Adult	Tablet	Enteric-coated
Bayer Regular Strength	Caplet	Enteric-coated
Bellahist-D LA	Tablet	Slow-release
Biaxin-XL	Tablet	Slow-release
Bidhist	Tablet	Slow-release
Bidhist-D	Tablet	Slow-release
Biltricide	Tablet	Taste (h)
Bisa-Lax	Tablet	Enteric-coated (c)
Biohist LA	Tablet	Slow-release (h)
Bisac-Evac	Tablet	Enteric-coated (c)
Bisacodyl	Tablet	Enteric-coated (c)
Boniva	Tablet	Irritant: do not chew or suck; NOTE: potential for oropharyngeal ulceration
Bromfed PD	Capsule	Slow-release
Budeprion SR	Tablet	Slow-release
Calan SR	Tablet	Slow-release (h)
Carbatrol	Capsule	Slow-release (a)
Cardene SR	Capsule	Slow-release
Cardizem	Tablet	NOTE: although no described as slow release in the package insert, the drug has a coating that is intended to release the drug over a period of approximately 3 hours
Cardizem CD	Capsule	Slow-release
Cardizem LA	Tablet	Slow-release
Cardura XL	Tablet	Slow-release
CartiaXT	Capsule	Slow-release
Cefaclor Extended-Release	Tablet	Slow-release
Ceftin	Tablet	Taste (b); NOTE: use suspension for children
Cefuroxime	Tablet	Taste (b); NOTE: use suspension for children
CellCept	Capsule	Teratogenic potential (i)
CellCept	Tablet	Teratogenic potential (i)
Charcoal Plus	Tablet	Enteric-coated
Chlor-Trimeton 12-Hour	Tablet	Slow-release (b)
Cipro XR	Tablet	Slow-release
Claritin-D 12 Hour	Tablet	Slow-release
Claritin-D 24 Hour	Tablet	Slow-release
Colace	Capsule	Taste (e)
Colestid	Tablet	Slow-release
Concerta	Tablet	Slow-release
Commit	Lozenge	NOTE: integrity compromised by chewing or crushing

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Coreg CR	Capsule	Slow-release
Cotazym-S	Capsule	Enteric-coated (a)
Covera-HS	Tablet	Slow-release
Creon 5, 10, 20	Capsule	Slow-release (a)
Crixivan	Capsule	Taste; NOTE: Capsule may be opened and mixed with fruit puree (eg, banana)
Cymbalta	Capsule	Slow-release
Cytoxan	Tablet	NOTE: drug may be crushed by company recommends using injection
Cytovene	Capsule	Skin irritant
Dallergy	Tablet	Slow-release (b,h)
Dallergy JR	Capsule	Slow-release
Deconamine SR	Capsule	Slow-release (b)
Depakene	Capsule	Slow-release mucous membrane irritant (b)
Depakote	Tablet	Slow-release
Depakote ER	Tablet	Slow-release
Detrol LA	Capsule	Slow-release
Dilacor XR	Capsule	Slow-release
Dilatrate-SR	Capsule	Slow-release
Dilt-CD	Capsule	Slow-release
Dilt-XR	Capsule	Slow-release
Diltia XT	Capsule	Slow-release
Ditropan XL	Tablet	Slow-release
Doxidan	Tablet	Enteric-coated (c)
Drisdol	Capsule	Liquid-filled (d)
DriHist SR	Tablet	Slow-release (h)
Drixoral Cold/Allergy	Tablet	Slow-release
Drixoral Nondrowsy	Tablet	Slow-release
Drixoral Allergy Sinus	Tablet	Slow-release
Droxia	Capsule	NOTE: exposure to the powder may cause serious skin toxicities; health care workers should wear gloves to administer
Drysec	Tablet	Slow-release (h)
Dulcolax	Tablet	Enteric-coated (c)
Dulcolax	Capsule	Liquid-filled
DuraHist	Tablet	Slow-release (h)
DuraHist D	Tablet	Slow-release (h)
Duraphen II	Tablet	Slow-release (h)
Duraphen II DM	Tablet	Slow-release (h)
Duraphen Forte	Tablet	Slow-release (h)
Duratuss	Tablet	Slow-release (h)
Duratuss A	Tablet	Slow-release (h)
Duratuss PE	Tablet	Slow-release (h)
DynaCirc CR	Tablet	Slow-release
Dynex	Tablet	Slow-release (h)

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Easprin	Tablet	Enteric-coated
EC-Naproxyn	Tablet	Enteric-coated
Ecotrin Adult Low Strength	Tablet	Enteric-coated
Ecotrin Maximum Strength	Tablet	Enteric-coated
Ecotrin Regular Strength	Tablet	Enteric-coated
Ed A-Hist	Tablet	Slow-release (b)
E.E.S. 400	Tablet	Enteric-coated (b)
Effer-K	Tablet	Effervescent tablet (f)
Effervescent Potassium	Tablet	Effervescent tablet (f)
Effexor XR	Capsule	Slow-release
Efidac/24 Pseudoephedrine	Tablet	Slow-release
Efidac/24	Tablet	Slow-release
E-Myan	Tablet	Enteric-coated
Enablex	Tablet	Slow-release
Entex LA	Capsule	Slow-release (b)
Entex PSE	Capsule	Slow-release
Entocort EC	Capsule	Enteric-coated (a)
Equetro	Capsule	Slow-release (a)
Ergomar	Tablet	Sublingual form (g)
Eryc	Capsule	Enteric-coated (a)
Ery-Tab	Tablet	Enteric-coated
Erythrocin Stearate	Tablet	Enteric-coated
Erythronycin Base	Tablet	Enteric-coated
Evista	Tablet	Taste; teratogenic potential (i)
ExeFen PD	Tablet	Slow-release (h)
Extendryl JR	Capsule	Slow-release
Extendryl SR	Capsule	Slow-release (b)
Faldene	Capsule	Mucous membrane irritant
Feen-a-mint	Tablet	Enteric-coated (c)
Fentora	Tablet	NOTE: buccal tablet; swallow whole
Feosol	Tablet	Enteric-coated (b)
Feratab	Tablet	Enteric-coated (b)
Fergon	Tablet	Enteric-coated
Fero-Grad 500 mg	Tablet	Slow-release
Ferro-Sequels	Tablet	Slow-release
Flagyl ER	Tablet	Slow-release
Fleet Laxative	Tablet	Enteric-coated (c)
Flomax	Capsule	Slow-release
Focalin XR	Capsule	Slow-release (a)
Fosamax	Tablet	Mucous membrane irritant
Geocillin	Tablet	Taste
Gleevec	Tablet	Taste (h); NOTE: may be dissolved in water or apple juice
Glipizide	Tablet	Slow-release
Glucophage XR	Tablet	Slow-release

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Glucotrol XL	Tablet	Slow-release
Glumetza	Tablet	Slow-release
Guaifed	Capsule	Slow-release
Guaifed-PD	Capsule	Slow-release
Guaifenesin/Pseudoephedrine	Tablet	Slow-release
Guaifenex DM	Tablet	Slow-release (h)
Guaifenex GP	Tablet	Slow-release
Guaifenex PSE	Tablet	Slow-release (h)
Guaimax-D	Tablet	Slow-release
H9600 SR	Tablet	Slow-release
Halfprin 81	Tablet	Enteric-coated
Heartline	Tablet	Enteric-coated
Hista-Vent DA	Tablet	Slow-release (h)
Hydrea	Capsule	NOTE: exposure to the powder may cause serious skin toxicities; health care workers should wear gloves to administer
Imdur	Tablet	Slow-release (h)
Inderal LA	Capsule	Slow-release
Indocin SR	Capsule	Slow-release (a,b)
Innopran XL	Capsule	Slow-release
Invega	Tablet	Slow-release
Ionamin	Capsule	Slow-release
Isochron	Tablet	Slow-release
Isoptin SR	Tablet	Slow-release (h)
Isordil Sublingual	Tablet	Sublingual form (g)
Isosorbide Dinitrate Sublingual	Tablet	Sublingual form (g)
Isosorbide SR	Tablet	Slow-release
K+8	Tablet	Slow-release (b)
K+10	Tablet	Slow-release (b)
Kadian	Capsule	Slow-release (a); NOTE: give via NG tubes
Kaletra	Tablet	Film-coated
Kaon CL-10	Tablet	Slow-release (b)
Keppra	Tablet	Slow-release (b)
Ketek	Tablet	Slow-release (b)
Klor-Con	Tablet	Slow-release (b)
Klor-Con M	Tablet	Slow-release (b,h)
Klotrix	Tablet	Slow-release
K-Lyte	Tablet	Effervescent tablet (f)
K-Lyte CL	Tablet	Effervescent tablet (f)
K-Lyte DS	Tablet	Effervescent tablet (f)
K-Tab	Tablet	Slow-release (b)
Lescol XL	Tablet	Slow-release

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Levbid	Tablet	Slow-release (h)
Levsinex Timecaps	Capsule	Slow-release
Lexxel	Tablet	Slow-release
Lialda	Tablet	Slow-release
Lipram 4500	Capsule	Enteric-coated (a)
Lipram PN 10, 16, 20	Capsule	Enteric-coated, slow-release 9a)
Lipram UL 12, 18, 20	Capsule	Enteric-coated, slow-release (a)
Liquibid-D 1200	Tablet	Slow-release (h)
Liquibid-PD	Tablet	Slow-release (h)
Lithobid	Tablet	Slow-release
Lodrane 24	Capsule	Slow-release
LoHist 12 Hour	Tablet	Slow-release
Maxifed DM	Tablet	Slow-release (h)
Maxifed DMX	Tablet	Slow-release (h)
MAXIPHEN DM	Tablet	Slow-release (h)
Medent-DM	Tablet	Slow-release
Mestinon Timespan	Tablet	Slow-release (b)
Metadate ER	Tablet	Slow-release
Metadate CD	Capsule	Slow-release (a)
Methylin ER	Tablet	Slow-release
Micro K Extendcaps	Capsule	Slow-release (a,b)
Miraphen PSE	Tablet	Slow-release
Modane	Tablet	Enteric-coated (c)
Morphine sulfate extended-release	Tablet	Slow-release
Motrin	Tablet	Taste (e)
MS Contin	Tablet	Slow-release (b)
Mucinex	Tablet	Slow-release
Mucinex DM	Tablet	Slow-release
Muco-Fen-DM	Tablet	Slow-release (h)
Myfortic	Tablet	Slow-release
Naprelan	Tablet	Slow-release
Nasatab LA	Tablet	Slow-release (h)
Nexium	Capsule	Slow-release (a)
Niaspan	Tablet	Slow-release
Nicotinic Acid	Capsule	Slow-release (h)
Nicotinic Acid	Tablet	Slow-release (h)
Nifediac CC	Tablet	Slow-release
Nifedical XL	Tablet	Slow-release
NitroQuick	Tablet	Sublingual route (g)
Nitrostat	Tablet	Sublingual route (g)
Norpac CR	Capsule	Slow-release form within a special capsule
Ondrox	Tablet	Slow-release

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Opana ER	Tablet	Slow-release; NOTE: tablet disruption may cause a potentially fatal overdose of oxymorphone
Oracea	Capsule	Slow-release
Oramorph SR	Tablet	Slow-release (b)
Oxycontin	Tablet	Slow-release; NOTE: tablet disruption may cause potentially fatal overdose of oxycodone
Palcaps (all)	Capsule	Enteric-coated (a)
Pancrease MT	Capsule	Enteric-coated (a)
Pancrecarb MS	Capsule	Enteric-coated (a)
Pancrelipase	Capsule	Enteric-coated (a)
Panocaps	Capsule	Enteric-coated (a)
Panocaps MT	Capsule	Enteric-coated (a)
Paxil CR	Tablet	Slow-release
Pentasa	Capsule	Slow-release
PhenaVent D	Tablet	Slow-release (h)
PhenaVent LA	Capsule	Slow-release
Plendil	Tablet	Slow-release
Pre-Hist-D	Tablet	Slow-release (h)
Prevacid	Capsule	Slow-release
Prevacid Solu Tab	Tablet	Orally disintegrating; NOTE: do not swallow; dissolve in water only and dispense via dosing syringe or NT tube
Prevacid Suspension	Suspension	Slow-release; NOTE: contains enteric-coated granules; mix with water only; not for use in NG tubes
Prilosec	Capsule	Slow-release
Philosec OTC	Tablet	Slow-release
Procanbid	Tablet	Slow-release
Procardia XL	Tablet	Slow-release
Profen II	Tablet	Slow-release (h)
Profen II DM	Tablet	Slow-release (h)
Profen Forte	Tablet	Slow-release (h)
Profen Forte DM	Tablet	Slow-release (h)
Propecia	Tablet	NOTE: women who are, or may become, pregnant should not handle crushed or broken
Proquin XR	Tablet	Slow-release
Proscar	Tablet	NOTE: women who are, or may become, pregnant should not handle crushed or broken
Protonix	Tablet	Slow-release
Prozac Weekly	Tablet	Enteric-coated
Pseudo CM TR	Tablet	Slow-release (h)
Pseudovent	Capsule	Slow-release (a)
Pseudovent 400	Capsule	Slow-release (a)
Pseudovent-PED	Capsule	Slow-release 9a)
Pseudovent DM	Tablet	Slow-release (h)
PYtest	Capsule	NOTE: radiopharmaceutical
QDall	Capsule	Slow-release
QDall AR	Capsule	Slow-release

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Ralix	Tablet	Slow-release (h)
Renaex	Tablet	Slow-release
Razadyne ER	Capsule	Slow-release (b)
Renagel	Tablet	NOTE: tablets expand in liquid if broken or crushed
Rescon	Tablet	Slow-release (h)
Rescon JR	Tablet	Slow-release (h)
Rescon MX	Tablet	Slow-release (h)
Respa-1 st	Tablet	Slow-release (h)
Respa-DM	Tablet	Slow-release (h)
Respahist	Capsule	Slow-release (a)
Respaire 120 SR	Capsule	Slow-release
Respaire 60 SR	Capsule	Slow-release
Ritalin LA	Capsule	Slow-release (a)
Ritalin SR	Tablet	Slow-release
R-Tanna	Tablet	Slow-release
Rythmol SR	Capsule	Slow-release
Sinemet CR	Tablet	Slow-release (h)
SINUventPE	Tablet	Slow-release (h0)
Slo-Niacin	Tablet	Slow-release (h)
Solodyn	Tablet	Slow-release
Somnote	Capsule	Liquid-filled
Sprycel	Tablet	Film-coated; NOTE: active ingredients are surrounded by a wax matrix to prevent health care exposure; women who are, or may become, pregnant should not handle crushed or broken tablets
Stahist	Tablet	Slow-release
Strattera	Capsule	NOTE: capsule contents can cause ocular irritation
Sudafed 12 hour	Capsule	Slow-release (b)
Sudafed 24 hour	Capsule	Slow-release (b)
Sular	Tablet	Slow-release
SymaxDuotab	Tablet	Slow-release
Symax SR	Tablet	Slow-release
Taztia XT	Capsule	Slow-release 9a)
Tegretol-XR	Tablet	Slow-release
Temodar	Capsule	NOTE: if capsules are accidentally opened or damaged, rigorous precautions should be taken to avoid inhalation or contact of contents with the skin or mucous membranes (i)
Tessalon Perles	Capsule	NOTE: swallow whole; temporary local anesthesia of the oral mucosa and choking could occur
Theo-24	Capsule	Slow-release; NOTE: contains beads that dissolve throughout the GI tract
Tiazac	Capsule	Slow-release (a)
Topamax	Tablet	Taste
Toprol XL	Tablet	Slow-release (h)
Touro CC-LD	Tablet	Slow-release (h)
Touro LA-LD	Tablet	Slow-release (h)

DRUG PRODUCT	DOSAGE FORM	DOSAGE REASONS/COMMENTS
Tracleer	Tablet	NOTE: women who are, or may become, pregnant should not handle crushed or broken tablets
Trental	Tablet	Slow-release
Tylenol Arthritis	Tablet	Slow-release
Ultram ER	Tablet	Slow-release; NOTE: tablet disruption may cause a potentially fatal overdose of tramadol
Uniphyl	Tablet	Slow-release
Urocit-K	Tablet	Wax-coated
Uroxatral	Tablet	Slow-release
Valcyte	Tablet	Teratogenic and irritant potential (i)
Verapamil SR	Tablet	Slow-release (h)
Verelan	Capsule	Slow-release (a)
Verelan PM	Capsule	Slow-release (a)
VesiCare	Tablet	Enteric-coated
Videx EC	Capsule	Slow-release
Voltaren XR	Tablet	Slow-release
VoSpireER	Tablet	Slow-release
Wellbutrin SR	Tablet	Slow-release
Wellbutrin XL	Tablet	Slow-release
Xanax XR	Tablet	Slow-release
Zolinza	Capsule	NOTE: irritant; avoid contact with skin or mucous membranes; avoid contact with crushed or broken tablets
ZORprin	Tablet	Slow-release
Zyban	Tablet	Slow-release

Key:

- (a) Capsule may be opened and the contents taken without crushing or chewing; soft food such as applesauce or pudding may facilitate administration; contents may generally be administered via NG tube using an appropriate fluid provided entire contents are washed down the tube.
- (b) Liquid dosage forms of the product are available; however, dose, frequency of administration, and manufacturers may differ from that of the solid dosage form.
- (c) Antacids and/or milk may prematurely dissolve the coating of the tablet.
- (d) Capsule may be opened and the liquid contents removed for administration.
- (e) The taste of this product in a liquid form would likely be unacceptable to the patient; administration via NG tube should be acceptable.
- (f) Effervescent tablets must be dissolved in the amount of diluent recommended by the manufacturer.
- (g) Tablets are made to disintegrate under the tongue.

- (h) Tablet is scored and may be broken in half without affecting release characteristics.
- (i) Skin contact may enhance tumor production; avoid direct contact.

Disclaimer: This listing is not meant to represent all products, either by generic or trade name. The author encourages manufacturers, pharmacists, nurses, and other health professionals to notify him of any changes or updates.

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GUIDELINES FOR “LEAVE OF ABSENCE” (LOA) MEDICATIONS FOR LONG-TERM CARE FACILITIES

Medications must be provided for administration when a resident goes on a leave of absence from the facility. The facility should have policies and procedures for providing leave of absence medications that may include the following:

- The facility should inform physicians of the policies and procedures. The facility may have a policy that limits the quantity of medication sent with a resident without approval of the physician. The physician should be consulted when it is necessary to send a larger quantity if there is concern about resident or family ability to properly handle this quantity related to administering, storing, security, intentional overdose, or return of remaining medication to the facility.
- An authorized facility medication staff member should review current medication orders with the resident or responsible person. When necessary, such as when there are complex instructions or changes in dose, the staff member should provide information regarding administration in writing in addition to the medication label.
- A facility nurse should consult with the physician if a resident is a candidate for special options to accommodate routine absences such as sheltered workshops, school, or other limited absences. These options may include changes in administration times or doses, or omission of doses, when clinically appropriate.
- The facility should inform residents and their families of the policies and procedures.
- The facility should keep a record of the medications and quantities sent with the resident and returned, and the resident or responsible person should sign for the medications. This is especially important for controlled substances.
- Medications returned to the facility should be inspected to see if they are suitable for continued use. They should not be combined with medications in other containers. Containers should be identified as having been sent with the resident and should not later be returned to the pharmacy for reuse.

Facility staff are not allowed by law to repackage or dispense medications. The following options are available to provide leave of absence medications:

- An authorized facility medication staff member may send prescription medication cards or other multiple-dose prescription containers with the resident if the containers are labeled by the pharmacy with instructions for use.
- The pharmacy may provide an appropriate quantity of each medication separately packaged and labeled for home use as part of the regular monthly refill.

- The resident's family or the facility may obtain separate prescriptions for home storage, or for individual leave quantities.
- The pharmacy may provide an appropriate quantity of each medication separately packaged and labeled for a resident who attends school or a sheltered workshop. This supply may be sent with the resident and returned daily or maintained at the school or workshop. The facility is responsible to assure that medications are stored and administered properly at the school or workshop.

LESSON PLAN: 11

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

Circle the letter of the best answer.

1. Which statement is NOT a general principle of medication administration?
 - a. Concentrate when passing medications.
 - b. Know how to check physicians order with the MAR.
 - c. Prepare, administer, and record medications within one hour before or after scheduled time.
 - d. Administer medications prepared by the licensed nurse.

2. Which statement is true in regard to preparing medications?
 - a. Never shake liquid medications.
 - b. Check the label three times.
 - c. Every medication can be mixed with food.
 - d. Always crush medications for residents who have trouble swallowing.

3. Which statement is NOT true in regard to administering medications?
 - a. To save money, reuse medication cups.
 - b. Verify consumption of medication.
 - c. Identify resident with current I.D. band and medication card or MAR.
 - d. Observe resident prior to giving medication.

4. Which of the following does NOT need to be reported to licensed nurse?
 - a. Resident voided 200mL of clear amber urine.
 - b. Blood pressure of 200/120.
 - c. Complaints of dizziness.
 - d. Refusal to take a medication.

5. When should you record medications given?
 - a. Before you have prepared the medications.
 - b. Immediately after giving unit dose medications
 - c. At the end of your shift.
 - d. The licensed nurse records which medications are given.

6. The medication technician gave a resident a medication at 8:00 a.m., noon, and 8:00 p.m. The resident was scheduled to receive the medication at 8:00 a.m. and 8:00 p.m. What kind of a medication error is this?
 - a. Omissions.

- b. Wrong dosage.
 - c. Extra dose.
 - d. Wrong dosage form.
7. Failing to get the doctor's signature on verbal orders is what kind of an error?
- a. Charting error.
 - b. Omissions.
 - c. Wrong time.
 - d. Unordered drug.
8. List the 5 "rights" of medications administration.

LESSON PLAN: 12

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

SCOPE OF UNIT:

Guidelines and procedures for preparation, administration, reporting, and recording of oral, ophthalmic, otic, topical, transdermal, oral metered dose inhaler, nasal, rectal, vaginal, as well as administration of oxygen by nasal cannula.

INFORMATION TOPIC: IV-12 OR DEMONSTRATION:

SPECIAL CATEGORIES OF DRUG ADMINISTRATION
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Identify responsibilities of a medication technician in administering stat medications.
2. Identify responsibilities of a medication technician in administering PRN medication.
3. Identify responsibilities of a medication technician in administering emergency drugs.
4. Identify responsibilities of a medication technician in administering controlled drugs.
5. Identify responsibilities of a medication technician in administering stock drugs.
6. Describe parenteral drugs and why they are given.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Suggested emergency tray.
2. Controlled substance record sheets (HO 16, HO 17).
3. Routine medication record sheets (HO 14).
4. Bottles of placebo tablets to simulate controlled drugs.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 12 prior to class and be prepared to discuss the information presented.

INTRODUCTION:

There are special categories in drug administration that place certain limitations upon the medication technician. However, your observations will assist the charge nurse and the physician in the management of unusual situations which may often involve a life saving effort. This lesson deals with STAT, PRN, emergency, controlled substances, stock and parenteral drugs and the accountability systems associated with their administration.

LESSON PLAN: 12

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

OUTLINE:

I. Stat Medications

- A. Definition – a medication with an order to be given immediately.
- B. Safe preparation and administration.
 - 1. Check order on order sheet.
 - 2. Check for resident allergies.
 - 3. Complete medication card as needed.
 - 4. Review stat medication order with licensed nurse or pharmacist BEFORE giving medication.
 - 5. Prepare and administer immediately.
 - 6. Document the medication on the MAR immediately after administering.
- C. Document and report stat medications.
 - 1. Reason for administration.
 - 2. Name of the drug.
 - 3. Dosage and dosage form.
 - 4. Date and time medication given.
 - 5. Route.
 - 6. Initials and name.
 - 7. Follow-up observations when applicable.

II. PRN Medications (Stock, Individual, Controlled Drugs)

- A. Definition – a medication that is ordered to be given as needed for a specific condition within a specified time frame.

NOTE: The CMT does not administer medications when the order includes

optional dosages, “PRN” administration frequency choices or other assessment requirements except as follows:

1. After an assessment by a licensed nurse when required by the physician’s order; or
 2. Upon request of the resident. If there is a question regarding the safety of the resident’s request, the CMT shall consult with the resident’s physician, a pharmacist, or the licensed nurse.
- B. Preparation and administration.
1. Identify resident’s need.
 - a. Vital signs if required.
 - b. Symptoms or complains specifically noted.
 - c. Utilize the facility approved pain scale for complaints of pain.
 2. Check for valid PRN medication order; PRN decision made by charge nurse.
 - a. Time of last dose given.
 - b. Frequency allowed per doctor’s order.
 - c. Follow facility automatic stop order policy if applicable.
 - d. Give only for specific complaint and as ordered (e.g., if acetaminophen is ordered for an elevated temperature, it cannot be given for pain).
- C. Document and report PRN medications.
1. Reason for administration.
 2. Drug.
 3. Dosage and dosage form.
 4. Date and time.
 5. Route of administration.
 6. Initials and name of person giving medication.
 7. Notify licensed nurse of results and document on the MAR.

8. Document Follow-up observations on the MAR as required including pain scale score and alternate interventions if symptoms or complaints not resolved.

III. Emergency Drug Supply (EDS)

A. Definitions:

1. A limited number of dosage units of prescription drugs for use in a true emergency.
2. Medications available for starting doses of a drug when the pharmacy cannot provide a prescription within a reasonable time based on the resident's clinical needs at the time. May be referred to as a "Starter dose."
3. True emergency drugs may be stored separately in a sealed tray or kit.
4. Non-emergency drugs are not intended to be used routinely for new orders. The licensed nurse should determine if the resident's clinical condition requires the use of starter doses from the EDS.
5. Over-the-counter (OTC) medications.
6. Medications used to provide first aid.

B. Policy.

1. A written policy must be in place.
2. Submitting a list of prescription drugs signed by a pharmacist to the Missouri Department of Health and Senior Services for approval is **NO LONGER REQUIRED**.
3. No controlled drugs are allowed in the EDS unless the facility has a registration number from the Missouri Bureau of Narcotics and Dangerous Drugs.

C. Storage.

1. Readily accessible.
2. In a locked area.

D. Preparation and administration (EMERGENCY USE ONLY).

1. Written physician's order is required.
2. Prepare and give as ordered.

3. The medication is signed out on the EDS log per facility policy so that the correct resident is billed for the medication. The EDS card is added to the resident's regularly scheduled medications. The information required when signing out an EDS card includes:
 - a. Resident's name and room number.
 - b. Date and time.
 - c. Medication dose and strength.
 - d. Signature of person removing card from the EDS.
- E. Document and report (EDS).
1. Reason for administration.
 2. Drug.
 3. Dosage and dosage form.
 4. Date and time.
 5. Route of administration.
 6. Initials and name of person administering drug.
 7. Follow-up observations.
- F. Restocking the emergency drug supply.
1. The pharmacy will check the EDS cards monthly and replace close-dated or outdated cards as needed.
 2. If an EDS card has been used, but has not been billed to a resident, the card will be replaced and the pharmacy will bill the facility for the replacement card.
 3. When the replacement EDS cards are returned to the facility from the pharmacy, the CMT or nurse will check them in on the EDS log as replaced and initial or sign as appropriate.
 4. The CMT or nurse is responsible for returning the replacement EDS cards to the appropriate slot so that they are easily found when needed.

IV. Controlled Substances

- A. Definition – drugs subject to regulations under the Controlled Substances Act.

B. Preparation and administration.

1. Identify resident's need.
 - a. Vital signs if required.
 - b. Symptoms or Complaints specifically noted.
 - c. Utilize the facility approved pain scale for complaints of pain.
2. Check for valid prn medication order. The decision to administer a prn medication is made by the licensed nurse.
 - a. Time of last dose given.
 - b. Frequency allowed per doctor's order.
 - c. Follow facility automatic stop order policy if applicable.
 - d. Give only for specific complaint and as ordered.

C. Policy

1. Storage.
 - a. Double lock – Schedule II drugs plus other drugs per facility policy.
 - b. Different key for each lock.
 - c. Only authorized nursing and pharmacy personnel may have access to the storage area and the keys shall be in the possession and control of an authorized person at all times.
 - d. Schedule II drugs may be stored with other drugs if they are packaged in single unit dose packaging, quantities are minimal, and missing doses can be readily detected.
2. Accountability.
 - a. Drug substances count.
 - 1) Schedule II controlled substance schedule medications shall be counted and reconciled each shift.
 - 2) Schedule IV controlled substance medications shall be counted and reconciled weekly or as needed to ensure accountability.

- 3) Inventories of controlled substances shall be counted and reconciled by two (2) medication personnel, one of whom is a licensed nurse or two (2) medication personnel, one of whom is the administrator when no nurse is available.
 - 4) Records of receipt and disposition of all controlled substances must be in sufficient detail to enable reconciliation at least monthly per CMS guidelines and include the date, source of supply, resident name and prescription number when applicable, medication name and strength, quantity and signature of supplier and receiver.
 - 5) Controlled substance inventory records shall be used to verify that all scheduled medications have been counted and reconciled by the shift coming on duty and the shift going off duty. These records shall be maintained separate from other records by the facility for at least two (2) years.
 - 6) When self control of medication is approved, a record shall be made of all controlled substances transferred to and administered from the resident's room. Inventory count and reconciliation shall include controlled substances transferred to the resident's room.
- b. Losses, suspected theft, or errors in administration of controlled substances must be immediately reported to the Director of Nursing.
 - c. Report discrepancies to authorities.
 - 1) Missouri Department of Health and Senior Services section for Long-Term Care.
 - 2) Missouri Bureau of Narcotics and Dangerous Drugs for discrepancies in the EDS.
3. Destruction of controlled substances.
 - a. Documentation of waste of controlled substances at the time of administration should include the reason for the waste and the signature of the authorized employee witness.
 - b. Destruction of a contaminated dose, unused, or outdated dose may be witnessed by two (2) licensed nurses or a licensed nurse and pharmacist.
- D. Document and report on both the MAR and the individual controlled substance record.

1. Drug.
2. Dosage and dosage form.
3. Date and time.
4. Route of administration.
5. Initial and name.
6. Reason for administration if prn or stat.
7. Follow facility policy for accountability system.

V. Stock drugs

A. Definition – over-the-counter (OTC) or nonprescription drugs.

1. A list of all stock drugs should be posted in the medication room or nurses station.
2. Stock medications may be purchased in bulk sized bottles.
3. The notation “stock medication” may be written on the MAR to make it easier to locate medications during the medication pass.

B. Preparation and administration.

1. Identify resident’s need for PRN medications.
 - a. Obtain vital signs if required.
 - b. Symptoms or complaints specifically noted.
 - c. Utilize the facility approved pain scale for complaints of pain.
2. Check for a valid PRN medication order. The decision to administer a PRN medication is made by the licensed nurse.
 - a. Time of last dose given.
 - b. Frequency allowed per doctor’s order.
 - c. Follow facility automatic stop order policy if applicable.
 - d. Give only for specific complaint and as ordered.

- C. Safety precautions.
 - 1. Keep drugs in original container.
 - 2. Remove unauthorized OTC drugs from resident's bedside according to facility policy. A doctor's order is required to leave any medication at the resident's bedside.
- D. Document and report.
 - 1. Reason for administration for PRN medication.
 - 2. Drug.
 - 3. Dosage and dosage form.
 - 4. Date and time.
 - 5. Route of administration.
 - 6. Initials and name of person administering drug.
 - 7. Follow-up observations for PRN medications.

VI. Parenteral Drugs

- A. Definition – drugs not given in or through the digestive (enteral) system. Most commonly used to describe a drug given by injection (e.g., subcutaneous, intramuscular, IV). Except as noted below, the CMT is not permitted to administer medications by injection.
- B. Primary types of administration (by licensed nurse).
 - 1. Intradermal – under one layer of skin (e.g., PPD test).
 - 2. Subcutaneous – under the skin (e.g., heparin).

EXCEPTION: Insulin MAY BE administered by medication technician who has successfully completed the state-approved course for insulin administration and is permitted to administer insulin by the employing facility's policy.

- 3. Intramuscular – into a muscle (e.g., hepatitis vaccine).
 - 4. Intravenous – into a vein.
- C. Reasons for parenteral drugs.
 - 1. Rapid absorption.

2. Resident is nauseated or vomiting.
3. Mental and physical conditions.
4. Medication cannot be absorbed by GI tract or is inactivated when given orally.

VIII. Summary and Conclusion

- A. Stat drugs.
- B. PRN drugs.
- C. Emergency drug supply.
- D. Controlled substances.
- E. Stock drugs.
- F. Parenteral drugs.

The next lesson is on preparing and administering oral, ophthalmic, otic, topical, transdermal patch, oral metered dose inhaler, nasal, vaginal, and rectal medications. Also, administering oxygen by nasal cannula is covered.

LESSON PLAN: 12

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

Place an "X" in the blank provided if the following drug orders may be carried out by the medication technician, after consulting with the charge nurse.

- 1. Aspirin 650 mg. q 4h. PRN for temperature over 101R.
- 2. Demerol 50 mg. I.M. stat for abdominal pain.
- 3. Mylanta 5 mL. p.o. BID, prn; indigestion.
- 4. Nitroglycerin 0.3 mg. sublingually prn for chest pain.
- 5. Aminophylline 250 mg. I.V. stat.
- 6. Mycolog cream to left arm every 8 hours prn for itching.
- 7. Codeine 30 mg. p.o. q 4h. prn; back pain.
- 8. Cascara 5 mL h.s., prn; constipation.
- 9. Morphine sulfate 15 mg. subcutaneously q 4h. prn for pain.
- 10. Ampicillin 500 mg. p.o. stat.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

SCOPE OF UNIT:

Guidelines and procedures for preparation, administration, reporting, and recording of oral, ophthalmic, otic, topical, transdermal, oral metered dose inhaler, nasal, rectal, vaginal, as well as administration of oxygen by nasal cannula.

INFORMATION TOPIC: IV-13 OR DEMONSTRATION: IV-13

PREPARE AND ADMINISTER MEDICATIONS
(Lesson Title)

OBJECTIVES- THE STUDENT WILL BE ABLE TO:

Demonstration:

1. Prepare, administer, report, and record individual oral medications according to proper procedures.
2. Prepare, administer, report, and record ophthalmic (eye) medications according to proper procedures.
3. Prepare, administer, report, and record otic (ear) medications according to proper procedures.
4. Prepare, administer, report, and record topical medications according to proper procedures.
5. Prepare, administer, report, and record transdermal patches according to proper procedures.
6. Prepare, administer, report, and record oral metered dose inhaler medications according to proper procedures.
7. Prepare, administer, report, and record nasal medications according to proper procedures.
8. Prepare, administer, report, and record vaginal medications according to proper procedures.
9. Prepare, administer, report, and record rectal medications according to proper procedures.
10. Administer oxygen by nasal cannula according to proper procedures.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. HO 32: Medication Administration Errors.
2. HO 33: Administering Sublingual and Buccal Medications.
3. HO 34: Use of Aerosol Holding Chamber.
4. Medicine cups.
5. Medicine cards/sheets.
6. Medication samples (including suppositories).
7. Medication tray.
8. Gloves.
9. Lubricant (water-soluble).
10. Tissues.
11. Paper towels.
12. Teaching manikin.
13. Alcohol wipes.
14. Cotton balls.
15. Oxygen tank on cart with flowmeter/oxygen concentrator with flowmeter.
16. Humidifier jar.
17. Nasal cannula.
18. NO SMOKING sign.
19. Sterile distilled water.
20. Sterile applicators.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 13 prior to class and be prepared to return the demonstration on preparing and administering medications using the medication record sheets for your own facility.

INTRODUCTION:

In the preparation and administration of medications basic guidelines assure the administration of the right drug to the right resident at the right time with the right dosage, form, and route of administration. The medication technician plays an important part in maintaining the individual's optimum health by always following the steps of procedure for preparing and administering medications.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD ORAL MEDICATIONS

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies. Obtain vital signs if required.
3. Assemble equipment: medication tray, medication cups, single-use paper towel, individual medications, cups, spoons, straws, water, juice, applesauce, jelly, pudding, etc.
4. Organize medications in the order of administration. Review medication reference materials for any medications with which you are not familiar.
5. Wash hands if contaminated.
6. Remove first resident's medication bin from storage and place on work counter.
7. Check medication record/card and remove that container of medication from bin. Verify medication strength, dose and labeled direction on the medication administration record (MAR) against the label on the card or bottle.
8. Prepare medication:

Tablets and Capsules – pour into cap then into medication cup when pouring from bottle. From bubble card or other container, punch or pour directly into medication cup. Medications may be crushed according to the doctor's order and manufacturer's guidelines.

Liquids – shake liquid if it is labeled to be shaken. Holding label to palm, pour into calibrated cup at eye level.

Powders – pour into medicine cup and dilute with appropriate liquid.

Drops – measure vertically into cup and dilute with appropriate liquid.
9. Check the medication record/card and with label again.
10. Place medication card with identification on the tray with the medication.

11. Check the label against the MAR a third time and return the medication container to appropriate storage.
12. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
13. Continue same procedure until the resident's medications for that time period are prepared.
14. Return the medication bin to the storage cabinet.

CAUTION: Prepare only one resident's medications at a time.

15. Knock on the resident's door and wait for permission before entering.
16. Identify yourself, and explain your purpose as you approach the resident with the medication.
17. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.
18. Hand the medication to resident with a glass of water if needed. An adequate and appropriate amount of fluids (4-8 oz) should be offered with the medication. Be aware of residents who require thickened liquids. For medications that must be given with food, provide a small snack as permitted on the resident's diet if the medication is not being given immediately after a meal.

NOTE: The medication pass should not be interrupted.

19. Assist resident as needed.
20. Remain with resident until medication is swallowed.
21. Discard contaminated medication cup in appropriate container.
22. Wash hands.
23. Proceed to next resident.
24. When the medication pass is complete, return all equipment to medication preparation area. Report and record essential information.
25. Sanitize and store equipment.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD OPHTHALMIC (EYE) MEDICATIONS.

NOTE: This procedure must be separate from the administration of oral medications.

1. Wash hands. Using antibacterial hand cleanser is NOT appropriate when administering ophthalmic medications.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble the equipment: medication tray, medication administration record/card, medication, gloves, and tissues.
4. Check the expiration date and that medication has been opened no longer than six months. Check solution for correct color and presence of sediment. Do not use if discolored or an unusual sediment is present. Shake if the medication is a suspension. Medication should be at room temperature unless specified otherwise. New bottles of medications should be marked with the date and time it was opened.
5. Check the medication administration record/card with the label when medication is removed from the resident's individual compartment in the external storage area. Review medication reference materials for any medications with which you are not familiar.
6. Check the medication record/card and the label again.
7. Place medication card with identification on the tray with the medication.
8. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
9. Place tissues on tray.
10. Carry the tray to the resident's room.
11. Knock on the resident's door and wait for permission before entering.
12. Identify yourself, and explain your purpose as you approach the resident with the medication.
13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.

14. Position the resident (sitting or lying) with head tilted backwards.
15. Observe the affected eye(s) for unusual conditions that may need to be reported.
16. Put on gloves.
17. Cleanse the eye with a tissue, wiping for the inner corner outward. Dispose of tissue(s).

CAUTION: Use a clean tissue if other eye is to be medicated. Use another tissue if a second wiping is needed.

18. Check the medication record/card with the label.
19. Ask the resident to look upward.
20. Hold lower eyelid away from the eye to form a pouch.
 - A. For eye drops:
 - a. Instill drop into the pouch, never directly onto the center of the eyeball.
 - b. With a finger, apply pressure to the inside corner of the eye (inner canthus) for one (1) minute. If an additional drop for the same medication is to be given, wait one minute before administering the second drop. If a different medication is to be given, wait five minutes before instilling the second medication.
 - B. For eye ointments:
 - a. Apply ointment in a thin strip along the inside of the lower eyelid. If the ointment is given after an eye drop, wait five minutes after administering the drop before administering the ointment.

CAUTION: Do not contaminate the dropper or ointment by touching any part of the eye.

21. Instruct resident to close eye gently and keep eyes closed for a few minutes.

CAUTION: Warn resident not to squeeze eyelids together.

22. Blot excess medication from cheek with tissue.

CAUTION: Do not wipe medication out of eye.

23. Remove gloves and dispose in appropriate container. Wash hands.

24. Read label of medication again as it is returned to the external storage area.
25. Report unusual symptoms to licensed nurse and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD OTIC (EAR) MEDICATIONS.

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands. Use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble the equipment: medication tray, medication administration record/card, medication, gloves, and cotton balls.
4. Check the expiration date and that medication has been opened no longer than six months. Check solution for correct color and presence of sediment. Do not use if discolored or unusual sediment is present; shake suspensions. Medication should be at room temperature unless specified otherwise. New bottles of medications should be marked with the date and time it was opened.
5. Check the medication administration record/card with the label when medication is removed from the resident's individual compartment in the external storage area. Review medication reference materials for any medications with which you are not familiar.
6. Check the medication record/card with the label again.
7. Place medication card with identification on the tray with the medication.
8. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
9. Place cotton balls on tray.
10. Carry the tray to the resident's room.
11. Knock on the resident's door and wait for permission before entering.
12. Identify yourself, and explain your purpose as you approach the resident with the medication.
13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with knowledgeable third person.

14. Wash hands and put on gloves.
15. Position the resident. Lower the head of the bed if possible and turn resident's head to opposite side. If in a chair, tilt head sideways.
16. Clean the external ear with a cotton ball.
17. Observe the condition of the affected ear.
18. Read medication record/card and medication label again.
19. Draw the medication into the dropper.
20. Pull the ear lobe gently backward and upward for adults, downward, and backward for children.
21. Instill the number of drops ordered into the ear canal. Direct ear drops toward the side of the ear canal to prevent air from being trapped.

CAUTION: Do not contaminate the dropper by touching any part of the ear canal.

22. Place a clean cotton ball loosely in the ear.

CAUTION: Do not push hard on the cotton ball.

23. Instruct the resident to maintain the same position for two or three minutes.
24. Wait at least five minutes to instill drops into the other ear if both ears are to be medicated.
25. Remove and dispose of gloves properly. Wash hands.
26. Read label when returning medications to external storage area.
27. Report unusual symptoms to licensed nurse and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD TOPICAL MEDICATIONS.

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble equipment: individual medication tray, medication record/card, medicine cup, medication, clean applicators (tongue blade, cotton swab, etc.), gloves, and a small plastic trash bag.
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications with which you are not familiar.
5. Remove medication from container. If the medication is supplied in a jar, use a clean applicator to remove the amount of medication needed and place it in a medicine cup.
6. Check the label with the medication record/card again.
7. Prepare the medication and place on the same tray with identification.
8. Check the label on the container a third time.
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
10. Carry the tray to the resident's room.
11. Knock on the resident's door and wait for permission before entering.
12. Identify yourself, and explain your purpose as you approach the resident with the medication.
13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.
14. Provide for privacy.

15. Expose only the area to be treated.
16. Wash hands and put on gloves.
17. Open applicator package.
18. Observe skin for unusual symptoms.
19. Apply medication gently to skin according to doctor's orders and manufacturer's instructions.
20. Place applicator in a plastic trash bag. Dispose of trash bag according to facility policy.

CAUTION: Do not place trash bags in resident's trash can.

21. Remove gloves and wash hands.
22. Clean ointment tubes or bottles according to facility policy and return to storage.
23. Report unusual findings to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD
TRANSDERMAL PATCHES.

NOTE: This procedure must be separate from administration of oral medications.

CAUTION: Follow specific manufacturer's instructions before applying a new transdermal patch.

1. Wash hands. Use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies. Obtain vital signs if required.
3. Assemble equipment: individual medication tray, medication record/card, tissue, small plastic trash bag, transdermal patch, and two (2) pair of gloves.
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications that you are not familiar with.
5. Remove medication from container.
6. Check label with medication record/card again.
7. Prepare the medication and place on the same tray with identification.
8. Check the label on the container a third time.
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
10. Carry tray to resident's room.
11. Knock on the resident's door and wait for permission before entering.
12. Identify yourself, and explain your purpose as you approach the resident with the medication.
13. Identify resident by calling his/her name and checking ID bracelet, picture, or with knowledgeable third person.

14. Wash hands and put on gloves.
15. Position resident, exposing only the area to which the medication will be applied and explain the procedure.
16. Locate and remove any old patches.

CAUTION: Follow specific manufacturer's instructions when removing old patches.

17. Clean any residual medication from the skin with a tissue.
18. Remove gloves pulling the glove over the used Transdermal patch and place gloves and used patch in a small plastic trash bag. Dispose of the trash bag according to facility policy.

CAUTION: DO NOT PLACE IN RESIDENT'S TRASH CAN! Old Transdermal patches must be disposed of properly. They are very hazardous to children and animals. Never touch the medication on the transdermal patches.

19. Wash hands and put on gloves.
20. Open drug packet and remove disk.
22. Label Transdermal patch with date, time and your initials.
21. Apply disk to appropriate, dry, clean, and hairless site.

NOTE: Sites should be rotated to avoid irritation.

CAUTION: Apply the system promptly upon its removal from the protective pouch to prevent evaporative loss of medication. Do not use if protective pouch has been opened or damaged.

22. Remove and dispose of gloves in an appropriate container.
23. Wash hands immediately.
24. Report unusual symptoms to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT AND RECORD ORAL METERED DOSE INHALER MEDICATIONS.

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands. Use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble equipment: medication tray, medication record/card, medication, tissues, gloves, and a glass of water (if needed).
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications that you are not familiar with.
5. Remove medication from container.
6. Check label with medication record/card again.
7. Prepare the medication and place on the same tray with identification.
8. Check the label on the container a third time.
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed
10. Carry tray to resident's room.
11. Knock on the resident's door and wait for permission to enter.
12. Identify yourself and explain your purpose as you approach the resident with the medication.
13. Identify resident by calling his/her name and checking I.D. bracelet, picture, or with a knowledgeable third person.
14. Position the resident sitting or lying with head of bed elevated at least 30 degrees.
15. Remove cap from mouthpiece.

16. Shake container vigorously.
17. Position container upside down.
18. Tilt resident's head back (hyperextend) slightly.
19. Instruct resident to breathe out.
20. Closed mouth technique:
 - A. Instruct resident to close lips on inhaler and to begin inhaling slowly. Activate inhaler after resident begins inhaling.
21. Open mouth technique (optional for steroid inhalers):
 - A. Inhaler is held 1-2 inches from mouth. Activate inhaler at same time resident begins inhaling slowly.
22. Instruct resident to hold breath 5-10 seconds or as long as possible.
23. Instruct resident to breathe out slowly (generally no audible breath sounds).
24. Wait at least one minute before giving a second inhalation (if ordered) of the same medication. Shake container before each administration. If giving two different medications, wait at least 5 minutes before administering the second medication.
25. For steroid inhalers, have resident rinse mouth after use to minimize fungus overgrowth and dry mouth.

NOTE: If resident is using a bronchodilator, it should be used several minutes before the steroid is administered to enhance penetration of the steroid into the bronchial tree.

26. Wash hands.
27. Read label again as medication is returned to cart or storage area.
28. Report unusual symptoms to the licensed nurse. Report and record essential information.

NOTE: Follow manufacturer's instructions for administration of discus inhalers such as Advair.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: PREPARE, ADMINISTER, REPORT, AND RECORD NASAL MEDICATIONS

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble equipment: medication tray, medication record/card, medication, tissues, alcohol wipes, and gloves.
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications that you are not familiar with.
5. Remove medication from container.
6. Check label with medication record/card again.
7. Prepare the medication and place on the same tray with identification. New pumps should be opened and primed prior to initial use.
8. Check the label on the container a third time.
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed. Alternate nostrils and record nostril used on MAR.
10. Place tissues and alcohol wipes on the tray.
11. Carry tray to the resident's room.
12. Knock on the resident's door and wait for permission before entering.
13. Identify yourself and explain your purpose as you approach the resident with the medication.
14. Identify the resident by calling his/her name and checking I.D. bracelet, picture, or with a knowledgeable third person.
15. Wash hands and put on gloves.

16. Observe for nasal secretions. Instruct resident to blow nose gently and wipe clean.
17. Position the resident:
 - A. Lying down for nose drops.
 - B. Sitting up for nasal spray with head tilted back slightly.
18. Read medication record/card and medication label again.
19. Administer the dosage:
 - a. Drop the number of drops into the nose toward the septum without touching the nasal membrane.
 - b. Insert spray nozzle gently into the nose and spray.
20. Wipe away excess medication with tissue.
21. Instruct resident NOT to blow nose or sniff for a few minutes.
22. Wipe nozzle of spray with alcohol wipe.
23. Remove and dispose of gloves properly. Wash hands.
24. Read label again when returning the medication to external storage area.
25. Report unusual symptoms to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURES: PREPARE, ADMINISTER, REPORT, AND RECORD VAGINAL MEDICATIONS

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble equipment: medication tray, medication record/card, medication, tissues, gloves, water soluble lubricant (if needed), tissues, and paper towels.
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications that you are not familiar with.
5. Remove medication from container.
6. Check label with medication record/card again.
7. Prepare the medication and place on the same tray with identification.
8. Check the label on the container a third time.
9. Squeeze small amount of water-soluble lubricant on paper towel (if needed).
10. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
11. Read label again when returning the medication container to the external storage area.
12. Carry tray to resident's room.
13. Knock on the resident's door and wait for permission to enter.
14. Identify yourself, and explain your purpose as you approach the resident with the medication.
15. Identify resident by calling her name and checking ID bracelet, picture, or with knowledgeable third person.

16. Provide privacy.
17. Position resident on back with knees raised or in another appropriate position and cover the legs to provide warmth.
18. Remove wrapper from suppository or applicator.
19. Lubricate suppository or applicator (if necessary).
20. Ask resident to relax and breathe deeply.
21. Retract labia exposing vaginal orifice with one hand. Observe for any unusual symptoms or drainage.
22. Insert applicator or suppository into the full length of the vagina.
23. Remove applicator slowly.
24. Wipe excess lubricant from vagina with tissues.
25. Dispose of disposable applicator, tissues, and paper towels according to facility policy.
26. If using a reusable applicator, clean applicator according to manufacturer's guidelines.
27. Remove gloves and dispose of in a appropriate container; wash hands.
28. Return reusable applicator to external storage area.
29. Report unusual symptoms to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURES: PREPARE, ADMINISTER, REPORT AND RECORD RECTAL MEDICATIONS.

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.
3. Assemble equipment: medication tray, medication record/card, medication, gloves, water soluble lubricant, tissues, paper towels.
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications that you are not familiar with.
5. Remove medication from container.
6. Check label with medication record/card again.
7. Prepare the medication and place on the same tray with identification.
8. Check the label on the container a third time.
9. Squeeze small amount of water-soluble lubricant on paper towel.
10. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.
11. Read label again when returning the medication container to external storage area.
12. Carry tray to resident's room.
13. Knock on the resident's door and wait for permission to enter.
14. Identify yourself, and explain your purpose as you approach the resident with the medication.
15. Identify resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.

16. Provide privacy.
17. Wash hands and put on gloves.
18. Position resident on left side and expose only the buttocks area. Note: make sure resident is clean of urine or feces. If necessary, provide peri care. If peri-care is given, remove gloves, wash hands, and put on clean gloves for administration.
19. Remove wrapper from suppository.
20. Lubricate suppository or applicator.
21. Ask resident to relax and to breathe through mouth. Explain to resident that he/she will feel pressure on the rectum but that he/she should not try to push or defecate.
22. Separate buttocks and insert suppository into rectum beyond the sphincter and against rectal wall (up to middle joint of finger).

CAUTION: Do not embed suppository into fecal material.

23. Remove finger.
24. Wipe excess lubricant from anus.
25. Remove gloves and discard in appropriate container.
26. Wash hands.
27. Make the resident comfortable with the call light within reach.
28. Observe resident every five to ten minutes following insertion for results if necessary for medication administered.
29. Report unusual symptoms to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: IV PREPARATION AND ADMINISTRATION

PROCEDURE: ADMINISTER OXYGEN BY NASAL CANNULA.

NOTE: This procedure must be separate from administration of oral medications.

1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.
2. Review and verify medication administration records/medication cards with physician's order according to facility policy.
3. Assemble equipment: O₂ tank on cart or oxygen concentrator with flowmeter, nasal cannula, humidifier (if needed), Oxygen in Use/NO SMOKING sign, and sterile distilled water.
4. If a humidifier is needed, fill humidifier to mark with sterile distilled water unless otherwise ordered. A humidifier is not usually required if the resident is receiving oxygen at less than 3L/min.
5. Take equipment to the resident.
6. Knock on the resident's door and wait for permission to enter.
7. Identify yourself, and explain your purpose as you approach the resident.
8. Identify the resident by calling name and checking ID bracelet, picture, or with a knowledgeable third person.
9. Place oxygen tank or oxygen concentrator at the bedside near the head of the bed.

CAUTION: Anchor tanks according to facility policy.

10. Connect cannula and tubing to oxygen system.
11. Turn the system on and set flow rate at number of liters per minute as ordered by physician.

NOTE: Make sure oxygen is flowing through the cannula.

12. Place the tips of the cannula in the resident's nose.

CAUTION: Tips should not extend into the nose more than one inch.

13. Adjust tubing to resident's comfort, snug enough to secure the cannula in the

nose but not tight enough to cause pressure on the resident's ears.

14. Adjust the flow rate as ordered.
15. Check vital signs if ordered and observe for unusual symptoms.
16. Post the NO SMOKING sign in sight of visitors and the resident and instruct them not to smoke.
17. Observe resident frequently for:
 - A. Proper rate of flow.
 - B. Proper adjustment of cannula tubing.
 - C. Condition of skin under cannula tubing.
 - D. Shortness of breath or difficulty breathing.
 - E. Change in mental status.
18. Report unusual symptoms to the licensed nurse. Report and record essential information.

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

PREPARE, ADMINISTER, REPORT, AND RECORD ORAL MEDICATIONS

EQUIPMENT:

1. Medicine cups
2. Medicine records/cards
3. Medication
4. Medication tray
5. Water glasses
6. Spoons
7. Straws
8. Paper towels
9. Water/juice in a covered pitcher
10. Applesauce/jelly/pudding in a covered container marked with the date opened

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/cards with physician's order according to facility policy. Check for allergies. Obtain vital signs if required.		
3. Assemble equipment: medication tray, medication cups, single-use paper towel, individual medications, cups, spoons, straws, water, juice, applesauce, jelly, pudding, etc.		
4. Organize medications in the order of administration. Review medication reference materials for any medications with which you are not familiar.		
5. Wash hands if contaminated.		
6. Remove first resident's medication bin from storage and place on work counter.		
7. Check medication record/card and remove that container of medication from bin. Verify medication strength, dose and labeled direction on the medication administration record (MAR) against the label on the card or bottle.		

8. Prepare medication: <u>Tablets and capsules</u> – Pour into cap then into medication cup when pouring from bottle. From bubble card or other container, punch or pour directly into medication cup. Medications may be crushed according to the doctor’s order and manufacturer’s guidelines. <u>Liquids</u> – shake liquid if it is labeled to be shaken. Holding label to palm, pour into calibrated cup at eye level. <u>Powders</u> – Pour into medicine cup and dilute with appropriate liquid. <u>Drops</u> – Measure vertically into cup and dilute with appropriate liquid.		
9. Check medication record/card with the label again.		
10. Place medication card and identification on the medicine tray.		
11. Check the label against the MAR a third time and return the medication container to appropriate storage.		
12. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
13. Continue same procedure until the resident’s medications for the time period are prepared.		
14. Return the medication bin to the storage cabinet.		
CAUTION: Prepare only one resident’s medications at a time.		
15. Knock on the resident’s door and wait for permission before entering.		
16. Identify yourself, and explain your purpose as you approach the resident with the medication.		
17. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
18. Hand the medication to resident with a glass of water if needed. An adequate and appropriate amount of fluids (4-8 oz) should be offered with the medication. Be aware of residents who require thickened liquids. For medications that must be given with food, provide a small snack as permitted on the resident’s diet if the medication is not being given immediately after a meal.		
NOTE: The medication pass should not be interrupted.		
19. Assist resident as needed.		
20. Remain with resident until medication is swallowed.		
21. Discard contaminated medication cup in appropriate container.		
22. Wash hands.		
23. Proceed to next resident.		
24. When the medication pass is complete, return all equipment to medication preparation area. Report and record essential information.		
25. Sanitize and store equipment.		

The student has satisfactorily completed the procedure “PREPARE, ADMINISTER, REPORT, AND RECORD ORAL MEDICATIONS” according to the steps outlined.

Instructor’s Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

**PREPARE, ADMINISTER, REPORT, AND RECORD
OPHTHALMIC MEDICATIONS**

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medication
4. Tissues
5. Gloves

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands. Using antibacterial hand cleanser is NOT appropriate when administering ophthalmic medications.		
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.		
3. Assemble the equipment: medication tray, medication administration record/card, medication, gloves, and tissues.		
4. Check that medication has been opened no longer than six months. Check solution for correct color and presence of sediment. Do not use if discolored or an unusual sediment is present. Shake if the medication is a suspension. Medication should be at room temperature unless specified otherwise. New bottles of medications should be marked with the date and time it was opened.		
5. Check the medication record/card with the label when medication is removed from the resident's individual compartment in the external storage area. Review medication reference materials for any medications with which you are not familiar.		
6. Check the medication record/card and the label again.		
7. Place the medication card with identification on the tray with the medication.		
8. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
9. Place tissues on tray.		
10. Carry the tray to the resident's room.		
11. Knock on the resident's door and wait for permission before entering.		
12. Identify yourself, and explain your purpose as you approach the resident with the medication.		

13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
14. Position the resident (sitting or lying) with head tilted backward.		
15. Observe the affected eye(s) for unusual conditions that may need to be reported.		
16. Wash hands and put on gloves.		
17. Cleanse the eye with a tissue, wiping for the inner corner outward. Dispose of tissue(s). CAUTION: Use a clean tissue if other eye is to be medicated. Use another tissue if a second wiping is needed.		
18. Check the medication record/card with the label.		
19. Ask the resident to look upward.		
20. Hold lower eyelid away from the eye to form a pouch. A. For eye drops: a. Instill drop into the pouch, never directly onto the center of the eyeball. b. With a finger, apply pressure to the inside corner of the eye (inner canthus) for one (1) minute. If an additional drop for the same medications to be given, wait one minute before administering the second drop. If a different medication is to be given, wait five minutes before instilling the second eye drop. B. For eye ointments: a. Apply ointment in a thin strip along the inside of the lower eyelid. If the ointment is given after an eye drop, wait five minutes after administering the drop before administering the ointment. CAUTION: Do not contaminate the dropper or ointment by touching any part of the eye.		
21. Instruct resident to close eyes gently and keep eyes closed for a few minutes. CAUTION: Warn resident not to squeeze eyelids together.		
22. Blot excess medication from cheek with tissue. CAUTION: Do not wipe medication out of eye.		
23. Remove gloves and dispose in appropriate container. Wash hands.		
24. Read label of medication again as it is returned to the external storage area.		
25. Report unusual symptoms to licensed nurse and record essential information.		

The student has satisfactorily completed the procedure “PREPARE, ADMINISTER, REPORT, AND RECORD OPHTHALMIC MEDICATIONS” according to the steps outlined.

Instructor’s Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

PREPARE, ADMINISTER, REPORT, AND RECORD OTIC MEDICATIONS

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medication
4. Cotton balls
5. Gloves.

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands. Use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.		
3. Assemble the equipment: medication tray, medication administration record/card, medication, gloves, and cotton balls.		
4. Check the expiration date and that medication has been opened no longer than six months. Check solution for correct color and presence of sediment. Do not use if discolored or unusual sediment is present; shake suspensions. Medication should be at room temperature unless specified otherwise. New bottles of medications should be marked with the date and time it was opened.		
5. Check the medication administration record/card with the label when medication is removed from the resident's individual compartment in the external storage area. Review medication reference materials for any medications with which you are not familiar.		
6. Check the medication record/card with the label again.		
7. Place medication card with identification on the tray with the medication.		
8. Document the medication on the MAR according to facility policy making sure that the MAR is signed.		
9. Place cotton balls on tray.		
10. Carry the tray to the resident's room.		
11. Knock on the resident's door and wait for permission before entering.		
12. Identify yourself, and explain your purpose as you approach the resident with the medication.		

13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with knowledgeable third person.		
14. Wash hands and put on gloves.		
15. Position the resident. Lower the head of the bed if possible and turn resident's head to opposite side. If in a chair, tilt head sideways.		
16. Clean the external ear with a cotton ball.		
17. Observe the condition of the affected ear.		
18. Read medication record/card and medication label again.		
19. Draw the medication into the dropper.		
20. Pull the ear lobe gently backward and upward for adults, downward, and backward for children.		
21. Instill the number of drops ordered in the ear canal. Direct ear drops toward the side of the ear canal to prevent air from being trapped. CAUTION: Do not contaminate the dropper by touching any part of the ear canal.		
22. Place a clean cotton ball loosely in the ear. CAUTION: Do not push hard on the cotton ball.		
23. Instruct the resident to maintain the same position for two to three minutes.		
24. Wait at least five minutes to instill drops into the other ear if both ears are to be medicated.		
25. Remove and dispose of gloves properly. Wash hands.		
26. Read label when returning medications to external storage area.		
27. Report unusual symptoms to licensed nurse and record essential information.		

The student has satisfactorily completed the procedure "PREPARE, ADMINISTER, REPORT, AND RECORD OTIC MEDICATIONS" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

PREPARE, ADMINISTER, REPORT, AND RECORD TOPICAL MEDICATIONS

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medicine cup
4. Medication
5. Clean applicators (tongue blade, cotton swab, etc.)
6. Gloves
7. Small plastic trash bag

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/cards with physician's orders according to facility policy. Check for allergies.		
3. Assemble equipment: individual medication tray, medication record/card, medicine cup, medication, clean applicators (tongue blade, cotton swab, etc.), gloves, and a small plastic trash bag.		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications with which you are not familiar.		
5. Remove medication from container. If the medication is supplied in a jar, use a clean applicator to remove the amount of medication needed and place it in a medicine cup.		
6. Check label with medication record/card again.		
7. Prepare the medication and place on the same tray with identification.		
8. Check the label on the container a third time.		
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
10. Carry the tray to the resident's room.		
11. Knock on the resident's door and wait for permission before entering.		
12. Identify yourself, and explain your purpose as you approach the resident with the medication.		

13. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
14. Provide for privacy.		
15. Expose only the area to be treated.		
16. Wash hands and put on gloves.		
17. Open applicator package.		
18. Observe skin for unusual symptoms.		
19. Apply medication gently to skin according to doctor's orders and manufacturer's instructions.		
20. Place applicator in a plastic trash bag. Dispose of trash bag according to facility policy.		
CAUTION: Do not place trash bags in resident's trash can.		
21. Remove gloves and wash hands.		
22. Clean ointment tubes and applicators or bottles according to facility policy and return to storage.		
25. Report unusual findings to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure 'PREPARE, ADMINISTER, REPORT, AND RECORD TOPICAL MEDICATIONS' according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

**PREPARE, ADMINISTER, REPORT, AND RECORD
TRANSDERMAL PATCHES**

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medication (Transdermal patch)
4. 2 pair of gloves.
5. Tissues
6. Small plastic trash bag

NOTE: This procedure must be separate from administration of oral medications.

CAUTION: Follow specific manufacturer's instructions before applying a new transdermal patch.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands. Use facility approved antibacterial hand cleanser if hand-washing facilities are not available.		
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies. Obtain vital signs if required.		
3. Assemble equipment: individual medication tray, medication record/card, tissue, small plastic trash bag, transdermal patch, and two (2) pair of gloves.		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medication with which you are not familiar.		
5. Remove medication from container.		
6. Check label with medication record/card again.		
7. Prepare the medication and place on the same tray with identification.		
8. Check the label on the container a third time.		
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
10. Carry tray to resident's room.		
11. Knock on the resident's door and wait for permission before entering.		
12. Identify yourself, and explain your purpose as you approach the resident with the medication.		

13. Identify resident by calling his/her name and checking ID bracelet, picture or with knowledgeable third person.		
14. Wash hands and put on gloves.		
15. Position resident, exposing only the area to which the medication will be applied and explain the procedure.		
16. Locate and remove any old patches. CAUTION: Follow specific manufacturer's instructions when removing old patches.		
17. Clean any residual medication from the skin with a tissue.		
18. Remove gloves pulling the glove over the use Transdermal patch and place gloves and used patch in a small plastic trash bag. Dispose of the trash bag according to facility policy. CAUTION: DO NOT PLACE IN RESIDENT'S TRASH CAN! Old Transdermal patches must be disposed of properly. They are very hazardous to children and animals. Never touch the medication on the transdermal patches.		
19. Wash hands and put on gloves.		
20. Open drug packet and remove disk.		
21. Label Transdermal patch with date, time, and your initials.		
22. Apply disk to appropriate, dry, clean, and hairless site. NOTE: Sites should be rotated to avoid irritation. CAUTION: Apply the system promptly upon its removal from the protective pouch to prevent evaporative loss of medication. Do not use if Protective pouch has been opened or damaged.		
23. Remove and dispose of gloves in an appropriate container.		
24. Wash hands immediately.		
25. Report unusual symptoms to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure "PREPARE, ADMINISTER, REPORT, AND RECORD TRANSDERMAL PATCHES" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS: NAME OF STUDENT: _____

**PREPARE, ADMINISTER, REPORT, AND RECORD ORAL
METERED DOSE INHALER MEDICATIONS**

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medication
4. Gloves
5. Tissues
6. Glass of water if needed

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands. Use facility approved antibacterial hand cleanser if hand-washing facilities are not available.		
2. Review and verify medication administration records/medication cards with physician's order according to facility policy. Check for allergies.		
3. Assemble equipment: medication tray, medication record/card, medication, tissues, gloves, glass of water (if needed).		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications with which you are not familiar.		
5. Remove medication from container.		
6. Check label with medication record/card again.		
7. Prepare the medication and place on the same tray with identification.		
8. Check the label on the container a third time.		
9. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
10. Carry the tray to resident's room.		
11. Knock on the resident's door and wait for permission to enter.		
12. Identify yourself and explain your purpose as you approach the resident with the medication.		
13. Identify resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
14. Position the resident sitting or lying with head of bed elevated at least 30 degrees.		
15. Remove cap from mouthpiece.		

16. Shake container vigorously.		
17. Position container upside down.		
18. Tilt resident's head back (hyperextend) slightly.		
19. Instruct resident to breathe out.		
20. Closed mouth technique: A. Instruct resident to close lips on inhaler and to be inhaling slowly. Activate inhaler after resident begins inhaling.		
21. Open mouth technique (optional for steroid inhalers): A. Inhaler is held 1-2 inches from mouth. Activate inhaler at same time resident begins inhaling slowly.		
22. Instruct resident to hold breath 5-10 seconds or as long as possible.		
23. Instruct resident to breathe out slowly (generally no audible breath sounds).		
24. Wait at least one minute before giving a second inhalation (if ordered) of the same medication. Shake container before each administration. If giving two different medications, wait at least 5 minutes before administering the second medication.		
25. For steroid inhalers, have resident rinse mouth after use to minimize fungus overgrowth and dry mouth. NOTE: If resident is using a bronchodilator, it should be used several minutes before the steroid is administered to enhance penetration of the steroid into the bronchial tree.		
27. Wash hands.		
28. Read label again as medication is returned to cart or storage area.		
29. Report unusual symptoms to the licensed nurse. Report and record essential information. NOTE: Follow manufacturer's instructions for administration of discus inhalers such as Advair.		

The student has satisfactorily completed the procedure "PREPARE, ADMINISTER, REPORT, AND RECORD ORAL METERED DOSE INHALER MEDICATIONS" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

PREPARE, ADMINISTER, REPORT, AND RECORD NASAL MEDICATIONS

EQUIPMENT

1. Medication tray
2. MAR/Medication card
3. Medication
4. Tissues
5. Gloves
6. Alcohol wipes

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/cards with physician's orders according to facility policy. Check for allergies.		
3. Assemble equipment: medication tray, medication record/card, medication, tissues, alcohol wipes, and gloves.		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications with which you are not familiar.		
5. Remove medication from container.		
7. Check label with medication record/card again.		
8. Prepare the medication and place on the same tray with identification. new pumps should be opened and primed prior to initial use.		
9. Check the label on the container a third time.		
10. Document the medication on the MAR according to facility policy, making sure that the MAR is signed. Alternate nostrils and record nostril treated on MAR.		
11. Place tissues and alcohol wipes on the tray.		
12. Carry tray to the resident's room.		
13. Knock on the resident's door and wait for permission before entering.		
14. Identify yourself and explain your purpose as you approach the resident with the medication.		
15. Identify the resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
16. Wash hands and put on gloves.		

17. Observe for nasal secretions. Instruct resident to blow nose gently and wipe clean.		
18. Position the resident: A. Lying down for nose drops. B. Sitting up for nasal spray with head tilted back slightly.		
19. Read medication record/card and medication label again.		
20. Administer the dosage: A. Drop the number of drops into the nose toward the septum without touching the nasal membrane. B. Insert nasal spray nozzle gently into the nose and spray.		
21. Wipe away excess medication with tissue.		
22. Instruct resident NOT to blow nose or sniff for a few minutes.		
23. Wipe nozzle of spray with alcohol wipe.		
24. Remove and dispose of gloves properly. Wash hands immediately.		
25. Read label again with returning the medication to external storage area.		
26. Report unusual symptoms to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure “PREPARE, ADMINISTER, REPORT, AND RECORD NASAL MEDICATIONS” according to the steps outlined.

Instructor’s Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

**PREPARE, ADMINISTER, REPORT, AND RECORD
VAGINAL MEDICATIONS**

EQUIPMENT:

1. Medication tray
2. MAR/Medication card
3. Medication
4. Water soluble lubricant
5. Medication cup
6. Paper towels
7. Tissues
8. Gloves

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication record/card with physician's order according to facility policy. Check for allergies.		
3. Assemble equipment: medication tray, medication record/card, medication, tissues, gloves, water soluble lubricant, tissues and paper towels.		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area.. Review medication reference materials for any medications with which you are not familiar.		
5. Remove medication from container.		
6. Check label with medication record/card again.		
7. Prepare the medication and place on the same tray with identification.		
8. Check the label on the container a third time.		
10. Squeeze small amount of water-soluble lubricant on paper towel (if needed).		
11. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
12. Read label again when returning the medication container to the external storage area.		
13. Carry tray to resident's room.		
14. Knock on the resident's room and wait for permission to enter.		

15. Identify yourself, and explain your purpose as you approach the resident with the medication.		
16. Identify resident by calling her name and checking ID bracelet, picture, or with knowledgeable third person.		
17. Provide privacy.		
18. Position resident on back with knees raised or in another appropriate position and cover the legs to provide warmth.		
19. Remove wrapper from suppository or applicator.		
20. Lubricate suppository or applicator (if needed).		
21. Ask resident to relax and breathe deeply.		
22. Retract labia expose vaginal orifice with one hand. Observe for any unusual symptoms or drainage.		
23. Insert applicator or suppository into the full length of the vagina.		
24. Remove applicator slowly.		
25. Wipe excess lubricant from vagina with tissues.		
26. Dispose of disposable applicator, tissues, and paper towels according to facility policy.		
27. If using a reusable applicator, clean applicator according to manufacturer's guidelines.		
28. Remove gloves and dispose of in an appropriate container; wash hands.		
29. Return reusable applicator to external storage area.		
30. Report unusual symptoms to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure “PREPARE, ADMINISTER, REPORT, AND RECORD VAGINAL MEDICATIONS” according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

PREPARE, ADMINISTER, REPORT, AND RECORD RECTAL MEDICATIONS

EQUIPMENT:

1. Medication tray
2. MAR/Medication record
3. Medication
4. Gloves
5. Water-soluble lubricant
6. Tissues
7. Paper towels
8. Medication cup

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/cards with physician's order according to facility policy. Check for allergies.		
3. Assemble equipment: medication tray, medication record/card, medication, gloves, water soluble lubricant, tissues, paper towels.		
4. Check medication record/card with label when removing medication from resident's individual compartment in external storage area. Review medication reference materials for any medications you are not familiar with.		
5. Remove medication from container.		
7. Check label with medication record/card again.		
8. Prepare the medication and place on the same tray with identification.		
9. Check the label on the container a third time.		
10. Squeeze small amount of water-soluble lubricant on paper towel.		
11. Document the medication on the MAR according to facility policy, making sure that the MAR is signed.		
12. Read label again when returning the medication container to the external storage area.		
13. Carry tray to resident's room.		
14. Knock on the resident's door and wait for permission to enter.		
15. Identify yourself, and explain your purpose as your approach the resident with the medication.		

16. Identify resident by calling his/her name and checking ID bracelet, picture, or with a knowledgeable third person.		
17. Provide privacy.		
18. Wash hands and put on gloves.		
19. Position resident on left side and expose only the buttocks area. Note: make sure resident is clean of urine or feces. If necessary, provide peri care. If peri-care is given, remove gloves, wash hands, and put on clean gloves for administration.		
20. Remove wrapper from suppository or applicator.		
21. Lubricate suppository or applicator.		
22. Ask resident to relax and to breathe through mouth. Explain to resident that he/she will feel pressure on the rectum but that he/she should not try to push or defecate.		
23. Separate buttocks and insert suppository into rectum beyond the sphincter and against rectal wall (up to middle joint of finger). CAUTION: Do not embed suppository into fecal material.		
24. Remove finger.		
25. Wipe excess lubricant from anus.		
26. Remove gloves and discard in appropriate container.		
27. Wash hands.		
28. Make the resident comfortable with the call light within reach.		
29. Observe resident every five to ten minutes following insertion for results if necessary for medication administered.		
30. Report unusual symptoms to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure “PREPARE, ADMINISTER, REPORT, AND RECORD RECTAL MEDICATIONS” according to the steps outlined.

Instructor’s Signature
(Verifying Satisfactory Completion)

Date

LESSON PLAN: 13

COURSE TITLE: MEDICATION TECHNICIAN

UNIT IV: PREPARATION AND ADMINISTRATION

EVALUATION ITEMS:

NAME OF STUDENT: _____

ADMINISTER OXYGEN BY NASAL CANNULA

EQUIPMENT:

1. MAR/Medication card
2. Oxygen tank on cart or concentrator with flowmeter
3. Humidifier jar, if ordered
4. Nasal cannula
5. Oxygen in use/NO SMOKING sign
6. Sterile distilled water or other solution (if needed)

NOTE: This procedure must be separate from administration of oral medications.

CHECK IF THE STUDENT DID THE FOLLOWING	YES	NO
1. Wash hands or use facility approved antibacterial hand cleanser if handwashing facilities are not available.		
2. Review and verify medication administration records/cards with physician's order according to facility policy.		
3. Assemble equipment: O ₂ tank on cart or oxygen concentrator with flowmeter, nasal cannula, humidifier, Oxygen in Use/NO SMOKING sign, and sterile distilled water (if needed).		
4. If a humidifier is needed, fill humidifier to mark with sterile distilled water unless otherwise ordered. A humidifier is not usually required if the resident is receiving oxygen at less than 3L/min.		
5. Take equipment to the resident's room.		
6. Identify yourself, and explain your purpose as you approach the resident.		
7. Identify the resident by calling his/her name and checking ID tag, picture, or with knowledgeable third person.		
8. Place oxygen tank or concentrator at the bedside near the head of bed. CAUTION: Anchor tanks according to facility policy.		
9. Connect cannula and tubing to oxygen system.		
10. Turn the system on and set flow rate at number of liters per minute as ordered by the physician. NOTE: Make sure oxygen is flowing through the cannula.		
11. Place tips of cannula into the resident's nose. CAUTION: Tips should not extend into the nose more than one inch.		

12. Adjust tubing to resident's comfort, snug enough to secure the cannula in the nose but not tight enough to cause pressure on the resident's ears.		
13. Adjust flow rate as ordered.		
14. Check vital signs and observe for unusual symptoms.		
15. Post the NO SMOKING sign in sight of visitors and the resident and instruct them not to smoke.		
16. Observe resident frequently for: a. Proper rate of flow. b. Proper adjustment of cannula tubing. c. Condition of skin under cannula tubing. d. Shortness of breath or difficulty breathing. e. Change in mental status.		
17. Report unusual symptoms to the licensed nurse. Report and record essential information.		

The student has satisfactorily completed the procedure "ADMINISTER OXYGEN BY NASAL CANNULA" according to the steps outlined.

Instructor's Signature
(Verifying Satisfactory Completion)

Date

MEDICATION ADMINISTRATION ERRORS

Medication safety is a significant part of the overall concern about the safety of the U.S. healthcare system. In 1999 the Institute of Medicine (IOM) released a report titled “To Err Is Human: Building a Safer Health System.” The report estimated that medication errors cause 7,000 deaths annually. In Missouri the most frequently cited deficiency during Medicare certification surveys of LTCFs includes problems with communication of physician orders and medication administration records.

Many factors contribute to medication errors. This document provides examples of typical medication errors, and hazards that may lead to errors, based on medication orders and medication labeling. The examples may not all be applicable to the LTCF setting, but illustrate potential hazards that may occur with other medications.

Liquid Dosage Forms

Liquid products provide potential hazards for many reasons, including:

- The order may specify only a volume dose rather than a mg dose
- The strength or concentration may not be specified in the order, and multiple concentrations may be available
- Droppers or other dosing implements may be marked specifically for one product and are not interchangeable with others
- Products of the same concentration may be labeled and packaged differently
- The prescriber may incorrectly use a term such as elixir, syrup, solution, drops or concentrate that implies a specific product or concentration
- Labeling on the package may not clearly identify the product
- Different concentrations may be dispensed for orders written at different times

Because of the hazards of multiple concentrations and multiple types of preparations, orders should always include the specific mg dose to be administered. The order should include the specific concentration or brand name to be used when either of these is an important factor for dispensing or administering. Pharmacy labeling should always include the concentration.

Other reported errors in administering liquids due to misreading orders or labels also include:

- Administer as teaspoonful(s) when ordered as mL
- Administer as mL when ordered as mg
- Administer ten-fold overdose when order written without “leading zero” in front of decimal point (written .5 mL instead of 0.5 mL, administer 5 mL)
- Administer ten-fold overdose when order written with “trailing zero” after decimal point (written 1.0 mL instead of 1 mL, administer 10 mL)
- Unit dose cups of different drugs from the same manufacturer, especially generic labeled drugs, often have very similar labels and are the same physical size. Different dose quantities of the same drug are also packaged in the same physical size containers.

Opioid (narcotic) liquid products, primarily morphine and oxycodone, have been involved in dispensing and administering errors because of their multiple products with similar names,

the same concentration for different drugs, same size containers, and similar package labels. Available products include:

- Morphine 10 mg/5 mL
- Morphine 20 mg/5 mL Roxanol
- Morphine 20 mg/mL Roxanol, Roxanol T
- Morphine 100 mg/5 mL Roxanol 100
- Oxycodone 5 mg/5 mL Roxicodone
- Oxycodone 20 mg/mL Roxicodone Intensol
- Oxycodone 5 mg/5 mL w/acetaminophen Roxicet

Errors have resulted in massive opioid overdoses because products vary up to twenty times in potency.

Chloral hydrate is available in both 250 mg/5 mL and 500 mg/5 mL concentrations. Many medication errors, including fatal overdoses, have been reported. Problem order examples are:

- Chloral hydrate 5 cc prn sedation
- Chloral hydrate 500 mg 30 “ before office visit
- Chloral hydrate 250 mg/5 mL, 12 mL before procedure

In the second example, the physician meant the “symbol to represent minutes (although it actually means seconds), but the pharmacist read it as cc. In the third example the pharmacist dispensed 120 mL, a common dispensing quantity, rather than 12 mL, for a single dose.

Acetaminophen is available in several concentrations from many manufacturers variously labeled as liquids, solutions, elixirs, suspensions, concentrates, and drops. For example:

- 80 mg/0.8 mL Drops
- 80 mg/1.66 mL Liquiprin Drops
- 80 mg/2.5 mL Elixir
- 80 mg/5 mL Elixir
- 100 mg/mL Tylenol Infant Drops, Tempra 1
- 120 mg/5 mL Elixir
- 160 mg/5 mL Suspension, Tylenol Children’s Elixir, Tempra 2 Syrup
- 500 mg/15 mL Tylenol Extra Strength Liquid

Many errors have been reported because orders were written specifying only the volume amount to administer, e.g. “Tylenol 10 cc prn fever,” or “Tylenol syrup 1 tsp.” On at least one brand the concentration is listed on the outer carton and not on the bottle, and the dropper does not contain an mg dose graduation. Some facilities may keep this medication as a non-prescription stock item, and keep only one concentration. The Tylenol Infant Drops bottle is designed to admit a dropper, but prevent pouring from the bottle.

Ferrous sulfate iron supplement liquid products are available as:

- 90 mg/5 mL (18 mg of elemental iron/5 mL) syrup
- 220 mg/5 mL (44 mg elemental iron/5 mL) elixir

- 75 mg/0.6 mL (15 mg elemental iron/0.6 mL) drops

One product is labeled as both “Ferrous Sulfate Solution” and “Iron Supplement Drops.” It is very important for orders for these products to be clear and complete. Both the mg dose and the concentration should be specified in the order to eliminate confusion about ferrous sulfate vs. elemental iron doses, e.g.: “Ferrous sulfate 220 mg/5 mL, 220 mg 3 times daily” or “Elemental iron 15 mg/0.6 mL, 30 mg 3 times daily.”

Look-alike Names

Same indication for use

The available list of look-alike names is quite extensive. Some of these have the same indication for use, which may contribute to comfort in a wrong interpretation. For example, Procet and Percocet are both analgesics, and Panlor DC and Synalgos DC also are both analgesics.

Same strength, same dosing frequency

Look-alikes available in the same strength, and with similar dosing frequencies, make differentiation difficult. Reminyl (for Alzheimer’s) and Amaryl (antidiabetic) are both available as 4 mg tablets and may have the same dosing frequency.

No indication for use specified in order

A look-alike product Occlusal (a salicylic acid solution for removal of warts and calluses) was improperly ordered instead of Ocuflux (an antibiotic solution for ophthalmic use), with the instructions to “Use as directed.” Without an indication for use or specific directions, the pharmacist was not aware that the wrong product had been ordered, but an inquiry prevented possible serious damage to an eye.

Use TALLman Letters

The FDA recommends that manufacturers use TALLman letters to help differentiate look-alike names. Pharmacies, facilities, and individuals would also benefit from using this concept. Each facility should develop a list of look-alike names commonly used in the facility and the recommended TALLman format.

- Chlorpropamide chlorproPAMIDE
- Chlorpromazine chlorproMAZINE
- Tolazamide TOLAZamide
- Tolbutamide TOLBUTamide

Combination Products

Products that contain multiple active ingredients are often available in a single, fixed combination with a name that does not include a strength, such as:

- Tylox (oxycodone 5 mg/acetaminophen 500 mg)
- Roxicet Solution (oxycodone 5 mg/acetaminophen 325 mg per 5 mL)
- Lortab Elixir (hydrocodone 7.5 mg/acetaminophen 500 mg per 15 mL)

Orders for higher doses may specify the dose of the primary ingredient, such as “Tylox 10 mg,” which requires knowledge of the content of the dosage form.

When more than one strength of a combination is available the name may include the strength of the active ingredients, or may be a variation of the basic name that indicates a different strength, such as:

- Lortab 2.5/500 (hydrocodone 2.5 mg/acetaminophen 500 mg)
- Lortab 5/500 (hydrocodone 5 mg/acetaminophen 500 mg)

- Lorcet HD (hydrocodone 5 mg/acetaminophen 500 mg)
- Lorcet Plus (hydrocodone 7.5 mg/acetaminophen 650 mg)
- Lorcet 10/650 (hydrocodone 10 mg/acetaminophen 650 mg)

- Vicodin (hydrocodone 5 mg/acetaminophen 500 mg)
- Vicodin ES (hydrocodone 7.5 mg/acetaminophen 750 mg)
- Vicodin HP (hydrocodone 10 mg/acetaminophen 660 mg)

- Roxicet (oxycodone 5 mg/acetaminophen 325 mg)
- Roxicet 5/500 (oxycodone 5 mg/acetaminophen 500 mg)
- Roxilox (oxycodone 5 mg/acetaminophen 500 mg)

Codeine and acetaminophen or aspirin combination products have traditionally been named with the abbreviation “No.” indicating the codeine content, for example:

- Tylenol with Codeine No. 1 (codeine 7.5 mg/ acetaminophen 325 mg)
- Tylenol with Codeine No. 2 (codeine 15 mg/ acetaminophen 325 mg)
- Tylenol with Codeine No. 3 (codeine 30 mg/ acetaminophen 325 mg)
- Tylenol with Codeine No. 4 (codeine 60 mg/ acetaminophen 325 mg)

The product “Tylenol with Codeine No. 3,” for example, is commonly referred to as “Tylenol #3.” Errors occur when codeine 30 mg/acetaminophen is ordered as “Tylenol #3,” and three tablets of plain Tylenol are administered.

It is important that the content of any combination product is known by the prescriber, dispenser, and person administering, and that the dose is clearly specified. The dispensed product should be clearly labeled with the brand name and the strength of the product.

“Extended Release” Products

Various terms, including “extended release” and “sustained release,” indicate dosage forms that provide drug availability from a single dose over an extended time period. Although the terms are used generically they may have specific meanings within brand names. It is important to differentiate between orders for “immediate release” and various “extended release” dosage forms of the same drug, as the same strength may be available in multiple forms.

Most immediate release forms are not identified as such, although one company does identify some products with an IR suffix. “Extended release” products usually include a suffix such as ER, CR, TR, SR, CD, SA, LA, XL, XT or Contin. The suffixes do not imply an equivalent meaning between different drugs or different brands. Some products from a single manufacturer may have more than one extended release form. Different suffixes may indicate a different dosage form, different length of action, or different indication for use:

- Cardizem (immediate release tablet) 30, 60, 90, 120 mg
- Cardizem SR (sustained release capsule) 60, 90, 120 mg
- Cardizem CD (extended release capsule) 120, 180, 240, 300, 360 mg
- Cardizem LA (extended release tablet) 120, 180, 240, 300, 360, 420 mg

Multiple units of the same “extended release” dosage form do not always produce the same effect as a single unit of the same dose and dosage form. For example, two 25 mg units may be equivalent to one 50 mg unit, but three 25 mg units may not be equivalent to one 75 mg unit. Do not combine units for changes in dose unless authorized by the physician or pharmacist.

Verbal Communications and Sound-Alike Names: “Read Back”

One of the most valuable methods of eliminating medication errors based on communication problems is the “read back” procedure for telephone orders, and it is a 2005 JCAHO Long Term Care National Patient Safety Goal. This procedure is commonly used in some industrial and service sectors, but healthcare personnel have traditionally been “too busy” to do this.

The person receiving the order should write the order down and “read it back,” including the spelling of any drug name that might be confusing and stating in words the meaning of any abbreviations used. “Reading back” rather than “repeating back” assures that the receiver has both heard and transcribed the order correctly. Any corrections should be written and confirmed by again “reading back.”

Prohibited Abbreviations

Each facility should develop a list of abbreviations that may not be used in the facility in handwritten, pre-printed, or electronic format. Please review the list of error-prone, dangerous abbreviations and their possible misinterpretations in the separate document. The nine most dangerous abbreviations that should never be used are:

- U
- IU
- QD
- QOD
- Trailing zero after decimal point (2.0 mg)
- Lack of leading zero before decimal point (.2 mg)
- MS
- MSO4
- MgSO4

Additional high-risk abbreviations and suggested replacements include:

- ug mcg
- HS half-strength or at bedtime
- TIW 3 times weekly or three times weekly
- SC Sub-Q, subQ or subcutaneously
- SQ Sub-Q, subQ or subcutaneously

- D/C discharge or discontinue
- cc mL
- AS left ear
- AD right ear
- AU both ears
- OS left eye
- OD right eye
- OU both eyes

Do not abbreviate any drug names.

Microgram vs Milligram & Confusing Decimal Point

Levothyroxine is often ordered in micrograms rather than milligrams, requiring conversions that often result in decimal point errors, especially when performed mentally (25 mcg = 0.025 mg, 250 mcg = 0.25 mg). The pharmacy label should always include the term used in the order.

Levothyroxine is available in strengths from 0.025 mg to 0.3 mg, and specific doses may require the use of multiple tablets or multiple strengths. Orders for 0.25 mg have often been erroneously written or dispensed instead of 0.025 mg, resulting in ten-fold overdoses.

Leading/Trailing Zero

Omitting a leading zero or adding a trailing zero, as described earlier. A levothyroxine order for “Levoxyl, 25 iQD” was intended to be 0.25 mg (250 mcg) but was dispensed as 25 mcg (0.025 mg). Orders such as “Synthroid 25.0 mcg” are also interpreted as 250 mcg. An order for “levothyroxine 0.75 mg,” which is an extremely high dose, should have been 0.075 mg.

An agreement between the facility, prescribers and pharmacies to use consistent terminology and format in orders and labels would help alleviate the problems associated with micrograms/milligrams, decimal points and zeros.

Spacing, Commas and Punctuation

Use proper spacing between words, numbers, and punctuation. Numbers written closely to names can be misinterpreted. Place commas and periods or decimal points appropriately close to the words or numbers they are used with:

- propranolol20mg is easily misread as 120 mg
- 10U has been misread as 100
- Levoxyl . 25 was misread as Levoxyl 25

Commas should be properly spaced for dose numbers expressed in thousands. Do not use the Latin abbreviation M to express thousands, as it is sometimes used as an English abbreviation for millions:

- 5,000 units, instead of 5000 units or 5 M units

Use the word thousands for doses in the hundreds of thousands:

- 150 thousand units, instead of 150000 units or 150,000 units

Write out the word million for doses expressed in millions:

- 5 million units, instead of 5000000 units or 5,000,000 units or 5 M units

Do not use periods after dosage unit abbreviations. An unnecessary period can be misread as the numeral 1 if written poorly:

- mg instead of mg.
- mL instead of mL.

Best Practices

There are many valuable “best practices” recommendations to prevent communication errors, such as facility requirements for order format, terminology, prohibited abbreviations, a specific process for clarifying any unclear order, labeling, limiting concentrations used, and use of automated technology.

Persons interpreting medication orders should be aware of the concept of “confirmation bias,” where a person selects what is familiar or expected, rather than what is actual. It is human nature to associate items by certain characteristics, and familiarity with certain products may cause a person to see what they think it is, rather than what it is.

The CMT can help prevent medication errors by being alert to the types of medications and orders that are prone to misunderstanding and by confirming basic information about the medication and resident prior to administering.

ADMINISTERING SUBLINGUAL AND BUCCAL MEDICATIONS

- I. Sublingual and Buccal Medications
 - A. This route is used when rapid action is desired, or when a drug is specifically designed to be easily absorbed into blood vessels under the tongue (sublingual) or between the cheek and gums (buccal), such as Nitroglycerine, Isordil, etc. The tablets are completely soluble. They cannot be swallowed to obtain the same rapid effect.
 - B. For sublingual, instruct the resident to hold the tablet under his/her tongue until it's completely absorbed. Tell the resident not to move the tablet with the tongue to other parts of the mouth.
 - C. For buccal, be sure the tablet is placed between the cheek and gums, ask the resident to close mouth, and hold the tablet there until it's absorbed.
 - D. For both, remember to tell the resident not to drink water or swallow excessively until the tablet is completely absorbed.

USE OF AEROSOL HOLDING CHAMBER

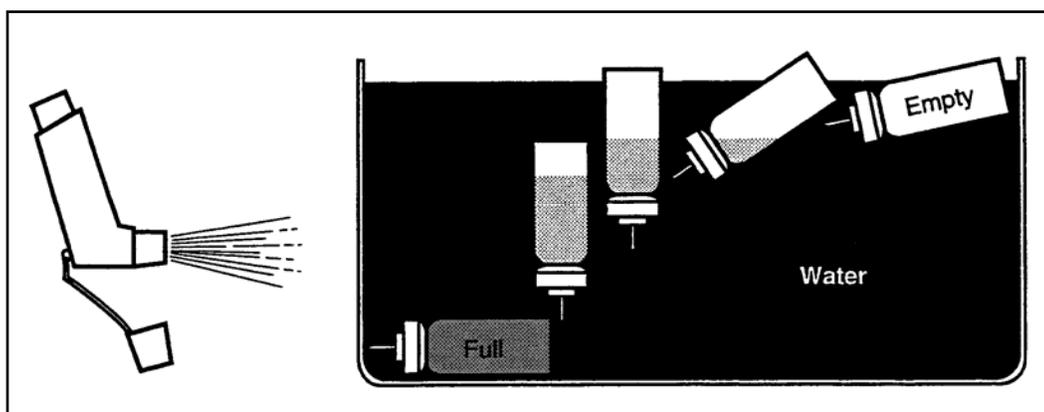
These devices are also known as spacers and are portable drug delivery systems that help spray inhalers deliver medication to the lungs. They are designed to improve the delivery of these medications by making it easier for you to use them.

If you are using a spray inhaler alone, you may not be giving all of the required medication. These spray inhalers provide a convenient and effective method for delivering drugs, but they are not easy to use correctly. You must carefully time each breath while squeezing the inhaler canister downward. If your timing is incorrect, the full dose of medication may not be delivered deep within the lungs.

Aerosol Holding Chambers make it simpler to use spray inhalers correctly. After you press down on the inhaler canister, medication is released and stored in the Aerosol Chamber, giving the resident a chance to breathe in the medication in two breaths. This does away with the need to carefully coordinate taking a breath and releasing the spray.

Commercial Products:

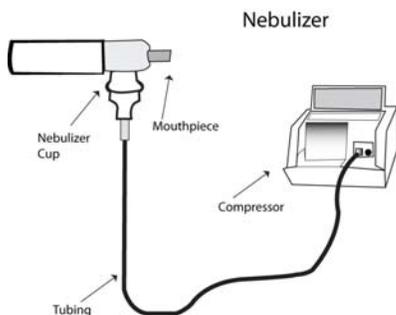
- a) Inspirease has a special feature to help teach better breathing technique. When used correctly (taking a slow, deep breath that helps get the medication deep within the lungs), the bag will collapse and a whistling sound will not be heard. However, if the resident breathes too fast (a common mistake that can reduce the effectiveness of the treatment), a whistling sound can be heard. The whistling sound indicates that the resident should breathe slower.
- b) Aerochamber and Aerochamber with Mask have special features to help teach better breathing technique. When used correctly (taking a slow, deep breath that helps get the medication deep within the lungs), a whistling sound will not be heard. However, if the resident breathes too fast (a common mistake that can reduce the effectiveness of the treatment), a whistling sound can be heard. The whistling sound indicates that the resident should breathe slower.



1. How to determine the amount of medication remaining in an inhaler.

ADMINISTERING MEDICATIONS USING A NEBULIZER

The Certified Medication Technician may administer inhaled medications using a nebulizer if permitted by facility policy. Due to variances in equipment, the facility must provide the Certified medication Technician with training on the operation of the nebulizer system(s) being used in the facility prior to their use. Documentation of this training and competency in use of the equipment must be placed in the employee's record.



Medications such as bronchodilators, mucolytics and corticosteroids are often administered using a nebulizer, or a “breathing machine”. A nebulizer consists of a small plastic cup with a screw-top lid for the liquid medication and a source for compressed air. As the air flows into the nebulizer, the liquid medication turns into a mist. When inhaled the medication has a better chance to reach the small airways. This increases the medication's effectiveness.

The treatment can be done with a mask placed over the resident's mouth and nose or a mouthpiece. The resident can relax and breathe normally during the treatment, continuing until no mist is left. Most nebulizer treatments last between 5 and 20 minutes depending on the medication ordered.



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*Use most current edition.

APPENDIX A

19 CSR 30-84—DEPARTMENT OF HEALTH AND SENIOR SERVICES
Division 30 - Division of Health Standards and Licensure



**Title 19—DEPARTMENT OF
HEALTH AND SENIOR SERVICES**
**Division 30—Division of Health Standards
and Licensure**
**Chapter 84—Training Program for
Nursing Assistants**
**19 CSR 30-84.010 Nurse Assistant Training
Program**

PURPOSE: The Omnibus Nursing Home Act mandates in section 198.082, RSMo that nursing assistants employed in skilled nursing and intermediate care facilities complete an approved training program. This rule gives information regarding the purpose of the training program, required objectives and curriculum content, designates what is the approved course curriculum and indicates the training locations and testing which are required for a program to be considered approved.

(1) Definitions.

(A) Basic course shall mean the seventy-five (75) hours of classroom training, the one hundred (100) hours of on-the-job supervised training and the final examination of the approved Nurse Assistant Training course.

(B) Certifying agency shall mean a long-term care (LTC) association or other entity approved by the division under subsection (11)(B) to issue certificates to nursing assistants.

(C) Challenge the final examination shall mean taking the final examination of the basic course without taking the entire basic course.

(D) Division shall mean the Missouri Division of Aging.

(E) Long-term care association shall mean the Missouri Health Care Association, the Missouri Association of Homes for the Aged, the League of Nursing Home Administrators or the Missouri Assisted Living Association.

(F) Nursing service shall mean an agency or organization, such as a Nursing Pool Agency or Hospice, which employs nurses and nursing assistants for temporary or intermittent placement in LTC facilities.

(G) Training agency shall mean the organization which sponsors the approved training program. An approved training agency is approved by the Division of Aging under section (7) of this rule.

(H) Program shall mean the Nurse Assistance Training Program as required by the Omnibus Nursing Home Act and section 198.082, RSMo 1994.

(2) The purpose of the Nurse Assistant Training Program shall be to prepare individuals for employment in a LTC facility. The program shall be designed to teach skills in resident care which will qualify students to perform uncomplicated nursing procedures and to assist licensed practical nurses or registered professional nurses in direct resident care.

(3) All aspects of the Nurse Assistant Training Program included in this rule (that is, qualified instructor, clinical supervisor, examiner, approved course curriculum, approved training agency, supervised on-the-job training, testing and student qualifications) shall be met in order for a program to be considered as approved.

(4) The program shall consist of a basic course consisting of a minimum of seventy-five (75) classroom hours of training on basic nursing skills, fire safety and disaster training, resident safety and rights, social and psychological problems of residents, and the methods of handling and caring for mentally confused residents such as those with Alzheimer's disease and related disorders; one hundred (100) hours of supervised on-the-job training (clinical practice); a final examination; and, following the basic course, continuing in-service training as provided for in 13 CSR 15-14.042(19) through (24).

(5) Curriculum content of the program shall include procedures and instructions on basic nursing skills in the following areas: basic hygiene techniques; bedmaking; personal care of residents; food service; charting; safety measures (including fire/safety and disaster preparedness, and infection control); basic preventative and restorative care and procedures; basic observation procedures, such as weighing and measuring; communication skills; methods of handling and caring for mentally confused residents; residents' rights; ethical and legal responsibilities; death and dying; and mental health and social needs.

(A) The course curriculum as outlined in the manual entitled *The Nurse Assistant in a Long-Term Care Facility*, produced by the Instructional Materials Laboratory, University of Missouri-Columbia, 1987, catalogue number 50-5061-S shall be considered an approved course curriculum. Other manuals and course material may be used to supplement the curriculum. Instructors shall use the companion instructor's guide, catalogue number 50-5061-I.



(B) An orientation module consisting of certain topics identified as such in the approved course curriculum shall be the first material covered in the course unless the course is taught in its entirety before nursing assistants have resident contact. All students must complete the nurse assistant orientation module prior to providing direct care to any resident. For those students already employed by an intermediate care or skilled nursing facility, the orientation module shall be taught at the beginning of the course and before the nursing assistant is allowed to provide direct care to residents independently.

1. The orientation module shall include, as a minimum, the following topics: handwashing, gloving and infection control; emergency procedures and Heimlich Maneuver; residents' rights; abuse and neglect reporting; safety (fire and accident); lifting; moving and ambulation; answering signal lights; bedpan, urinal, commode and toilet; preparing residents for and serving meals; feeding the helpless; bathing; dressing and grooming; mouth care; bedmaking (occupied and unoccupied); promoting residents' independence; communication and interpersonal skills.

2. Students shall complete the orientation module taught by a qualified instructor even though they may be employed in a facility that uses the approved course material for orientation as required by 13 CSR 15-14.042(20). The instructor, in that instance, may adjust the time required to cover the material or may integrate the material into the basic course content.

(C) The suggested time schedule included for each curriculum topic in the approved course cited in subsection (5)(A) may be adjusted by the instructor to meet the particular learning abilities of the students providing that the orientation module shall be taught in at least sixteen (16) hours for Medicare- or Medicaid-certified facilities. Licensed-only facilities shall provide at least twelve (12) hours of basic orientation approved by the division.

(D) The on-the-job supervised component of one hundred (100) hours shall start after the student has enrolled and started the course curriculum and shall precede the final examination.

(E) Continuing in-service education shall be offered in the intermediate care or skilled nursing facility (ICF/SNF) to nursing assistants on a regular basis following their successful completion of the basic course as required in 13 CSR 15-14.042(20) through (23).

(6) Student Enrollment and Qualifications.

(A) Any individual who is employable by an ICF/SNF to be involved in direct resident care shall be eligible to enroll in an approved training agency course if—

1. The individual is at least eighteen (18) years of age and employable. Employable shall mean that the individual is not listed on the Missouri Division of Aging Employee Disqualified List; who has not been found guilty of, pled guilty to, been convicted of, or *nolo contendere* to, a Class A or B felony under Chapters 565, 566 or 569, a Class D felony under section 568.020, RSMo 1994 or any violation of section 198.070.3, RSMo 1994, unless a good cause waiver has been granted by the division; and who meets requirements under 13 CSR 15-14.042(32); or

2. The individual is at least sixteen (16) years of age providing he or she is—

A. Currently enrolled in a secondary school health services occupation program or a cooperative work education program of an area vocational-technical school or comprehensive high school;

B. Placed for work experience in an ICF/SNF by that program; and

C. Under the direct supervision of the instructor or licensed nursing staff of the facility, or both, while completing the clinical portion of the course. A certified facility may not employ a student in the facility who is not certified within four (4) months of date of hire. A licensed-only facility may only employ a student in that facility for up to one (1) year from the date of hire prior to certification.

(B) All full or part-time employees of an ICF/SNF who are involved with direct resident care, and hired in that capacity after January 1, 1980, shall have completed the approved Nurse Assistant Training Program or shall enroll in and begin study in the approved training program within ninety (90) days of employment, except that the following persons shall be permitted to challenge the final examination:

1. Persons who were enrolled in a professional (RN) or practical (LPN) nursing education program for at least four (4) months or who are enrolled in this program and who have successfully completed the Fundamentals of Nursing Course, including clinical hours within the last five (5) years, may challenge the final examination of the course, as this training is deemed equivalent to the required classroom hours and on-the-job training;



2. Professional nursing or practical nursing licensure candidates who have failed state licensure examinations may challenge the final examination, as their training is deemed equivalent to the required classroom hours and on-the-job training;
3. Persons from other states who are approved to work as a nurse assistance in the other states may challenge the final examination, as their training is deemed equivalent to the required classroom hours and on-the-job training;
4. Students who have completed a nursing program outside the United States and who are awaiting the licensure examination in this country shall be required to apply to the division to take the challenge examination. In addition to a completed application, the student must also include: a copy of the out of country license or certificate; a copy of the school transcript translated to English; a copy of the out of country criminal background check translated to English. Students shall be required to complete the orientation module of the course as given in subsection (5)(B) of this rule and then may challenge the final examination, as their training is deemed equivalent to the other required classroom hours and on-the-job training;
5. Persons trained in acute care sections of hospitals as nursing assistants or persons trained as psychiatric aides shall complete the orientation module with special emphasis on the geriatric residents' needs, residents' rights and orientation to the facility and shall complete the one hundred (100) hours of on-the-job training in an LTC facility or LTC unit of a hospital and then they may challenge the final examination, as their training is deemed equivalent to the other required classroom hours and on-the-job training;
6. Persons trained in an LTC unit of a hospital and who have been employed in the LTC unit of the hospital for at least twelve (12) months and who submit a letter of recommendation from the administrator or director of nursing documenting their training may challenge the final examination after completing the units on residents' rights and care of the confused resident. Such training shall be deemed equivalent to the other required classroom hours and on-the-job training; and
7. Any other persons whose background, education and training in gerontology and health occupations includes the components of the approved training curriculum may be allowed to challenge the final examination after taking those portions of the course as determined to be

necessary based on evaluation of their credentials by the supervisor of health education of the Division of Aging.

(C) Those persons designated in paragraphs (6)(B)1.-7., who want to challenge the final examination shall submit a request in writing to the division enclosing any applicable documentation. The division will respond, in writing, either approving or denying the request to challenge the final examination and, if approved, the letter from the division may be presented to an approved training agency to challenge the examination or complete the course or portions of the course as required and then challenge the examination.

(D) Those persons permitted to challenge the final examination shall have made arrangements to do so within sixty (60) days of employment as a nursing assistant and shall have successfully challenged the final examination prior to or within one hundred twenty (120) days of employment. Permission letters not utilized within the one hundred twenty (120)-day period shall be considered invalid and reapplication for permission to challenge shall be made to the division.

(E) Nursing assistants who are employed by a nursing service, or who are working on a private duty basis providing direct resident care shall have completed the approved basic course, shall have a current certificate from an approved certifying agency and shall be listed on the Division of Aging Certified Nurse Assistant Registry prior to functioning in an ICF/SNF.

(F) Allied health care personnel, such as emergency medical technicians, medical laboratory technicians, surgical technicians, central supply technicians and dental auxiliaries, shall not be considered qualified and shall not be allowed to challenge the final examination. Individuals, if employed by an ICF/SNF to provide direct patient care shall enroll in and successfully complete an approved program.

(G) If a student drops the course due to illness or incapacity, the student may reenroll in a course within six (6) months and make up the course material missed without retaking the entire course upon presenting proof of attendance and materials covered in the original class.

(H) A student shall complete the entire basic course (including passing the final examination) within one (1) year of employment as a nursing assistant in an SNF/ICF, except that a nursing assistant employed by a facility certified under



Title XVIII or Title XIX shall complete the course and be certified within four (4) months.

(I) A full or part-time employee of an ICF/SNF who is employed as a nursing assistant after January 1, 1989 who has not completed at least the classroom portion of the basic course shall not provide direct resident care until he or she has completed the sixteen (16)-hour orientation module and the twelve (12) hours of supervised practical orientation required in 13 CSR 15-14.042(20).

(J) All nursing assistants trained prior to January 1, 1989 who were not trained using the course curriculum referenced in subsection (5)(A) of this rule with at least seventy-five (75) hours of classroom instruction shall have attended a special four (4)-hour retraining program which used the manual entitled *Long-Term Care Nurse Assistant Update* produced by the Instructional Materials Laboratory, University of Missouri-Columbia, 1989, catalogue number 50-5062-I or 50-5062-S. Any nursing assistant who did not attend this retraining program by August 31, 1989 shall no longer be considered a trained nursing assistant and all previous credentials issued by any source shall be considered invalid. To be certified as required by the provisions of this rule, a person shall successfully complete the entire Nursing Assistant Training Program.

(7) Training Agencies.

(A) The following entities are eligible to apply to the division to be an approved training agency:

1. Area vocational technical schools and comprehensive high schools offering health service occupation programs which have a practice classroom and equipment used in delivering health care and a written agreement of cooperation with one (1) or more SNFs/ICFs or an LTC unit of a hospital in their vicinity for the one hundred (100)-hour on-the-job training component of the course;

2. Community junior colleges or private agencies approved by the Missouri Department of Elementary and Secondary Education or accredited by a nationally recognized accrediting agency or association on the list published by the secretary of the Department of Education, pursuant to the Higher Education Act (20 USC Sections 295-4(2)(D), 42 USC Section 298(b)(6)) and the Veterans' Readjustment Assistance Act (38 USC Section 1775(a)) which have a practice laboratory with one (1) or more bed units and equipment used in delivering

health care and have a written agreement of cooperation with one (1) or more SNFs/ICFs, or LTC units of a hospital in their vicinity for the on-the-job training component of the course; or

3. A licensed hospital, licensed SNF/ICF which has designated space sufficient to accommodate the classroom teaching portion of the course, and if the one hundred (100) hours of on-the-job training is not provided on-site, has a written agreement of cooperation with an LTC unit of a hospital or SNF/ICF to provide that portion.

(B) A school, agency, hospital or nursing facility which wants to be approved by the division to teach the Nursing Assistant Training Program shall file an application with the division giving the name(s) of the instructor(s) and clinical supervisor(s); and, if clinical training is not being done on-site, a copy of an agreement with a nursing facility for the clinical portion of the course.

(C) In order to be approved, the applicant shall have an area which will be designated during training sessions as a classroom with sufficient space to allow fifteen (15) students to be seated with room for note-taking, appropriate equipment as needed for teaching the course, approved instructors and clinical supervisors, and shall assure that the instructor and each student has a manual for the state-approved course. Any ICF/SNF which has received a Notice of Noncompliance related to administration and resident care from the division in the two (2)-year period prior to application for approval shall not be eligible for approval and if this Notice is issued after approval, approval shall be withdrawn by the division within ninety (90) days and the certifying agencies shall be notified of the withdrawal of approval. Students already enrolled in a class in this facility, however, may complete their course if a Notice is issued after a course has begun. However, a noncompliant facility where an extended or partially extended survey has been completed may apply in writing to the division requesting permission for approval to train and test nurse assistants for certification. The approval for each separate class may be granted to teach and test in the facility but not by the facility staff. If approval is granted for a waiver for a certified facility or exception for a licensed-only facility, the division shall require certain criteria to be met, depending on the issues such as time and distance to other training agencies in the area.

(D) The division shall make an on-site inspection of each approved training agency's



premises within two (2) years of approval to determine the adequacy of space; equipment and supplies; and, if clinical training is not done on-site, verify that there is a current copy of an agreement with a nursing facility for the clinical portion of the course.

(E) Upon receipt of a fully completed application form, the division shall notify the applicant in writing within ninety (90) days of approval or disapproval. If disapproved, the reasons why shall be given.

(F) Training agencies shall be approved for a two (2)-year period and shall submit a new application for approval thirty (30) days prior to the expiration of approval.

(8) Instructor/student ratio shall be a maximum of one to fifteen (1:15) and it is recommended that the ratio be one to ten (1:10) or less.

(9) Qualifications of Instructors, Clinical Supervisors and Examiners.

(A) Instructor.

1. An instructor shall be a registered professional nurse currently licensed in Missouri or shall have a temporary permit from the Missouri State Board of Nursing. The licensee shall not be subject of current disciplinary action, such as censure, probation, suspension or revocation.

2. An instructor shall have had, at a minimum, two (2) years of nursing experience and at least one (1) year of experience in the provision of LTC facility services in the last five (5) years. Other personnel from the health professions may assist the instructor; however, they must have at least one (1) year of experience in their field.

3. An applicant to be an instructor, shall submit credentials (resume) and a copy of his/her current license renewal card or temporary permit to the Division of Aging. A letter shall be provided by the division to the applicant indicating the status of the applicant's qualifications and, if not qualified, the reasons and what additional requirements are needed.

4. An applicant to be an instructor shall attend a seminar approved by the Division of Aging to learn the methodology of teaching the course but only after his/her credentials have been reviewed and approved by the Division of Aging. The Division of Aging shall issue a final letter of approval to be a qualified instructor after the person has satisfactorily completed the seminar. The seminar shall be conducted either by an LTC association or the Missouri Department of Elementary and Secondary Education using qualified teacher educators approved by the

Missouri Department of Elementary and Secondary Education and the Division of Aging.

5. Any registered nurse approved by the division or the Department of Elementary and Secondary Education as an instructor or examiner prior to January 1, 1990, except those involved in nurse assistant curriculum development with the division or who are employed by a certifying agency, shall attend a training seminar on teaching the nurse assistant course conducted by a LTC association or the Department of Elementary and Secondary Education by July 1, 1993 in order to maintain status as an approved instructor. Instructors approved prior to January 1, 1990 who are exempt from attending the training seminar shall write the Division of Aging submitting documentation of classes and students taught. The division will issue those instructors letters of approval so they will not have to attend the new training seminar. After July 1, 1993 all credentials issued prior to January 1, 1990 shall be void. Nurses who attend the approved seminar shall be issued new certificates and the division shall maintain a list of all approved instructors, including those issued letters of approval.

(B) Clinical Supervisor (On-the-Job Supervisor). The clinical supervisor shall be a currently licensed registered professional nurse or licensed practical nurse, whose license is not currently subject to disciplinary action such as censure, probation, suspension or revocation. The clinical supervisor shall be licensed in Missouri or shall have a temporary permit from the Missouri State Board of Nursing. The clinical supervisor shall be currently employed by the facility where the students are performing their duties or by the agency conducting the course and shall have attended a seminar approved by the Division of Aging to learn methodology of supervising the on-the-job training. Upon successful completion of the training seminar, the clinical supervisor shall be issued a certificate and the division shall maintain a list of approved clinical supervisors. The clinical supervisor shall be on the facility premises in which the students are performing their duties while the students are completing the on-the-job component of their training and shall directly assist the students in their training and observe their skills when checking their competencies. The clinical supervisor shall have at least one (1) year of experience in LTC if not currently employed by an LTC facility.

(C) Examiner.



1. The examiner shall be a registered professional nurse currently licensed in Missouri or shall have a temporary permit from the Missouri State Board of Nursing, and shall not be currently subject of disciplinary action such as censure, probation, suspension or revocation.

2. The examiner shall have taught a similar course or shall be qualified to teach a similar course; but shall not have been the instructor of the students being examined; and shall not be employed by the operator whose students are being examined. The examiner shall be specifically approved by the Division of Aging to administer final examinations of the state-approved nurse assistant training curriculum and shall have signed an agreement with the division to protect and keep secure the final examinations.

3. The examiner shall have attended an examiner's seminar given by the Division of Aging to learn the methodology and sign an agreement.

(D) Causes for Disqualification. A person shall not be allowed to be an instructor, clinical supervisor or examiner if it is found that he or she—

1. Knowingly acted or omitted any duty in a manner which would materially or adversely affect the health, safety, welfare or property of a resident;

2. Defrauded a training agency or student by taking payment and not completing a course, not administering the final examination as required, or not being on-site while students are being trained;

3. Failed to teach, examine or clinically supervise in accordance with 13 CSR 15-13.010, or taught students from the state test, changed answers on the state test, lost test booklets, or recorded false information on test materials or test booklets of the program; or

4. Failed to send documentation of a completed course to a certifying agency within thirty (30) days.

(E) Notification of Disqualification.

1. The division shall notify the individual that he or she is no longer eligible to be an instructor, clinical supervisor or examiner.

2. The division shall notify all approved training and certifying agencies if it has been determined that an individual is no longer considered an approved instructor, clinical supervisor or examiner and that person's name shall be removed from the lists maintained by the division of approved instructors, clinical supervisors or examiners.

3. To be reinstated as a state-approved instructor, clinical supervisor or examiner the individual shall submit a request in writing to the division director stating the reasons why reinstatement is warranted. The division director or the director's designee shall respond in writing to the request.

(10) Testing.

(A) In order to be eligible for testing, a student shall have either completed the state-approved training curriculum offered by an approved training agency or shall have a letter from the Division of Aging granting approval to challenge the final examination.

(B) A student shall pass a minimum of three (3) written or oral tests throughout the course with an eighty (80) score or better on each test in order to be eligible to take the final examination.

(C) The final examination shall be conducted by an approved examiner who may be assisted by the instructor using the following procedures:

1. The instructor will select an LTC resident to participate in the testing process and obtain approval for this activity from the resident;

2. The examiner shall verify the eligibility of the students by reviewing records to establish that the student has completed the approved training program or possesses an approval letter from the division granting approval to challenge the final examination. In the event that a qualified instructor for the nurse assistant LTC program did not sign records of a student who successfully completed the program, without justification or due to resignation from his/her position, the administrator of the approved training agency may validate the training by signature. Evidence of successful completion of the basic course (that is, test scores, class schedules and the like) shall be documented prior to a student taking the final examination;

3. The student shall successfully complete at least nine (9) procedures under the observation of the instructor or a facility licensed nurse and examiner.

A. The nine (9) procedures shall always include a type of bath, vital signs (temperature, pulse, respirations and blood pressure), transfer techniques, feeding techniques, dressing and grooming, skin care, active or passive, range of motion to upper and lower extremities (unless contraindicated by a physician's order) and handwashing and gloving from the standardized curriculum.

B. The remainder shall be selected according to the resident's care needs at the time of day that testing occurs.



C. The evaluation of the student shall include communication and interaction with the resident, provision of privacy, work habits, appearance, conduct and reporting and recording skills;

4. The student shall successfully answer forty (40) out of fifty (50) oral or written questions presented by the examiner based on the standardized curriculum and selected from a specific test pool of questions which are safeguarded by the Division of Aging;

5. Any person who fails the final examination, except those who have been permitted to challenge the examination, shall have the opportunity to retake the examination twice within ninety (90) days. The examiner shall notify the division and obtain different examinations to be administered each time. If it is failed a third time, the entire course or selected sections, as determined by the examiner, must be retaken before another examination can be given; and

6. Any person who is required by section 198.082, RSMo to enroll in the Nurse Assistant Program, but who has been permitted to challenge the final examination and who fails the examination, must immediately reenroll in and begin study in the next available course and shall complete the basic course within one (1) year of employment.

(11) Records and Certification.

(A) Records.

1. The examiner shall complete and sign the competency record sheet and the final examination score sheet which shall include scores and comments. The examiner shall advise the individual that successful completion of the evaluation will result in the addition of his/her name to the State Nursing Assistant Register.

2. After scoring, the examiner shall return all test materials, test booklets, answer sheets, and any appendices to the division. The examiner shall also provide the training agency with documentation of the student's test scores.

3. A copy of the student's final record sheets shall be provided to the student (except for the answer sheets). If the course is not completed, records and documentation regarding the portions completed shall be provided to the student, if requested, and to the training agency.

4. The training agency shall maintain the records of students trained. Records shall be maintained for at least two (2) years.

(B) Certification and Entry of Names on State Register.

1. The training agency shall submit within thirty (30) days, the student's final record sheets to any one of the long-term care associations or any other agency which is specifically approved by the division to issue nursing assistant certificates and provide names to the division for entry on the nurse assistant register.

2. Each student shall obtain a certificate from a state-approved association or agency validating successful completion of the training program.

3. The Division of Aging shall maintain a list of long-term care associations or other agencies approved to handle the issuance of certificates for the Nurse Assistant Training Program. In order for a long-term care association or agency to be approved by the Division of Aging, it shall enter into an agreement of cooperation with the Missouri Division of Aging which shall be renewable annually and shall effectively carry out the following responsibilities:

A. Issue certificates to individuals who have successfully completed the course;

B. Provide the Division of Aging with the names and other identifying data of those receiving certificates on at least a monthly basis; and

C. Maintain accurate and complete records for a period of at least two (2) years.

4. The certificate of any nurse assistant who has not performed nursing services for monetary compensation for at least one (1) day in a twenty-four (24)-consecutive month period shall be invalid and the person's name shall be removed from the Missouri nursing assistant register. This individual, however, may submit his/her credentials to the Division of Aging at any time and if unemployed for less than five (5) years, s/he may be authorized to challenge the final examination. If s/he passes the examination, the examiner shall submit the individual's records to a training agency so that s/he can be issued a new certificate and his/her name can be placed on the nurse assistant register again. If unemployed longer than five (5) years, the individual must successfully complete the entire course before s/he can be recertified and s/he is not eligible to challenge the final examination.

AUTHORITY: sections 198.079 and 198.082, RSMo 1994. This rule originally filed as 13 CSR 15-13.010. Original rule filed Aug. 13, 1982, effective Jan. 13, 1983. Amended: Filed March 10, 1983, effective June 11, 1983. Amended: Filed Sept. 12, 1984, effective Dec. 11, 1984. Amended: Filed Oct. 13, 1987, effective Jan. 29, 1988. Emergency amendment*



filed Dec. 16, 1988, effective Jan. 1, 1989, expired April 5, 1989. Amended: Filed Jan. 19, 1989, effective April 27, 1989. Amended: Filed June 16, 1992, effective Feb. 26, 1993. Amended: Filed May 26, 1998, effective Jan. 30, 1999. Moved to 19 CSR 30-84.010, effective Aug. 28, 2001.

**Original authority: 198.079, RSMo 1979 and 198.082, RSMo 1979, amended 1988.*

19 CSR 30-84.020 Certified Medication Technician Training Program

PURPOSE: Individuals who administer medications in intermediate care and skilled nursing facilities are required by 13 CSR 15-14.042(49) to have successfully completed a medication administration training program approved by the Division of Aging. This rule sets forth the requirements for the approval of a medication technician training program designating the required course curriculum content, outlining the qualifications required of students and instructors, designating approved training facilities, outlining the testing and certification requirements, and establishing an update course.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. Therefore, the material which is so incorporated is on file with the agency who filed this rule, and with the Office of the Secretary of State. Any interested person may view this material at either agency's headquarters or the same will be made available at the Office of the Secretary of State at a cost not to exceed actual cost of copy reproduction. The entire text of the rule is printed here. This note refers only to the incorporated by reference material.

(1) The purpose of the Certified Medication Technician Training Program shall be to prepare individuals for employment as certified medication technicians in intermediate care or skilled nursing facilities (ICF/SNF). The program shall be designed to teach skills in medication administration of nonparenteral medications which will qualify students to perform this procedure to assist licensed practical nurses or registered professional nurses in drug therapy.

(2) All aspects of the Certified Medication Technician Training Program included in this rule shall be met in order for a program to be approved. If the program is to be offered in an ICF/SNF, the administrator of that facility shall make the arrangements with the sponsoring educational agency to—

(A) Provide administration of the Test of Adult Basic Education (TABE) and review of the student's qualifications;

(B) Arrange for a certified instructor;

(C) Administer the final examination; and

(D) Certify the students through a state-approved certifying agency which is any one (1) of the long-term care associations or any other division approved agency authorized to issue certificates.

(3) The objective of the Certified Medication Technician Training Program shall be to ensure that the medication technician will be able to—

(A) Prepare, administer and chart medications by all routes except those given by the parenteral route;

(B) Observe, evaluate, report and record responses of residents to medications given;

(C) Identify responsibilities associated with control and storage of medications;

(D) Identify appropriate reference materials;

(E) Relate side effects, interactions and nursing implications of common medications;

(F) Identify lines of authority and areas of responsibility; and

(G) Identify what constitutes a medication error.

(4) The course shall consist of at least sixty (60) classroom hours of instruction and a minimum of eight (8) hours of clinical practice under the direct supervision of an instructor or licensed registered nurse (RN) designated by the sponsoring educational agency, including a minimum of a two (2)-hour final practicum in a licensed ICF/SNF and a final written examination. The hours of a student's clinical practice required by an instructor may be greater, based on each student's mastery of course content as determined by the instructor.

(A) The approved course curriculum shall be the course developed by the Missouri Department of Elementary and Secondary Education and the Division of Aging as outlined in the manual entitled *Medication Technician* produced by the Instructional Materials Laboratory, University of Missouri-Columbia, revised 1994, catalogue number 50-6010-S.



Students shall each have a copy of this manual. The instructor shall use the companion *Instructor's Guide*, catalogue number 50-6010-I. These manuals and materials are incorporated in this rule by reference.

(B) The curriculum content shall include procedures and instructions in the following areas:

1. Basic review of body systems and drug effect on each;
2. Medical terminology;
3. Infection control;
4. Drug classifications;
5. Dosage, measurements and forms;
6. Storage and accountability;
7. Problems of observations in drug therapy;
8. Administration by oral, rectal, vaginal, otic, ophthalmic, nasal, skin, topical, transdermal patches, and oral metered dose inhaler; and
9. Special categories.

(C) A student shall not be allowed to independently administer medications until successfully completing the course. The final score sheet may be used as authorization to independently administer medications for up to ninety (90) days. After this period the student must have a certificate and be listed on the Missouri State Certified Medication Technician Registry.

(5) Student Qualifications.

(A) Any individual employable in an ICF/SNF who will be involved in direct resident care shall be eligible to enroll as a student in the course if the following criteria are also met:

1. High school diploma or General Education Development (GED) Certificate;
2. A minimum score of 8.9 on both Vocabulary and Comprehension tests and a minimum score of 7.0 on Mathematics Concepts and Application tests on the D level of the Test of Adult Basic Education (TABE). The tests shall be administered by the public educational sector;
3. Six (6) months of employment as a certified nurse assistant who is listed on the Missouri State Nurse Assistant Register and who has a letter of recommendation submitted to the training agency or school by the administrator or director of nursing of the facility, or, if now unemployed, by a previous employer; and
4. Nursing assistants who plan to enroll in the course may or may not be currently employed in a long-term care facility.

(B) The following individuals may qualify as certified medication technicians by successfully

challenging the course through a written and performance final examination:

1. Students enrolled in a professional nursing school or in a practical nursing program who have completed a medication administration course and who have a letter of endorsement from the school or program director;
2. Individuals who successfully completed a professional or practical nursing program but who failed the professional (RN) or practical (LPN) state licensure examination;
3. Individuals who provide evidence of successful completion of a state-approved certified medication technician course while working as aides at a facility operated by the Missouri Department of Mental Health providing that an individual successfully complete the orientation module of the approved Nurse Assistant Training Program and challenges the course by successfully completing the final examination of that program so that his or her name appears on the Missouri Certified Nurse Assistant Register. This shall be completed prior to challenging the Certified Medication Technician course;
4. Individuals who have successfully completed a state-approved medication technician course in another state, who are currently listed as Certified Medication Technicians in good standing in that state, and who submit a letter of recommendation to the division from an administrator or director of nursing of a facility in which he or she served as a medication technician; and
5. Individuals listed on the Certified Nurse Assistant (CNA) register. All individuals who qualify to challenge the final examination must first challenge the Certified Nurse Assistant final examination if not already listed on the registry as a CNA.

(C) Individuals who have successfully completed a professional or practical nursing program and who have not yet taken or received the results of the state licensure examination may request a letter from the division which entitles them to administer medication in a long-term care facility. However, if more than ninety (90) days have lapsed since graduation or since taking the Missouri State Board Examination with no results confirmed, the individual must ask for permission to challenge the final examination for certification as a medication technician. Challenge letters shall be valid for one hundred twenty (120) days.

(D) Those persons designated in subsections (5)(B) and (C) who want to challenge the final



examination or receive a letter of qualification, shall submit a request in writing to the division enclosing any applicable documentation. If approved to—

1. Challenge the examination, a letter so stating will be sent from the division and may be presented to a sponsoring educational agency so that arrangements can be made for testing; or
2. Qualify without taking the course or challenging the examination, a letter so stating will be sent by the division and shall be presented and used in lieu of a certificate.

(E) Individuals who must qualify by successfully completing the final examination or by special qualifying criteria shall not be allowed to administer medications until successfully completing the challenge process or receiving a letter of qualification from the division.

(6) Instructor Qualifications for Basic Course.

(A) An instructor shall be currently licensed to practice as a registered nurse in Missouri or shall have a temporary permit from the Missouri State Board of Nursing. The instructor shall not be the subject of current disciplinary action, such as censure, probation, suspension or revocation of license.

(B) The instructor shall meet state certification requirements as follows:

1. Hold a current full-time teaching certificate or a short-term instructor approval certificate from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education;
2. Complete an instructor/examiner workshop to implement the program; and
3. Be responsible to a sponsoring educational agency, such as an area vocational-technical school, a comprehensive high school, a community college or an approved four (4)-year institution of higher learning.

(C) Instructor may be assisted by pharmacists as guest instructors in to the areas of drug distribution systems, regulations governing drugs, drug actions, adverse reactions and drug interactions.

(D) When the instructor is an employee of the ICF/SNF in which training is conducted, a qualified registered nurse approved by the sponsoring educational agency shall conduct the final examinations. The examiner may also be the instructor.

(E) A person shall not be approved to be an instructor or examiner if he or she has ever been found to have knowingly acted or omitted any duty in a manner which would materially and

adversely affect the health, safety, welfare or property of a resident.

(F) A person who has been approved to be an instructor or examiner shall have that status revoked if, after an investigation by the division, it is found that the person:

1. Knowingly acted or omitted any duty in a manner which materially and adversely affected the health, safety, welfare or property of a resident;
2. Defrauded a training agency or student by taking payment and not completing a course or following through with certification;
3. Did not administer the final examination as required, or was not on-site while students were being trained; or
4. Falsified information on the final score sheet or any other required documentation.

(G) When an individual is no longer qualified to be an instructor or examiner, the division shall notify:

1. The individual that he or she is no longer eligible to be an instructor or examiner; and
2. All approved training and certifying agencies if it has been determined that an individual is no longer considered an approved instructor or examiner and that the person's name shall be removed from the list of approved instructors and examiners maintained by the division.

(H) To be reinstated as an approved instructor or examiner the individual shall submit a request in writing to the division director stating the reasons why reinstatement is warranted. The division director or the director's designee shall respond in writing to the request.

(7) Training Agencies.

(A) The following entities are eligible to apply to the division to be an approved training agency: vocational-technical schools, comprehensive high schools, community college or approved four (4)-year institutions of higher learning.

(B) All classrooms shall contain sufficient space, equipment and teaching aids to meet the course objectives as determined by the sponsoring educational agency.

(C) A school desiring divisional approval to teach the Certified Medication Technician Course shall file an application with the division giving the names of the instructors, listing the equipment and classroom space that will be used and provide a copy of an agreement with the nursing facility conducting the clinical portion of the course.

(D) The ICF/SNF in which clinical practice and the final practicum examination are conducted shall allow students, instructors and examiners access to the medication room,



supervised access to residents and access to the medication recording area.

(E) There shall be a signed written agreement between the sponsoring educational agency and each cooperating ICF/SNF which specifies the rules, responsibilities and liabilities of each party.

(F) The sponsoring educational agency is responsible for sending the division a copy of the most current signed agreement with the cooperating ICF/SNF where clinicals will be conducted. The division shall review all signed agreements. On-site inspections of the training site or educational agency may be made by the division if problems occur or complaints are received. If requirements are not met the status as a training site may be revoked by the division.

(G) The classroom portion may be taught in an ICF/SNF if there is an approved educational agency as a sponsor.

(8) Basic Course Testing.

(A) Prior to the student's enrollment, the TABE shall be administered by qualified examiners from the public educational sector designated by the sponsoring educational agency. See paragraph (5)(A)2. of this rule.

(B) To be eligible for the final examination, students shall have achieved a score of at least eighty percent (80%) on each written examination in the course curriculum.

(C) The final examination shall consist of a written and practicum examination.

1. The written examination shall include fifty (50) multiple choice questions based on the course objectives. A score of at least eighty percent (80%) is required for passing.

2. The practicum examination shall include preparing and administering all nonparenteral routes and recording of medications administered to residents. It shall be conducted under the direct supervision of the instructor or examiner and the person responsible for medication administered in the ICF/SNF. Testing on medications not available in the ICF/SNF shall be done in a simulated classroom situation.

3. The final examination may be retaken one (1) time within ninety (90) days without repeating the course.

4. A challenge examination may be taken one (1) time. If failed the entire course shall be taken before retesting is allowed.

(D) The instructor and examiner shall complete the final records and the record sheet shall include competencies and scores and other identifying information.

(9) Records and Certification.

(A) Records.

1. For at least two (2) years, the sponsoring educational agency shall maintain records of individuals who have completed the Certified Medication Technician Training Program and shall submit to one (1) of the state-approved certifying agencies the student's name, student's Social Security number, class beginning date and completion date, a challenge or full course and other identifying information from the final score sheet.

2. A copy of the final record shall be provided to the certified medication technician.

3. A transcript may be released with written permission from the student in accordance with the provisions of the Privacy Act—P.L. 90-247.

(B) Certification.

1. The sponsoring educational agency shall maintain the records of individuals who have been enrolled in the Certified Medication Technician Program and shall submit to a state approved certifying agency the names and address of all individuals who successfully complete the program. Upon receipt of the successful completion of course material and final examination, the state-approved certifying agency shall issue a certificate of completion to the student through the sponsoring educational agency (school). Any final examination documentation over ninety (90) days old shall be invalid.

2. On a monthly basis, the certifying agency shall provide the division with names and other identifying information of those receiving certificates.

3. The division shall maintain a list of certifying agencies approved to handle the issuance of certificates for the Certified Medication Technician Training Program. In order for a certifying agency to be approved by the division, it shall enter into an annually renewable agreement of cooperation with the division.

(10) Certified Medication Technician Update Course.

(A) All medication technicians with certificates from state-approved certifying agencies who have not taken the new sixty-eight (68)-hour course using the 1994 edition, curriculum catalog number 50-6010-S shall successfully complete the Certified Medication Technician Update Course (number 50-6015-S) to remain qualified certified medication technicians. Any individual taking the update course shall be certified as a nurse assistant with



his or her name listed on the Missouri State Nurse Assistant Registry. Any previously qualified student who does not attend the update course prior to June 30, 2000, must take the complete sixty-eight (68)-hour course.

(B) The certifying agency must receive the score sheet and accompanying documentation within ninety (90) days after the Certified Medication Technician Update Course final examination is administered. Score sheets and documents shall become invalid if not properly submitted within ninety (90) days after the final examination is given.

(C) The following may request permission from the division to take the Certified Medication Technician Training Update Course:

1. Individuals trained by the then existing Missouri Division of Health Institutional Advisory Nurses prior to 1978;
2. Individuals certified through the vocational educational system using the Department of Health-approved curriculum;
3. Individuals who have completed a long-term care medication technician course in another state which has been approved by the appropriate state agency and who have a letter from the division giving permission to work as certified medication technicians;
4. All medication technicians with valid certificates from the Department of Elementary and Secondary Education; and
5. All medication technicians with valid certificates from state-approved certifying agencies who have not taken the new sixty-eight (68)-hour course using the 1994 revised curriculum catalog number 50-6010-S.

(D) Prior to a sponsoring educational agency accepting a Certified Medication Technician Update Course student, the sponsoring educational agency, the student's employing facility or the student him/herself shall send the division the following information: current legal name and any prior name(s); address; a copy of the student's Social Security card; a copy of the student's current certified medication technician certificate or qualifying information and a copy of the student's current certified nurse assistant certificate. This information will be used for student validation and placement in an update course. No student may be admitted to the update course without first presenting a letter from the division allowing him or her to take the update course. The division will complete the processing of all update course requests within twelve (12) working days of receipt of the appropriate and complete information.

(E) The update course shall consist of at least seven (7) hours of classroom instruction, to include demonstrations on apical pulse, ophthalmic medication, transdermal patch, oral metered dose, and inhaler medications. The update course also includes information on body systems and infection control. In order to be approved, the certified medication technician training agency, school, or ICF/SNF, under the auspices of the approved training agency shall have an area that will be designated during training sessions as a classroom with sufficient space to allow at least twenty (20) students to be seated with room for note-taking and appropriate equipment as needed for teaching the update course. Each student and instructor shall have an update course manual.

(F) The final examination shall consist of at least fifty (50) multiple choice questions taken from one (1) of the two (2) tests found in the 50-6015-I manual for instructors and examiners. Test time may be no longer than one (1) hour. A score of eighty percent (80%) is required for passing. If not successfully passed, a second test from the same manual may be administered one (1) time within the next ninety (90) days. Any individual who fails the examination on the first attempt, may no longer administer medication. If the examination is failed the second time, the full sixty-eight (68)-hour course must be taken or retaken.

(G) The instructor or examiner shall complete the final Score Sheet for Certified Medication Technician Update Course Examination and shall include competencies, scores and signatures which shall be sent to a certifying agency for recertification as stated in section (10) of this rule. The letter of permission to take the update course must also be sent to the certifying agency.

(H) The instructor or examiner of the Certified Medication Technician Update Course shall be an approved instructor as designated in section (6) of this rule.

(I) The sponsoring educational agency shall maintain, for at least two (2) years, the records of individuals who have taken the update course. The sponsoring educational agency shall provide a certifying agency approved by the division with documentation showing successful completion and testing of the update course and the Score Sheet for Certified Medication Technician Update Course. Any final examination score sheet not received within (90) days by the certifying agency after the final examination is given shall be invalid. The certifying agency shall provide a certificate to



the student which documents successful completion of the state-approved Certified Medication Technician Update Course.

(J) The division shall maintain a list of long-term care associations or other agencies that issue certificates to individuals who have successfully completed the course. On at least a monthly basis, the long-term care associations or certifying agencies shall provide the division with the names and other identifying data of those individuals receiving update course certificates. The long-term care associations or certifying agencies shall maintain these update course records for at least two (2) years.

(K) The division shall maintain a Certified Medication Technician Register listing names and other relevant and identifying information.

AUTHORITY: section 198.079, RSMo 1994. This rule originally filed as 13 CSR 15-13.020. Original rule filed Aug. 13, 1982, effective Jan. 13, 1983. Amended: Filed Oct. 13, 1987, effective Jan. 29, 1988. Amended: Filed July 13, 1998, effective Feb. 28, 1999. Moved to 19 CSR 30-84.020, effective Aug. 28, 2001.*

**Original authority: 198.079, RSMo 1979.*

19 CSR 30-84.030 Level I Medication Aide

PURPOSE: Individuals who administer medications in residential care facilities I and II are required by 13 CSR 15-15.042(49) to be either a physician, a licensed nurse, a certified medication technician or a level I medication aide. This rule sets forth the requirements for approval of a Level I Medication Aide Training Program designating the required course curriculum content, outlining the qualifications required of students and instructors, designating approved training facilities and outlining the testing and certification requirements.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) The Level I Medication Aide Training Program shall be administered by the

Department of Health and Senior Services (the department) in order to prepare individuals for employment as level I medication aides in residential care facilities (RCFs) and assisted living facilities (ALFs). The program shall be designed to teach skills in medication administration of nonparenteral medications in order to qualify students to perform this procedure only in RCFs and ALFs in Missouri.

(2) All aspects of the level I Medication Aide Training Program included in this rule shall be met in order for a program to be considered approved.

(3) The objective of the level I Medication Aide Training Program shall be to ensure that the medication aide will be able to—define the role of a level I medication aide; prepare, administer and chart medications by nonparenteral routes; observe, report and record unusual responses to medications; identify responsibilities associated with control and storage of medications; and utilize appropriate drug reference materials.

(4) The course shall be an independent self-study course with a minimum of sixteen (16) hours of integrated formal instruction and practice sessions supervised by an approved instructor which shall include a final written and practicum examination.

(5) The curriculum content shall include procedures and instructions in the following areas: basic human needs and relationships; drug classifications and their implications; assessing drug reactions; techniques of drug administration; medication storage and control; drug reference resources; and infection control.

(6) The course developed by the Missouri Department of Elementary and Secondary Education and the Department of Health and Senior Services as outlined in the manual entitled *Level I Medication Aide* (50-6064-S and 50-6064-I) 1993 edition, produced by the Instructional Materials Laboratory, University of Missouri-Columbia, incorporated by reference in this rule and available through the Department of Health and Senior Services, PO Box 570, Jefferson City, MO 65102-0570, shall be considered the approved course curriculum. This rule does not incorporate any subsequent amendments or additions to the materials incorporated by reference. Students and instructors each shall have a copy of this manual.

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(7) A student shall not administer medications without the instructor present until s/he successfully completes the course and obtains a certificate.

(8) Student Qualifications.

(A) Any individual employable by an RCF or ALF to be involved in direct resident care shall be eligible to enroll as a student in the course. Employable shall mean an individual who is at least eighteen (18) years of age; not listed on the department's Employee Disqualification List (EDL) and has not been convicted of, or entered a plea of guilty or *nolo contendere* to a crime in this state or any other state, which if committed in Missouri would be a class A or B felony violation of Chapters 565, 566, and 569, RSMo, any violation of section 568.020, RSMo or any violation of section 198.070.3, RSMo, unless a good cause waiver has been granted by the department pursuant to the provisions of 19 CSR 30-82.060.

(B) The following individuals may qualify as level I medication aides by successfully challenging the final examination: Individuals either enrolled in or who have been enrolled in a professional nursing school or in a practical nursing program who have completed the medication administration or pharmacology course and who have letters of endorsement from the directors of their respective programs.

(9) Those persons wanting to challenge the final examination shall submit a request in writing to the department's Section of Long Term Care director enclosing applicable documentation. If approved to challenge the examination, a letter so stating will be sent from the division to present to an approved instructor so that arrangements can be made for testing.

(10) Instructor Qualifications.

(A) An instructor shall be currently licensed to practice as either a registered nurse or practical nurse in Missouri or shall hold a current temporary permit from the Missouri State Board of Nursing. The licensee shall not be subject to current disciplinary action such as censure probation, suspension or revocation. If the individual is a licensed practical nurse, the following additional requirements shall be met:

1. Shall be a graduate of an accredited program which has pharmacology in the curriculum.
2. This additional requirement shall not be waived.

(B) In order to be qualified as an instructor, the individual shall have had one (1) year's experience working in a long-term care (LTC) facility licensed by the department or the Department of Mental Health within the past five (5) years; or shall be currently employed in an LTC facility licensed by the department or the Department of Mental Health and shall have been employed by that facility for at least six (6) months; or shall be an instructor in a Health Occupations Education program; and shall have attended a "Train the Trainer" workshop to implement the Level I Medication Aide Program conducted by a Missouri registered nurse presenter approved by the department.

(C) Upon completion of the workshop and receipt of all credentials validating qualifications, the presenter shall issue a certificate indicating that an instructor is approved to teach the level I medication aide course and shall submit the names of the approved instructors to the approved LTC association.

(D) A person who has been approved as an instructor shall have that status revoked if, after an investigation by the division, it is found that the instructor:

1. Accepted money from a student and did not follow through with the class or upon successful completion of the class did not follow through with certification;
2. Falsified information on the final score sheet or any other required documentation; or
3. Administered the final examination incorrectly and not in accordance with section (12) of this rule.

(E) Once an instructor's status is revoked only the director of the division or his/her designee may reinstate the individual after the individual requests reinstatement documenting new circumstances. If the instructor's status is revoked or reinstated, the division shall immediately notify all certifying agencies of the action.

(11) Sponsoring Agencies.

(A) The following entities are eligible to apply to the department to be an approved training agency: an area vocational-technical school, a comprehensive high school, a community college, an approved four (4) year institution of higher learning or an RCF or ALF licensed by the department or an LTC association.

(B) The sponsoring agency is responsible for obtaining an approved instructor, determining the number of manuals needed for a given



program, ordering the manuals for the students and presenting a class schedule for approval by an approved LTC association. The required information will include: the name of the approved instructor; the instructor's Social Security number, current address and telephone number; the number of students enrolled; the name, address, telephone number, Social Security number and age of each student; the name and address of the facility that employs the student, if applicable; the date and location of each class to be held; and the date and location of the final examination. The LTC association which approved the course shall be notified in advance if there are any changes in dates or locations.

(C) Classrooms used for training shall contain sufficient space, equipment and teaching aids to meet the course objectives as determined by an approved LTC association.

(D) If the instructor is not directly employed by the agency, there shall be a signed written agreement between the sponsoring agency and the instructor which shall specify the role, responsibilities and liabilities of each party.

(12) Testing.

(A) The final examination shall consist of a written and a practicum examination administered by the instructor.

1. The written examination shall include twenty-five (25) questions based on the course objectives.

2. The practicum examination shall be done in an LTC facility which shall include the preparation and administration by nonparenteral routes and recording of medications administered to residents under the direct supervision of the instructor and the person responsible for medication administration in the long-term care facility. Testing on medications not available in the LTC facility shall be done in a simulated classroom situation.

(B) A score of eighty percent (80%) is required for passing the final written examination and one hundred percent (100%) accuracy in the performance of the steps of procedure in the practicum examination.

(C) The final examination, if not successfully passed, may be retaken within ninety (90) days one (1) time without repeating the course, however, those challenging the final examination must complete the course if the examination is not passed in the challenge process.

(D) The instructor shall complete final records and shall submit these and all test booklets to the sponsoring agency.

(13) Records and Certification.

(A) Records.

1. The sponsoring agency shall maintain records of all individuals who have been enrolled in the Level I Medication Aide Program and shall submit to the LTC association which approved the course all test booklets, a copy of the score sheets and a complete class roster.

2. A copy of the final record shall be provided to any individual enrolled in the course.

3. A final record may be released only with written permission from the student in accordance with the provisions of the Privacy Act (PL 90-247).

(B) Certification.

1. The LTC association which approved the course shall award a Level I medication aide certificate to any individual successfully completing the course upon receiving the required final records and test booklets from the sponsoring agency.

2. The LTC association which approved the course shall submit to the department the names of all individuals receiving certificates.

(14) The department shall maintain a list of LTC associations approved to handle the Level I Medication Aide Training Program. In order for an LTC association to be approved by the department the association shall enter into an agreement of cooperation with the department which shall be renewable annually and shall effectively carry out the following responsibilities:

(A) Maintain a roster of approved instructors;

(B) Approve sponsoring agencies, class schedules and classroom space;

(C) Distribute final examinations, review test booklets, score sheets and class rosters;

(D) Award certificates to individuals who successfully complete the course, provide the department with the names of those receiving certificates; and

(E) Maintain records.

(15) Maintaining Certification.

(A) If the department, upon completion of an investigation, finds that the Level I medication aide has stolen or diverted drugs from a resident or facility or has had his/her name added to the employee disqualification list, the division shall delete such person's name from the department's



Level I medication aide listing. Such deletion shall render the medication aide's certificate invalid.

AUTHORITY: sections 198.076, RSMo 2000 and 198.005 and 198.073, RSMo Supp. 2006. This rule originally filed as 13 CSR 15-13.030. Original rule filed May 14, 1985, effective Sept. 1, 1985. Amended: Filed Oct. 16, 1985, effective Jan. 12, 1986. Amended: Filed May 26, 1998, effective Jan. 30, 1999. Moved to 19 CSR 30-84.030, effective Aug. 28, 2001. Amended: Filed Aug. 23, 2006, effective April 30, 2007.*

**Original authority: 198.005, RSMo 2006; 198.073, RSMo 1974, amended 1984, 1992, 1999, 2006; and 198.076, RSMo 1979, amended 1984.*

19 CSR 30-84.040 Insulin Administration Training Program

PURPOSE: This rule sets forth the requirements for approval of an insulin administration training program, designates the required course curriculum content, outlines the qualifications required of students and instructors and outlines the testing and records requirements.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) The Insulin Administration Training Program shall be administered by the Department of Health and Senior Services (the department) in order to prepare medication technicians in a skilled nursing facility (SNF) or intermediate care facility (ICF), or medication aides in a residential care facility (RCF) or an assisted living facility (ALF) to administer insulin. The program shall be designed to present information on diabetes as it relates to symptoms and implications of proper or improper treatment, and to teach skills in insulin administration in order to qualify students to perform this

procedure in long-term care (LTC) facilities in Missouri. All aspects of the Insulin Administration Training course included in this rule shall be met in order for the program to be approved.

(2) The course shall consist of at least four (4) hours of classroom instruction by an approved instructor and shall include a final written and practicum examination. The practicum examination shall not be conducted in a simulated situation.

(3) The curriculum content shall include procedures and instruction in the following areas: diabetes and its treatment and complications, types of insulin, technique of insulin administration and methods of monitoring blood sugar levels.

(4) The manual entitled *Insulin Administration* (50-6080-S and 50-6080-I), 2001 edition, produced by the Instructional Materials Laboratory, University of Missouri-Columbia, which is incorporated by reference in this rule, and available through the Department of Health and Senior Services, PO Box 570, Jefferson City, MO 65102-0570, shall be considered the approved course curriculum. This rule does not incorporate any subsequent amendments or additions to the materials incorporated by reference. Students and instructors shall each have a copy of the manual.

(5) A student shall not administer insulin without the instructor present until s/he has successfully completed the course.

(6) Student Qualifications.

(A) Any level I medication aide working in an RCF or ALF, who is recommended in writing for training by an administrator/manager or nurse with whom s/he has worked shall be eligible to enroll as a student in this course.

(B) Any certified medication technician who is recommended in writing for training by the administrator or director of nursing with whom s/he has worked shall be eligible to enroll as a student in this course. The letter of recommendation shall be given to the training agency or instructor at enrollment.

(7) Instructor Qualifications. Only a registered nurse who is an approved instructor for the Level I Medication Aide Program, instructor/examiner for the Certified Nurse Assistant Program or instructor for the Certified Medication

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Technician Program shall be considered qualified to teach the Insulin Administration Course.

(8) Testing.

(A) The final examination shall consist of a written and practicum examination administered by an approved instructor or examiner.

1. The written examination shall include ten (10) questions extracted from the list in the instructor's manual.

2. The practicum examination shall include the preparation, administration and recording of administration of insulin to a resident(s) under the direct supervision of the instructor/examiner.

(B) A score of eighty percent (80%) is required for passing the final written examination and one hundred percent (100%) accuracy in the performance of the steps of procedure in the practicum examination.

(C) The final examination, if not successfully passed, may be retaken one (1) time within thirty (30) days without repeating the course.

(9) Records.

(A) The instructor shall complete the final record of the insulin administration course and shall distribute copies in the following manner:

1. A copy shall be provided to each individual who successfully completes the course;

2. A copy shall be kept in the instructor's file; and

3. The original shall be sent to a certifying agency.

(B) Each student shall obtain a certificate from a state-approved certifying agency validating successful completion of the training program.

(C) Records shall be retained by instructors for at least two (2) years.

(D) The department shall maintain a list of approved certifying agencies to handle issuance of certificates for the Insulin Administration Program. In order for an agency to be approved by the department to be a certifying agency, it shall enter into an agreement of cooperation with the department which shall be renewable annually and the agency shall effectively carry out the following responsibilities:

1. Review all documents submitted by the instructor to assure that the instructor is qualified in accordance with section (7);

2. Assure that all program requirements have been met as set forth in these rules or as stipulated in the agreement with the department;

3. Issue certificates to individuals who successfully complete the course;

4. Provide the department with the names of those receiving certificates on at least a monthly basis; and

5. Maintain accurate and complete records for a period of at least two (2) years.

AUTHORITY: sections 198.009 and 198.076, RSMo 2000 and 198.005 and 198.073, RSMo Supp. 2006. This rule originally filed 13 CSR 15-13.040. Original rule filed Oct. 15, 1990, effective March 14, 1991. Amended: Filed May 26, 1998, effective Nov. 30, 1998. Moved to 19 CSR 30-84.040, effective Aug. 28, 2001. Amended: Filed Aug. 23, 2006, effective April 30, 2007.*

**Original authority: 198.005, RSMo 2006; 198.009, RSMo 1979, amended 1993, 1995; 198.073, RSMo 1979, amended 1984, 1992, 1999, 2006 and 198.076, RSMo 1979, amended 1984.*

APPENDIX B

Excerpts from Federal Regulations (OBRA) for Skilled Nursing
Facilities (SNFs) and Nursing Facilities (NFs)
Effective Date; March, 2005

§483.10 Resident Rights

The resident has a right to a dignified existence, self-determination, and communication with and access to persons and services inside and outside the facility. A facility must protect and promote the rights of each resident.

F155 – §483.10(b) (4)

The resident has the right to refuse treatment, to refuse to participate in experimental research, and to formulate an advance directive as specified in paragraph (8) of this section.

Interpretive Guidelines §483.10(b)(4)

“Treatment” is defined as care provided for purposes of maintaining/restoring health, improving functional level, or relieving symptoms.

If a resident’s refusal of treatment brings about a significant change, the facility should reassess the resident and institute care planning changes. A resident’s refusal of treatment does not absolve a facility from providing a resident with care that allows him/her to attain or maintain his/her highest practicable physical, mental and psychosocial well-being in the context of making that refusal.

F157 – §483.10(b)(11) – Notification of changes.

- (i) A facility must immediately inform the resident; consult with the resident’s physician; and if known, notify the resident’s legal representative or an interested family member when there is--
 - (A) An accident involving the resident which results in injury and has the potential for requiring physician intervention;
 - (B) A significant change in the resident’s physical, mental, or psychosocial status (i.e., a deterioration in health, mental, or psychosocial status in either life-threatening conditions or clinical complications);
 - (C) A need to alter treatment significantly (i.e., a need to discontinue an existing form of treatment due to adverse consequences, or to commence a new form of treatment); or
 - (D) A decision to transfer or discharge the resident from the facility as specified in §483.12(a).

Interpretive Guidelines §483.10(b)(11)

For purposes of §483.10(b)(11)(i)(B), life-threatening conditions are such things as a heart attack or stroke. Clinical complications are such things as development of a stage II pressure sore, onset, or recurrent periods of delirium, recurrent urinary tract infection, or onset of depression. A need to alter treatment “significantly” means a need to stop a form of treatment because of adverse consequences (e.g., an adverse drug reaction), or commence a new form of treatment to deal with a problem (e.g., the use of any medical procedure, or therapy that has not been used on that resident before).

In the case of a competent individual, the facility must still contact the resident’s physician and notify interested family members, if known. That is, a family that wishes

to be informed would designate a member to receive calls. Even when a resident is mentally competent, such a designated family member should be notified of significant changes in the resident's health status because the resident may not be able to notify them personally, especially in the case of sudden illness or accident.

The requirements at §483.10(b)(1) require the facility to inform the resident of his/her rights upon admission and during the resident's stay. This includes the resident's right to privacy (§483.10(e), F164). If, after being informed of the right to privacy, a resident specifies that he/she wishes to exercise this right and not notify family members in the event of a significant change as specified at this requirement, the facility should respect this request, which would obviate the need to notify the resident's interested family member or legal representative, if known. If a resident specifies that he/she does not wish to exercise the right to privacy, then the facility is required to comply with the notice of change requirements.

In the case of a resident who is incapable of making decisions, the representative would make any decisions that have to be made, but the resident should still be told what is happening to him or her.

In the case of the death of a resident, the resident's physician is to be notified immediately in accordance with State law.

F164 – §483.10(e) Privacy and Confidentiality

The resident has the right to personal privacy and confidentiality of his or her personal and clinical records.

- (1) Personal privacy includes accommodations, medical treatment, written and telephone communications, personal care, visits, and meetings of family and resident groups, but this does not require the facility to provide a private room for each resident;
- (2) Except as provided in paragraph (e)(3) of this section, the resident may approve or refuse the release of personal and clinical records to any individual outside the facility;
- (3) The resident's right to refuse release of personal and clinical records does not apply when--
 - (i) The resident is transferred to another health care institution; or
 - (ii) Record release is required by law

Interpretive Guidelines – §483.10(e) "Right to privacy"

Facility staff must examine and treat residents in a manner that maintains the privacy of their bodies. A resident must be granted privacy when going to the bathroom and in other activities of personal hygiene. If an individual requires assistance, authorized staff should respect the individual's need for privacy. Only authorized staff directly involved in treatment should be present when treatments are given. People not involved in the care of the individual should not be present without the individual's consent while he/she is being examined or treated. Staff should pull privacy curtains, close doors, or otherwise remove residents from public view and provide clothing or draping to prevent unnecessary exposure of body parts during the provision of personal care and services.

Personal and clinical records include all types of records the facility might keep on a resident, whether they are medical, social, fund accounts, automated or other.

F176 – §483.10(n) Self-Administration of Drugs

An individual resident may self-administer drugs if the interdisciplinary team, as defined by §483.20(d)(2)(ii), has determined that this practice is safe.

Interpretive Guidelines §483.10(n)

If a resident requests to self-administer drugs, it is the responsibility of the interdisciplinary team to determine that it is safe for the resident to self-administer drugs before the resident may exercise that right. The interdisciplinary team must also determine who will be responsible (the resident or the nursing staff) for storage and documentation of the administration of drugs, as well as the location of the drug administration (e.g., resident’s room, nurses’ station, or activities room). Appropriate notation of these determinations should be placed in the resident’s care plan.

The decision that a resident has the ability to self-administer medication(s) is subject to periodic re-evaluation based on change in the resident’s status. The facility may require that drugs be administered by the nurse or medication aide, if allowed by State law, until the care planning team has the opportunity to obtain information necessary to make an assessment of the resident’s ability to safely self-administer medications. If the resident chooses to self-administer drugs, this decision should be made at least by the time the care plan is completed within seven days after completion of the comprehensive assessment.

F222 – Use Tag F222 for deficiencies concerning chemical restraints.

§483.13(a) - Restraints

The resident has the right to be free from any physical or chemical restraints imposed for purposes of discipline or convenience, and not required to treat the resident’s medical symptoms.

Intent §483.13(a)

The intent of this requirement is for each person to attain and maintain his/her highest practicable well-being in an environment that prohibits the use of restraints for discipline or convenience and limits restraint use to circumstances in which the resident has medical symptoms that warrant the use of restraints.

Interpretive Guidelines §483.13(a) – Definitions of Terms

“Chemical Restraints” is defined as any drug that is used for discipline or convenience and not required to treat medical symptoms.

“Discipline” is defined as any action taken by the facility for the purpose of punishing or penalizing residents.

“Convenience” is defined as any action taken by the facility to control a resident’s behavior or manage a resident’s behavior with a lesser amount of effort by the facility and not in the resident’s best interest.

“Medical Symptom” is defined as an indication or characteristic of a physical or psychological condition.

Restraints may not be used for staff convenience. However, if the resident needs emergency care, restraints may be used for brief periods to permit medical treatment to proceed unless the facility has a notice indicating that the resident has previously made a valid refusal of the treatment in question. If a resident’s unanticipated violent or aggressive behavior places him/her or others in imminent danger, the resident does not have the right to refuse the use of restraints. In this situation, the use of restraints is a measure of last resort to protect the safety of the resident or others and must not extend beyond the immediate episode. The resident’s right to participate in care planning and the right to refuse treatment are addressed at §§483.20(k)(2)(ii) and 483.10(b)(4), respectively, and include the right to accept or refuse restraints.

F271 – §483.20(a) Admission Orders

At the time each resident is admitted, the facility must have physician orders for the resident’s immediate care.

Intent §483.20(a)

To ensure the resident receives necessary care and services.

Interpretive Guidelines §483.20(a)

“Physician orders for immediate care” are those written orders facility staff need to provide essential care to the resident, consistent with the resident’s mental and physical status upon admission. These orders should, at a minimum, include dietary, drugs (if necessary) and routine care to maintain or improve the resident’s functional abilities until staff can conduct a comprehensive assessment and develop an interdisciplinary care plan.

F272 – §483.20 Resident Assessment

The facility must conduct initially and periodically a comprehensive, accurate, standardized reproducible assessment of each resident’s functional capacity.

Intent §483.20

To provide the facility with ongoing assessment information necessary to develop a care plan, to provide the appropriate care and services for each resident, and to modify the care plan and care/services based on the resident’s status. The facility is expected to use resident observation and communication as the primary source of information when completing the RAI. In addition to direct observation and communication with the resident, the facility should use a variety of other sources, including communication with licensed and non-licensed staff members on all shifts and may include discussions with the resident’s physician, family members, or outside consultants and review of the resident’s record.

§483.20(b) Comprehensive Assessments

§483.20(b)(1) Resident Assessment Instrument

A facility must make a comprehensive assessment of a resident's needs, using the RAI specified by the State.

§483.20(b) Intent

To ensure that the RAI is used in conducting comprehensive assessments as part of an ongoing process through which the facility identifies the resident's functional capacity and health status.

§483.20(b) Guidelines

The information required in §483.20(b)(i-xvi) is incorporated into the MDS, which forms the core of each State's approved RAI. Additional assessment information is also gathered using triggered RAPs.

Each facility must use its State-specified RAI (which includes both the MDS and utilization guidelines which include the RAPs) to assess newly admitted residents, conduct an annual reassessment and assess those residents who experience a significant change in status. The facility is responsible for addressing all needs and strengths of residents regardless of whether the issue is included in the MDS or RAPs. The scope of the RAI does not limit the facility's responsibility to assess and address all care needed by the resident. Furthermore:

(xiv) Medications

"Medications" (xiv) corresponds to MDS v. 2.0, section O, and section U, if completed.

"Medications" refers to all prescription and over-the-counter medications taken by the resident, including dosage, frequency of administration, and recognition of significant side effects that would be most likely to occur in the resident. This information need not appear in the assessment. However, it must be in the resident's clinical record and included in the care plan.

F281 – §483.20(k)(3)

The services provided or arranged by the facility must -

- (i) Meet professional standards of quality.

Intent §483.20(k)(3)(i)

The intent of this regulation is to assure that services being provided meet professional standards of quality (in accordance with the definition provided below) and are provided by appropriate qualified persons (e.g., licensed, certified).

Interpretive Guidelines §483.20(k)(3)(i)

"Professional standards of quality" means services that are provided according to accepted standards of clinical practice. Standards may apply to care provided by a particular clinical discipline or in a specific clinical situation or setting. Standards

regarding quality care practices may be published by a professional organization, licensing board, accreditation body or other regulatory agency. Recommended practices to achieve desired resident outcomes may also be found in clinical literature. Possible reference sources for standards of practice include:

- Current manuals or textbooks on nursing, social work, physical therapy, etc.
- Standards published by professional organizations such as the American Dietetic Association, American Medical Association, American Medical Directors Association, American Nurses Association, National Association of Activity Professionals, National Association of Social Work, etc.
- Clinical practice guidelines published by the Agency of Health Care Policy and Research.
- Current professional journal articles.

F329 – §483.25(I) Unnecessary Drugs

1. General. Each resident's drug regimen must be free from unnecessary drugs. An unnecessary drug is any drug when used:

- (i) In excessive dose (including duplicate therapy); or
- (ii) For excessive duration; or
- (iii) Without adequate monitoring; or
- (iv) Without adequate indications for its use; or
- (v) In the presence of adverse consequences which indicate the dose should be reduced or discontinued; or
- (vi) Any combinations of the reasons above.

It is important to note that these regulations and interpretive guidelines are not meant to cast a negative light on the use of psychopharmacological drugs in long term care facilities. The use of psychopharmacological drugs can be therapeutic and enabling for residents suffering from mental illnesses such as schizophrenia or depression. The goal of these regulations and guidelines is to stimulate appropriate differential diagnosis of "behavioral symptoms" so the underlying **cause** of the symptoms is recognized and treated appropriately. This treatment may include the use of environmental and/or behavioral therapy, as well as, psychopharmacological drugs. The goal of these regulations is also to **prevent** the use of psychopharmacological drugs when the "behavioral symptom" is caused by conditions such as:

An excellent differential diagnostic process for behavioral symptoms is described in the RAP on Behavior Problems (soon to be known as behavioral symptoms). Also, a number of very practical manuals are now available that teach nursing personnel how to assess and provide individualized care for behavioral symptoms, which leads to the avoidance of physical restraints, and unnecessary drugs. These manuals include, but are not limited to, the following list:

1. "Managing Behavior Problems in Nursing Home Residents"
Department of Preventive Medicine
Vanderbilt University School of Medicine
2. "Retrain, Don't Restrain"
American Association of Homes and Services for the Aging, or
The American Health Care Association

3. “Innovations in Restraint Reduction”
American Health Care Association
4. “Avoiding Physical Restraint Use: New Standards in Care,”
National Citizens’ Coalition for Nursing Home Reform
5. “Avoiding Drugs Used as Chemical Restraints: New Standards in Care”
National Citizens’ Coalition for Nursing Home Reform

Interpretive Guidelines §483.25(l)(1)

A. Long-Acting Benzodiazepine Drugs

The following long-acting benzodiazepine drugs should not be used in residents unless an attempt with a shorter-acting drug (i.e., those listed under B. Benzodiazepine or Other Anxiolytic/Sedative Drugs, and under C. Drugs Used for Sleep Induction) has failed.

After an attempt with a shorter-acting benzodiazepine drug has failed, a long-acting benzodiazepine drug should not be used unless:

- Evidence exists that other possible reasons for the resident’s distress have been considered and ruled out. (see §483.25(l)(1)(iv);)
- Its use results in maintenance or improvement in the resident’s functional status (to evaluate functional status, (see §483.25(a) through (k)) and MDS 2.0 sections B through P). (see §483.25(l)(1)(iv));
- Daily use is less than four continuous months unless an attempt at a **gradual** dose reduction is unsuccessful (see §483.25(l)(1)(ii)); and
- Its use is less than, or equal to, the following listed total **daily** doses unless higher doses (as evidenced by the resident’s response and/or the resident’s clinical record) are necessary for the maintenance, or improvement in the resident’s functional status. (see §483.25(l)(1)(i).)

Long-Acting Benzodiazepines - Not Maximum Doses

Generic	Brand	Daily Oral Dosage
Flurazepam	(Dalmane)	15mg
Chlordiazepoxide	(Librium)	20mg
Clorazepate	(Tranxene)	15mg
Diazepam	(Valium)	5mg
Clonazepam	(Klonopin)	1.5mg
Quazepam	(Doral)	7.5mg
Halazepam	(Paxipam)	40mg

NOTES: When diazepam is used for neuromuscular syndromes (e.g., cerebral palsy, tardive dyskinesia or seizure disorders), this guideline does not apply.
When long-acting benzodiazepine drugs are being used to withdraw residents from short-acting benzodiazepine drugs, this guideline does not apply.

When clonazepam is used in bi-polar disorders, management of tardive dyskinesia, nocturnal myoclonus or seizure disorders, this guideline does not apply.

The daily doses listed under long-acting Benzodiazepines are doses (usually administered in divided doses) for “geriatric” or “elderly” residents. The facility is encouraged to initiate therapy with lower doses and when necessary only **gradually** increase doses. The facility may exceed these doses if it provides evidence (see Survey Procedures and Probes) to show why it was necessary for the maintenance or improvement in the resident’s functional status.

“**Duplicate drug therapy**” is any drug therapy that duplicates a particular drug **effect** on the resident. For example, any two or more drugs, whether from the same drug category or not, which have a sedative effect. Duplicate drug therapy should prompt the facility to evaluate the resident for accumulation of the adverse effects.

For drugs in this category, a gradual dose reduction should be attempted at least twice within one year before one can conclude that the gradual dose reduction is clinically contraindicated.

B. Benzodiazepine or other Anxiolytic/Sedative Drugs

Use of listed Anxiolytic/Sedative drugs for purposes other than sleep induction should only occur when:

1. Evidence exists that other possible reasons for the resident’s distress have been considered and ruled out. (see §483.25(l)(1)(iv));
2. Use results in a maintenance or improvement in the resident’s functional status, (to evaluate functional status, (see §483.25(a) through (k)) and MDS 2.0 sections B through P). (see §483.25(l)(1)(iv));
3. Daily use (at any dose) is less than four continuous months unless an attempt at a gradual dose reduction is unsuccessful. (see §483.25(l)(1)(ii));
4. Use is for one of the following indications as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) or subsequent editions. (see §483.25(l)(1)(iv):)
 - a. Generalized anxiety disorder;
 - b. Organic mental syndromes (now called “delirium, dementia, and amnesic and other cognitive disorders” by DSM-IV) with associated agitated behaviors, which are quantitatively and objectively documented (see note number one) which are persistent and not due to preventable reasons and which constitute sources of distress or dysfunction to the resident or represent a danger to the resident or others;
 - c. Panic disorder;
 - d. Symptomatic anxiety that occurs in residents with another diagnosed psychiatric disorder (e.g., depression, adjustment disorder); and
5. Use is equal to or less than the following listed total **daily** doses, unless higher doses (as evidenced by the resident response and/or the resident’s clinical record) are necessary for the improvement or maintenance in the resident’s functional status. (see §483.25(l)(1)(i), F342.)

Short-Acting Benzodiazepines - Not Maximum Doses

Generic	Brand	Dose By Mouth
Generic	Brand	Daily Oral Dosage
Lorazepam	(Ativan)	2 mg
Oxazepam	(Serax)	30mg
Alprazolam	(Xanax)	0.75mg
Estazolam	(ProSom)	0.5mg

Other Anxiolytic And Sedative Drugs

Generic	Brand	Dose By Mouth
Diphenhydramine	(Benadryl)	50mg
Hydroxyzine	(Atarax, Vistaril)	50mg
Chloral Hydrate	(Many Brands)	750mg

NOTES

1. This documentation is often referred to as “behavioral monitoring charts” and is necessary to assist in: (a) assessing whether the resident’s behavioral symptom is in need of some form of intervention, (b) determining whether the behavioral symptom is transitory or permanent, (c) relating the behavioral symptom to other events in the resident’s life in order to learn about potential causes (e.g., death in the family, not adhering to the resident’s customary daily routine), (d) ruling out environmental causes such as excessive heat, noise, overcrowding, etc., (e) ruling out medical causes such as pain, constipation, fever, infection. For a more complete description of behavioral monitoring charts and how they can assist in the differential diagnosis of behavioral symptoms see the RAP on behavior problems (soon to be know as behavioral symptoms).
2. The daily doses listed under Short-Acting Benzodiazepines are doses (usually administered in divided doses) for “geriatric” or “elderly” residents. The facility is encouraged to initiate therapy with lower doses and, when necessary, only **gradually** increase doses. The facility may exceed these doses if it provides evidence (see survey procedures and probes) to show why it was necessary for the maintenance or improvement in the resident’s functional status.
3. For drugs in this category, a gradual dose reduction should be attempted at least twice within one year before one can conclude that a gradual dose reduction is clinically contraindicated.
4. Diphenhydramine, hydroxyzine and chloral hydrate are not necessarily drugs of choice for treatment of anxiety disorders. They are only listed here in the event of their potential use.

C. Drugs for Sleep Induction - Drugs used for sleep induction should only be used if:

- Evidence exists that other possible reasons for insomnia (e.g., depression, pain, noise, light, caffeine) have been ruled out. (see §483.25(l)(1)(iv));
- The use of a drug to induce sleep results in the maintenance or improvement of the resident’s functional status (to evaluate functional status, see §483.25(a) through (k) and MDS 2.0 sections B through P). (see §483.25(l)(1)(iv);)
- Daily use of the drug is less than ten continuous days unless an attempt at a gradual dose reduction is unsuccessful. (see §483.25(l)(1)(ii);) and
- The dose of the drug is equal or less than the following listed doses unless higher doses (as evidenced by the resident response and/or the resident’s clinical record) are necessary for maintenance or improvement in the resident's functional status. (see §483.25(l)(1)(i).)

Hypnotic Drugs - Not Maximum Doses

Generic	Brand	Dose By Mouth
Temazepam	(Restoril)	7.5mg
Triazolam	(Halcion)	0.125mg
Lorazepam	(Ativan)	1mg
Oxazepam	(Serax)	15mg
Alprazolam	(Xanax)	0.25mg
Estazolam	(ProSom)	0.5mg
Diphenhydramine	(Benadryl)	25mg
Hydroxyzine	(Atarax, Vistaril)	50mg
Chloral Hydrate	(Many Brands)	500mg
Zolpidem	(Ambien)	5mg

NOTES

1. Diminished sleep in the elderly is not necessarily pathological.
2. The doses listed are doses for “geriatric” or “elderly” residents. The facility is encouraged to initiate therapy with lower doses and when necessary only **gradually** increase doses. The facility may exceed these doses if it provides evidence (see survey procedures and probes) to show why it was necessary for the maintenance or improvement in the resident’s functional status.
3. Diphenhydramine, hydroxyzine, and chloral hydrate are not necessarily drugs of choice for sleep disorders. They are listed here only in the event of their potential use.
4. For drugs in this category, a gradual dose reduction should be attempted at least three times within six months before one can conclude that a gradual dose reduction is clinically contraindicated.

D. Miscellaneous Hypnotic/Sedative/Anxiolytic Drugs

The **initiation** of the following hypnotic/sedative/anxiolytic drugs should not occur in any dose for any resident. (See Notes for exceptions.) Residents currently using these drugs or residents admitted to the facility while using these drugs should receive **gradual** dose reductions as part of a plan to eliminate or modify the symptoms for which they are prescribed. A gradual dose reduction should be attempted at least twice within one year before one can conclude that the gradual dose reduction is clinically contraindicated. Newly admitted residents using these drugs may have a period of adjustment before a **gradual** dose reduction is attempted.

CAUTION: Do not encourage rapid withdrawal of these drugs. This might result in severe psychological withdrawal symptoms.

Barbiturates (Examples)

Generic	Brand
Amobarbital	(Amytal)
Butabarbital	(Butisol, others)
Pentobarbital	(Nembutal)
Secobarbital	(Seconal)
Phenobarbital	(Many Brands)
Amobarbital-Secobarbital	(Tuinal)
Barbiturates with other drugs	(e.g., Fiorinal)

Miscellaneous Hypnotic/Sedative/Anxiolytics

Generic	Brand
Glutethimide	(Doriden)
Methprylon	(Noludar)
Ethchlorvynol	(Placidyl)
Meprobamate	(Equinal, Miltown)
Paraldehyde brands	(Many brands)

1. Any sedative drug is excepted from this Guideline when used as a single dose sedative for dental or medical procedures.
2. Phenobarbital is excepted from this Guideline when used in the treatment of seizure disorders.
3. When Miscellaneous Hypnotic/Sedative/Anxiolytic Drugs are used outside these Guidelines they may be unnecessary drugs as a result of inadequate indications for use. (see Survey Procedures and Probes.)

E. Antipsychotic Drug Dosage Levels

The following examples of antipsychotic drugs should not be used in excess of the listed doses for residents with organic mental syndromes (now called “delirium, dementia, and amnestic and other cognitive disorders” by DSM-IV) unless higher doses (as evidenced by the resident’s response or the resident’s clinical record) are necessary to maintain or improve the resident’s functional status. To evaluate functional status, (see §§483.25(a) through (k)) and MDS 2.0 sections B through P.

SCREEN FOR HIGHER DOSES OF ANTIPSYCHOTIC DRUGS

These dose levels are **NOT MAXIMUM DOSES**. These daily dose levels are given to establish a point at which higher doses should be explained. If a resident is prescribed a higher dose than shown, the facility should explain the specific clinical circumstance requiring the higher dose.

ANTIPSYCHOTIC DRUGS		DAILY ANTIPSYCHOTIC ORAL DOSAGE FOR RESIDENTS WITH ORGANIC MENTAL SYNDROMES MG/DAY
Generic	Brand	Dose
Chlorpromazine	(Thorazine)	75
Promazine	(Sparine)	150
Triflupromazine	(Vesprin)	20
Thioridazine	(Mellaril)	75
Mesoridazine	(Serentil)	25
Acetophenazine	(Tindal)	20
Perphenazine	(Trilafon)	8
Fluphenazine	(Prolixin, Permitil)	
Trifluoperazine	(Stelazine)	8
Chlorprothixene	(Taractan)	75
Thiothixene	(Navane)	7
Haloperidol	(Haldol)	4
Molindone	(Moban)	10
Loxapine	(Loxitane)	10
Clozapine	(Clozaril)	50
Prochlorperazine	(Compazine)	10
Risperidone	(Risperdal)	2

ANTIPSYCHOTIC DRUGS		DAILY ANTIPSYCHOTIC ORAL DOSAGE FOR RESIDENTS WITH ORGANIC MENTAL SYNDROMES MG/DAY
Generic	Brand	Dose
Olanzapine	(Zyprexa)	10
Quetiapine	(Seroquel)	200

1. The doses listed are **daily** doses (usually administered in divided doses) for residents with organic mental syndromes (now called “Delirium, Dementia, and Amnestic and other cognitive disorders by DSM-IV). The facility is encouraged to initiate therapy with lower doses and when necessary only **gradually** increase doses. The facility may exceed these doses if it provides evidence (see Survey Procedures and Probes) to show why it is necessary for the maintenance or improvement in the resident’s functional status.
2. The “specific conditions” for use of antipsychotic drugs are listed under the Guideline for §§483.25(1)(1) and (2).
3. The dose of prochlorperazine may be exceeded for short term (seven days) treatment of nausea and vomiting. Residents with nausea and vomiting secondary to cancer or cancer chemotherapy can also be treated with higher doses for longer periods of time.
4. When antipsychotic drugs are used outside these Guidelines without valid reasons for the higher dose, they may be deemed unnecessary drugs as a result of excessive dose.

F. Monitoring for Antipsychotic Drug Side Effects

The facility assures that residents who are undergoing antipsychotic drug therapy receive adequate monitoring for significant side effects of such therapy with emphasis on the following:

- Tardive dyskinesia;
- Postural (orthostatic) hypotension;
- Cognitive/behavior impairment;
- Akathisia; and
- Parkinsonism.

NOTES: For a more detailed description of these side effects, see the RAP: Psychotropic Drug Use, pg. C-91, “Revised Long Term Care Resident Assessment Instrument User’s Manual,” Version 2.0, December 2002.

When antipsychotic drugs are used without monitoring for these side effects, they may be unnecessary drugs because of inadequate monitoring.

G. Antidepressant Drugs

The under diagnosis and under treatment of depression in nursing homes has been documented in a Journal of the American Medical Association paper entitled “Depression and Mortality in the Nursing Home” (JAMA, February 27, 1991-vol. 265, No. 8). CMS continues to support the accurate identification and treatment of depression in nursing homes.

The following is a list of commonly used antidepressant drugs:

Antidepressant Drugs	
Generic Name	Brand Name
Amitriptyline*	(Elavil)
Amoxapine	(Asendin)
Desipramine	(Norpramin, Pertofrane)
Doxepin*	(Sinequan)
Imipramine*	(Tofranil)
Maprotiline	(Ludiomil)
Nortriptyline	(Aventyl, Pamelor)
Protriptyline	(Vivactil)
Trimipramine*	(Surmontil)
Fluoxetine	(Prozac)
Sertraline	(Zoloft)
Trazodone	(Desyrel)
Clomipramine*	(Anafranil)
Paroxetine	(Paxil)
Bupropion	(Wellbutrin)
Isocarboxazid*	(Marplan)
Phenelzine*	(Nardil)
Tranylcypromine*	(Parnate)
Venlafaxine	(Effexor)
Nefazodone	(Serzone)
Fluvoxamine	(Luvox)

- These are not necessarily drugs of choice for depression in the elderly. They are listed here only in the event of their potential use.

F330 – §483.25(1)(2)(i)

Residents who have not used antipsychotic drugs are not given these drugs unless antipsychotic drug therapy is necessary to treat a specific condition as diagnosed and documented in the clinical record; and

Antipsychotic drugs should not be used unless the clinical record documents that the resident has one or more of the following “specific conditions”:

1. Schizophrenia;
2. Schizo-affective disorder;
3. Delusional disorder;
4. Psychotic mood disorders (including mania and depression with psychotic features);
5. Acute psychotic episodes;
6. Brief reactive psychosis;
7. Schizophreniform disorder;
8. Atypical psychosis;
9. Tourette’s disorder;
10. Huntington’s disease;
11. Organic mental syndromes (now called delirium, dementia, and amnestic and other cognitive disorders by DSM-IV) **with associated psychotic and/or agitated behaviors:**
 - a. Which have been quantitatively and objectively documented. This documentation is necessary to assist in:
 - (1) Assess whether the resident’s behavioral symptom is in need of some form of intervention,
 - (2) Determining whether the behavioral symptom is transitory or permanent,
 - (3) Relating the behavioral symptom to other events in the resident’s life in order to learn about potential causes (e.g., death in the family, not adhering to the resident’s customary daily routine),
 - (4) Ruling out environmental causes such as excessive heat, noise, overcrowding,
 - (5) Ruling out medical causes such as pain, constipation, fever, infection. For a more complete description of behavioral monitoring charts and how they can assist in the differential diagnosis of behavioral symptoms see the RAP on behavior problems (soon to be known as behavioral symptoms); and
 - b. Which are persistent, and
 - c. Which are not caused by preventable reasons; and
 - d. Which are causing the resident to:
 - (1) Present a danger to himself/herself or to others, or
 - (2) **Continuously** scream, yell, or pace if these specific behaviors cause an impairment in functional capacity (to evaluate functional capacity, see §483.25 (a) through (k) and MDS 2.0 sections B through P), or
 - (3) Experience psychotic symptoms (hallucinations, paranoia, delusions) not exhibited as dangerous behaviors or as screaming,

yelling, or pacing but which cause the resident distress or impairment in functional capacity; or

12. Short-term (7 days) symptomatic treatment of hiccups, nausea, vomiting or pruritus. Residents with nausea and vomiting secondary to cancer or cancer chemotherapy can be treated for longer periods of time.

Antipsychotics should not be used if one or more of the following is/are the **only** indication:

- Wandering;
- Poor self care;
- Restlessness;
- Impaired memory;
- Anxiety;
- Depression (without psychotic features);
- Insomnia;
- Unsociability;
- Indifference to surroundings;
- Fidgeting;
- Nervousness;
- Uncooperativeness; or
- Agitated behaviors which **do not** represent danger to the resident or others.

F331 – §483.25(l)(2)(ii)

Residents who use antipsychotic drugs receive gradual dose reductions, and behavioral interventions, unless clinically contraindicated, in an effort to discontinue these drugs.

Interpretive Guidelines §483.25(l)(2)(ii)

Residents must, unless clinically contraindicated, have gradual dose reductions of the antipsychotic drug. The gradual dose reduction should be under close supervision. If the gradual dose reduction is causing an adverse effect on the resident and the gradual dose reduction is discontinued, documentation of this decision and the reasons for it should be included in the clinical record. Gradual dose reductions consist of tapering the resident's daily dose to determine if the resident's symptoms can be controlled by a lower dose or to determine if the dose can be eliminated altogether.

“Behavioral interventions” means modification of the resident's behavior or the resident's environment, including staff approaches to care, to the largest degree possible to accommodate the resident's behavioral symptoms.

“Clinically contraindicated” means that a resident **NEED NOT UNDERGO** a “gradual dose reduction” or “behavioral interventions” IF:

1. The resident has a “specific condition” (as listed under 1 through 10 on page P-185) and has a history of recurrence of psychotic symptoms (e.g., delusions, hallucinations), which have been stabilized with a maintenance dose of an antipsychotic drug without incurring significant side effects;
2. The resident has organic mental syndrome (now called “Delirium, Dementia, and Amnesic and other Cognitive Disorders” by DSM IV) and has had a gradual dose

reduction attempted TWICE in one year and that attempt resulted in the return of symptoms for which the drug was prescribed to a degree that a cessation in the gradual dose reduction, or a return to previous dose reduction was necessary; or

3. The resident's physician provides a justification why the continued use of the drug and the dose of the drug is clinically appropriate. This justification should include: (s) a diagnosis, but not simply a diagnostic label or code, but the description of symptoms, (b) a discussion of the differential psychiatric and medical diagnosis (e.g., why the resident's behavioral symptom is thought to be a result of a dementia with associated psychosis and/or agitated behaviors, and not the result of an unrecognized painful medical condition of a psychosocial or environmental stressor), (c) a description of the justification for the choice of a particular treatment, or treatments, and (d) a discussion of why the present dose is necessary to manage the symptoms of the resident. This information need not necessarily be in the physician's progress notes, but must be a part of the resident's clinical record.

F332 and F333 – §483.25(m) Medication Errors

The facility must ensure that - [F332] §483.25(m)(1); it is free of medication error rates of 5 percent or greater; and [F333] §483.25(m)(2); residents are free of any significant medication errors.

Interpretive Guidelines §483.25(m)

Medication Error - the observed preparation or administration of drugs or biologicals which is not in accordance with:

1. Physician's orders;
2. Manufacturer's specifications (not recommendations) regarding the preparation and administration of the drug or biological;
3. Accepted professional standards and principles which apply to professionals providing services. Accepted professional standards and principles include the various practice regulations in each State, and current commonly accepted health standards established by national organizations, boards, and councils.

Significant medication error – one which causes the resident discomfort or jeopardizes his or her health and safety. Criteria for judging significant medication errors as well as examples are provided under significant and non-significant medication errors. Discomfort may be a subjective or related term used in different ways depending on the individual situation. (Constipation that is unrelieved by an ordered laxative that results in a drug error that is omitted for one day may be slightly uncomfortable or perhaps not uncomfortable at all. When the constipation persists for greater than three days, the constipation may be more significant. Constipation causing obstruction or fecal impaction can jeopardize the resident's health and safety.)

Medication error rate - is determined by calculating the percentage of errors. The numerator in the ratio is the total number of errors that the survey team observes, both significant and non-significant. The denominator is called "opportunities for errors" and includes all the doses the survey team observed being administered plus the doses

ordered but not administered. The equation for calculating a medication error rate is as follows:

Medication Error Rate = Number of Errors Observed divided by the Opportunities for Errors (doses given plus doses ordered but not given) X 100.

Medication error rate - a medication error rate of 5% or greater includes both significant and non-significant medication errors. It indicates that the facility may have systemic problems with its drug distribution system and a deficiency should be written.

The error rate must be 5% or greater. Rounding of a lower rate (e.g., 4.6%) to a 5% rate is not permitted.

Significant and Non-significant Medication Errors

Determining Significance – the relative significance of medication errors is a matter of professional judgment. Follow three general guidelines in determining whether a medication error is significant or not:

Resident Condition - the resident's condition is an important factor to take into consideration. For example, a fluid pill erroneously administered to a dehydrated resident may have serious consequences, but if administered to a resident with a normal fluid balance may not. If the resident's condition requires rigid control, a single missed or wrong dose can be highly significant.

Drug Category – if the drug is from a category that usually requires the resident to be titrated to a specific blood level, a single medication error could alter that level and precipitate a reoccurrence of symptoms or toxicity. This is especially important with a drug that has a Narrow Therapeutic Index (NTI) (i.e., a drug in which the therapeutic dose is very close to the toxic dose). Examples of drugs with NTI are as follows:

- A. Anticonvulsant: phenytoin (Dilantin), carbamazepine (Tegretol).
- B. Anticoagulants: warfarin (Coumadin).
- C. Antiarrhythmic: digoxin (Lanoxin).
- D. Antiasthmatics: theophylline (TheoDur).
- E. Antimanic Drugs: lithium salts (Eskalith, Lithobid).

Frequency of Error – if an error is occurring with any frequency, there is more reason to classify the error as significant. For example, if a resident's drug was omitted several times, as verified by reconciling the number of tablets delivered with the number administered, classifying that error as significant would be more in order. This conclusion should be considered in concert with the resident's condition and the drug category.

Examples of Significant and Non-Significant Medication Errors – some of these errors are identified as significant. This designation is based on expert opinion without regard to the status of the resident. Most experts concluded that the significance of these errors, in and of themselves, have a high potential for creating problems for the typical long term care facility resident. Those errors identified as non-significant have also been

designated primarily on the basis of the nature of the drug. Resident status and frequency of error could classify these errors as significant.

Examples of Medication Errors Detected

Omissions Examples (Drug ordered but not administered at least once):

Drug Order	Significance
Haldol 1mg BID	NS
Motrin 400mg TID	NS
Quinidine 200mg TID	S**
Tearisol Drops 2 both eyes TID	NS
Metamucil one packet BID	NS
Multivitamin one daily	NS
Mylanta Susp. one oz., TID AC	NS
Nitrol Oint. one inch	S
* Not Significant	
**Significant	

Unauthorized Drug Examples (Drugs administered without a physician's order):

Drug Order	Significance
Feosol	NS
Coumadin 4mg	S
Zyloprim 100mg	NS
Tylenol 5 gr	NS
Motrin 400mg	NS

Wrong Dose Examples:

Drug Order	Administered	Significance
Timoptic 0.25% one drop in the left eye TID	Three drops in each eye	NS
Digoxin 0.125mg everyday	0.25mg	S
Amphojel 30ml QID	15ml	NS
Dilantin 125 SUSP 12ml	2ml	S

Wrong Route of Administration Examples:

Drug Order	Administered	Significance
Cortisporin Ear Drops 4 to 5 left ear QID	Left Eye	S

Wrong Dosage Form Examples:

Drug Order	Administered	Significance
Colace Liquid 100mg BID	Capsule	NS
Mellaril Tab 10mg	Liquid Concentrate	NS*

Drug Order	Administered	Significance
Dilantin Kapseals 100 mg three Kapseals p.o. HS	Prompt Phenytoin 100 mg three capsules p.o. HS	S
* If correct dose was given.		
** Parke Davis Kapseals have an extended rate of absorption. Prompt phenytoin capsules do not.		

Wrong Drug Examples:

Drug Order	Administered	Significance
Tums	Oscal	NS
Vibramycin	Vancomycin	S

Wrong Time Examples:

Drug Order	Administered	Significance
Digoxin 0.25mg daily at 8 a.m.	At 9:30 am	NS
Percocet 2 Tabs 20 min. before painful treatment	2 Tabs given 3 after treatment	S

Medication Errors Due to Failure to Follow Manufacturers Specifications or Accepted Professional Standards

The following situations in drug administration may be considered medication errors:

- Failure to “Shake Well”: The failure to “shake” a drug product that is labeled “shake well.” This may lead to an under dose or over dose depending on the drug product and the elapsed time since the last “shake.” The surveyor should use common sense in determining the adequacy of the shaking of the medication. Some drugs, for example dilantin, are more critical to achieve correct dosage delivery than others.
- Insulin Suspensions: Also included under this category is the failure to “mix” the suspension without creating air bubbles. Some individuals “roll” the insulin suspension to mix it without creating air bubbles. Any motion used is acceptable so long as the suspension is mixed and does not have air bubbles in it prior to the administration.
- Crushing Medications that should not be Crushed: Crushing tablets or capsules that the manufacturer states “do not crush.”

Exceptions to the “Do Not Crush” rule:

- If the prescriber orders a drug to be crushed which the manufacturer states should not be crushed, the prescriber or the pharmacist must explain, in the clinical record, why crushing the medication will not adversely affect the resident. Additionally, the pharmacist should inform the facility staff to observe for pertinent adverse effects.

- If the facility can provide literature from the drug manufacturer or from a reviewed health journal to justify why modification of the dosage form will not compromise resident care.
- Adequate Fluids with Medications: The administration of medications without adequate fluid when the manufacturer specifies that adequate fluids be taken with the medication. For example:
 - Bulk laxatives (e.g., Metamucil, Fiberall, Serutan, Konsyl, Citrucel);
 - Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) should be administered with adequate fluid. Adequate fluid is not defined by the manufacturer but is usually four to eight ounces. The surveyor should count fluids consumed during meals or snacks (such as coffee, juice, milk, soft drinks, etc.) as fluids taken with the medication, as long as they have consumed within a reasonable time of taking the medication (e.g., within approximately 30 minutes). If the resident refuses to take adequate fluid, the facility should not be at fault so long as they made a good faith effort to offer fluid, and provided any assistance that may be necessary to drink the fluid. It is important that the surveyor not apply this rule to residents who are fluid restricted; and
 - Potassium supplements (solid or liquid dosage forms) such as: Kaochlor, Klorvess, Kaon, K-Lor, K-Tab, K-Dur, K-Lyte, Slow K, Klotrix, Micro K, or Ten K should be administered with or after meals with a full glass (e.g., approximately 4 - 8 ounces of water or fruit juice). This will minimize the possibility of gastrointestinal irritation and saline cathartic effect. If the resident refuses to take adequate fluid, the facility should not be at fault so long as they made a good faith effort to offer fluid, and provided any assistance that may be necessary to drink the fluid. It is important that the surveyor not apply this rule to residents who are fluid restricted.
- Medications that Must be Taken with Food or Antacids: The administration of medications without food or antacids when the manufacturer specifies that food or antacids be taken with or before the medication is considered a medication error. The most commonly used drugs that should be taken with food or antacids are the Nonsteroidal Anti-Inflammatory Drugs (NSAIDs). There is evidence that elderly, debilitated persons are at greater risk of gastritis and GI bleeds, including silent GI bleeds. Determine if the time of administration was selected to take into account the need to give the medication with food.

Examples of commonly used NSAIDs are as follows:

Generic Name	Brand Name
Diclofenac	Voltaren, Cataflam
Diflunisal	Dolobid
Etodolac	Lodine
Fenoprofen	Nalfon
Ibuprofen	Motrin, Advil
Indomethacin	Indocin
Ketoprofen	Orudis, Oruvail
Mefenamic Acid	Ponstel
Nabumetone	Relafen
Naproxen	Naprosyn, Aleve
Piroxicam	Feldene
Sulindac	Clinoril
Tolmetin	Tolectin

- Medications Administered with Enteral Nutritional Formulas: Administering medications immediately before, immediately after, or during the administration of enteral nutritional formulas (ENFs) without achieving the following minimum objectives:
 - Check the placement of the naso-gastric or gastrostomy tube in accordance with the facility’s policy on this subject. **NOTE:** If the placement of the tube is not checked, this is not a medication error; it is a failure to follow accepted professional practice and should be evaluated under Tag F281 requiring the facility to meet professional standards of quality.
 - Flush the enteral feeding tube with at least 30 ml of preferably warm water before and after medications are administered. While it is noted that some facility policies ideally adopt flushing the tube after each individual medication is given, as opposed to after the group of multiple medications is given, unless there are known compatibility problems between medicines being mixed together, a minimum of one flushing before and after giving the medications is all the surveyor need review. There may be cases where flushing with 30 ml after each single medication is given may overload an individual with fluid, raising the risk of discomfort or stress on body functions. Failure to flush, before and after, would be counted as one medication error and would be included in the calculation for medication errors exceeding 5 percent.

- o The administration of enteral nutrition formula and administration of dilantin should be separated to minimize interaction. The surveyor should look for appropriate documentation and monitoring if the two are administered simultaneously. If the facility is not aware that there is a potential for an interaction between the two when given together, and is not monitoring for outcome of seizures or unwanted side effects of dilantin, then the surveyor should consider simultaneous administration a medication error.
- Medications Instilled into the Eye: The administration of eye drops without achieving the following critical objectives:
 - o **Eye Contact:** The eye drop, but not the dropper, must make full contact with the conjunctival sac and then be washed over the eye when the resident closes the eyelid; and
 - o **Sufficient Contact Time:** The eye drop must contact the eye for a sufficient period of time before the next eye drop is instilled. The time for optimal eye drop absorption is approximately 3 to 5 minutes. (It should be encouraged that when the procedures are possible, systemic effects of eye medications can be reduced by pressing the tear duct for one minute after eye drop administration or by gentle eye closing for approximately three minutes after the administration.)
- Allowing Resident to Swallow Sublingual Tablets: If the resident persists in swallowing a sublingual tablet (e.g., nitroglycerin) despite efforts to train otherwise, the facility should endeavor to seek an alternative dosage form for this drug.
- Medication Administered Via Metered Dose Inhalers (MDI): The use of MDI in other than the following ways (this includes use of MDI by the resident). This is an error if the person administering the drug did not do all the following:
 - o Shake the container well;
 - o Position the inhaler in front of or in the resident's mouth. Alternatively a spacer may be used;
 - o For cognitively impaired residents, many clinicians believe that the closed mouth technique is easier for the resident and more likely to be successful. However, the open mouth technique often results in better and deeper penetration of the medication into the lungs, when this method can be used; and
 - o If more than one puff is required, (whether the same medication or a different medication) wait approximately a minute between puffs.

NOTE: If the person administering the drug follows all the procedures outlined above, and there is a failure to administer the medication because the resident can't cooperate (for example, a resident with dementia may not understand the procedure), this should not be called a medication error. The surveyor should evaluate the facility's responsibility to assess the resident's circumstance, and possibly attempt other dosage forms such as oral dosage forms or nebulizers.

Determining Medication Errors

Timing Errors – If a drug is ordered before meals (AC) and administered after meals (PC), always count this as a medication error. Likewise, if a drug is ordered PC and is given AC, count as a medication error. Count a wrong time error if the drug is administered 60 minutes earlier or later than its scheduled time of administration, **BUT ONLY IF THAT WRONG TIME ERROR CAN CAUSE THE RESIDENT DISCOMFORT OR JEOPARDIZE THE RESIDENT'S HEALTH AND SAFETY.** Counting a drug with a long half - life (e.g., digoxin) as a wrong time error when it is 15 minutes late is improper because this drug has a long half - life (beyond 24 hours) and 15 minutes has no significant impact on the resident. The same is true for many other wrong time errors (except AC AND PC errors).

To determine the scheduled time, examine the facility's policy relative to dosing schedules. The facility's policy should dictate when it administers a.m. doses, or when it administers the first dose in a 4-times-a-day dosing schedule.

Prescriber's Orders -- the latest recapitulation of drug orders is sufficient for determining whether a valid order exists provided the prescriber has signed the "recap." The signed "recap," if the facility uses the "recap" system and subsequent orders constitute a legal authorization to administer the drug.

F385

§483.40 Physician Services

A physician must personally approve in writing a recommendation that an individual be admitted to a facility. Each resident must remain under the care of a physician.

§483.40(a) Physician Supervision

The facility must ensure that:

- (1) The medical care of each resident is supervised by a physician; and
- (2) Another physician supervises the medical care of residents when their attending physician is unavailable.

F386

§483.40(b) Physician Visits

The physician must--

- (1) Review the resident's total program of care, including medications and treatments, at each visit required by paragraph (c) of this section;
- (2) Write, sign, and date progress notes at each visit; and
- (3) Sign and date all orders with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician-approved facility policy after an assessment for contraindications.

Intent §483.40(b)

The intent of this regulation is to have the physician take an active role in supervising the care of residents. This should not be a superficial visit, but should include an evaluation of the resident's condition and a review of and decision about the continued appropriateness of the resident's current medical regime.

F389**§483.40(d) Availability of Physicians for Emergency Care**

The facility must provide or arrange for the provision of physician services 24 hours a day, in case of emergency.

Interpretive Guidelines §483.40(d)

If a resident's own physician is unavailable, the facility should attempt to contact that physician's designated referral physician before assuming the responsibility of assigning a physician. Arranging for physician services may include assuring resident transportation to a hospital emergency room/ward or other medical facility if the facility is unable to provide emergency medical care at the facility.

F425**§483.60 Pharmacy Services**

The facility must provide routine and emergency drugs and biologicals to its residents, or obtain them under an agreement described in §483.75(h) of this part. The facility may permit unlicensed personnel to administer drugs if State law permits, but only under the general supervision of a licensed nurse.

Interpretive Guidelines §483.60

The facility is responsible under §483.75(h) for the "timeliness of the services."

A drug, whether prescribed on a routine, emergency, or as needed basis, must be provided in a timely manner. If failure to provide a prescribed drug in a timely manner causes the resident discomfort or endangers his or her health and safety, then this requirement is not met.

F426**§483.60(a) Procedures**

A facility must provide pharmaceutical services (including procedures that assure the accurate acquiring, receiving, dispensing, and administering of all drugs and biologicals) to meet the needs of each resident.

F427**§483.60(b) Service Consultation**

The facility must employ or obtain the services of a licensed pharmacist who--

- (1) Provides consultation on all aspects of the provision of pharmacy services in the facility;
- (2) Establishes a system of records of receipt and disposition of all controlled drugs in sufficient detail to enable an accurate reconciliation; and
- (3) Determines that drug records are in order and that an account of all controlled drugs is maintained and periodically reconciled.

Interpretive Guidelines §483.60(b)(2) and (3)

A record of receipt and disposition of controlled drugs does not need to be proof of use sheets. The facility can use existing documentation such as the Medication Administration Record (MAR) to accomplish this record.

Periodic reconciliations should be monthly. If they reveal shortages, the pharmacist and the director of nursing may need to initiate more frequent reconciliations. In situations in which loss of controlled drugs is evident, the facility may have to utilize proof of use sheets on all controlled drugs for all shifts. However, when the source of shortage is located and remedied, the facility may go back to periodic reconciliation by the pharmacist.

Please note that the regulation does not prohibit shortages of controlled drugs - only that a record be kept and that it be periodically reconciled. If the survey reveals that all controlled drugs are not accounted for, refer the case to the State nursing home licensure authority, or to the State Board of Pharmacy.

F428

§483.60(c) Drug Regimen Review

(1) The drug regimen of each resident must be reviewed at least once a month by a licensed pharmacist.

Interpretive Guidelines §483.60(c)(1)

It may be necessary to review more frequently (e.g., every week) depending on the residents' condition and the drugs they are taking.

F429

§483.60(c)(2) The pharmacist must report any irregularities to the attending physician, and the director of nursing, and

Miscellaneous Drugs That Are Potentially Inappropriate in the Elderly

The following list of drugs and diagnoses/drug combinations have been partially adapted from a paper entitled "Explicit Criteria for Determining Inappropriate Medication Use by the Elderly" by Mark H. Beers, MD. This paper was published in the "Archives of Internal Medicine," Volume 157, July 28, 1997. The paper lists numerous drugs and diagnosis/drug combinations that are judged to place a person over the age of 65 at greater risk of adverse drug outcomes (ADR). The judgments in this paper were arrived at through an extensive review of the literature by a panel of experts. There are two important quotations from the paper that the surveyor should keep in mind at all times:

1. "These criteria were developed to predict when the potential for adverse outcomes is greater than the potential for benefit."
2. "Without measuring outcomes, criteria cannot determine whether adverse outcomes have occurred; they can only determine that they are more likely to occur."

These criteria are divided into two broad categories. Drug therapy that is classified as having “high severity” and therapy that is considered as not having “high severity.” Severity is defined as: “a combination of both the likelihood that an adverse outcome would occur and the clinical significance of that outcome should it occur.” The survey guidelines are located in two parts, F329 and F429. The surveyor has the option to cite at either or both tags depending on the situation.

1. Drug Therapy With High Potential for Severe Adverse Outcomes in Persons Over 65 that are to be used to determine compliance with §483.25(l)(1), Unnecessary Drug (F329), and
2. Drug Therapy With High Potential for Less Severe Adverse Outcomes In Persons Over 65 that are to be used to determine compliance with §483.60(c)(1), Drug Regimen Review Report (F429) which are located under guidance to surveyors for drug regimen review.

It should be noted that medication alterations may not be appropriate for some short-term residents. Many residents arrive in the long term care setting already on medications that they have managed to tolerate for years or that have been prescribed in the hospital. For some short-stay residents, it is difficult to change these medications without a period of observation and information gathering. Therefore, review by the surveyor is not necessary for drug therapy given the first seven consecutive days upon admission/readmission, unless there is an immediate threat to health and safety.

List of Drug Combinations With High Potential for Less Severe Adverse Outcomes

1. Phenylbutazone (Butazolidin)

Risk: “May produce serious hematological side effects (blood disorders) and should not be used in elderly patients.”

Blood disorders include bone marrow depression, aplastic anemia, agranulocytosis, leukopenia, pancytopenia, thrombocytopenia, macrocytic or megaloblastic anemia.

2. Trimethobenzamide (Tigan)

Risk: “Trimethobenzamide is one of the least effective antiemetics, yet it can cause extrapyramidal side effects.”

Extrapyramidal side effects may involve various combinations of tremors, postural unsteadiness, lack of or slowness of movement, cogwheel rigidity, expressionless face, drooling, infrequent blinking, shuffling gate, decreased arm swing, and rigidity of muscles in the limbs, neck, and trunk.

3. Indomethacin (Indocin, Indocin SR)

Risk: “Of all the nonsteroidal anti-inflammatory drugs, indomethacin produces the most central nervous system side effects and should therefore be avoided in the elderly.” The most common side effects (in order of frequency of occurrence) are

headache (10%), dizziness (3-9%), and vertigo, somnolence, depression, and fatigue (1-3%).

Exception: It is considered acceptable to use indomethacin for short term (e.g., 1 week) treatment of an acute episode of gouty arthritis.

4. Dipyridamole (Persantine)

Risk: “Dipyridamole frequently cause orthostatic hypotension in the elderly. It has been proven beneficial only in patients with artificial heart valves. Whenever possible, its use in the elderly should be avoided.

5. Reserpine (Serpasil)

Combination products such as Ser-Ap-Es, Serathide, Hydropres, Unipres, Uni-serp, Diutensen-R, Metatensin #2 & #4, Diupres, Hydroserpine, Hydromox-R, Regroton, Renese-R, Salutensin.

Risk: “Reserpine imposes unnecessary Risks in the elderly, inducing depression, impotence, sedation, and orthostatic hypotension. Safer alternatives exist.”

6. Diphenhydramine (Benadryl)

Note: Surveyor guidance for unnecessary drugs (483.25(l)(1) (F329)) already has guidelines for these drugs under: D. Drugs for Sleep Induction. The surveyor should use that guideline if diphenhydramine is being used as a hypnotic. If diphenhydramine is being used as an antihistamine, this guideline should be used.

Risk: “Diphenhydramine is potently anticholinergic and usually should not be used as a hypnotic in the elderly. When used to treat or prevent allergic reactions, it should be used in the smallest dose and with great caution.” Anticholinergic side effects can include such symptoms as dry mouth, blurred vision, urinary retention, constipation, confusion, and sometimes, delirium or hallucinations.

Exception: For treatment of allergies, review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

7. Ergot Mesyls (Hydergine), Cyclophosphamide (Cyclophosphol)

Risk: “Hydergine and the central vasodilators have not been shown to be effective, in the doses studied for treatment of dementia or any other condition.”

8. Muscle Relaxants

Muscle Relaxants such as Methocarbamol (Robaxin), Carisoprodol (Soma), Chlorzoxazone (Paraflex) Metaxalone (Skelaxin), Cyclobenzaprine (Flexeril), Dantrolene (Dantrium), Orphenadrine (Norflex, Banflex, Myotrol).

Risk: “Most muscle relaxants are poorly tolerated by the elderly, leading to anticholinergic side effects, sedation, and weakness.” Anticholinergic side effects include symptoms such as dry mouth, blurred vision, urinary retention, constipation, confusion, and sometimes, delirium or hallucinations.

Exception: Review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

9. Antihistamines

Chlorpheniramine (Chlor-Trimeton), Diphenhydramine (Benadryl), Hydroxyzine (Vistaril, Atarax), Cyproheptadine (Periactin), Promethazine (Phenergan), Tripeleennamine (PBZ), Dexchlorpheniramine (Polaramine).

Risk: “All nonprescription and many prescription antihistamines have a potent anticholinergic properties.” Anticholinergic side effects can include such symptoms as dry mouth, blurred vision, urinary retention, constipation, confusion, and sometimes, delirium or hallucinations. When used to treat or prevent allergic reactions, antihistamines should be used in the smallest possible dose, and for the shortest period of time, and with great caution.

Diagnosis/Drug Combinations with High Potential for Less Severe Outcomes

1. Diabetes

Drugs: Corticosteroids such as Beclomethasone (Beclovent, Vanceril), Betamethasone (Celestone), Cortisone Acetate (Cortone Acetate), Dexamethasone (Decadron, Dexone), Hydrocortisone (Cortef), Methylprednisolone (Medrol), Prednisolone (many brands), Prednisone (many brands).

Risk: “May worsen diabetic control, if recently started.”

If Recently Started: The panelists for the Beers’ study believed that the severity of adverse reaction would be substantially greater when these drugs were recently started. **In general**, the greatest risk would be within **about** a 1-month period. If the surveyor encounters the use of this drug within the first month, they should pay close attention to obtaining a rationale for its use during that time. The surveyor should be responsible for indepth investigation to determine when the drug was actually started. It should be noted that rapid withdrawal of these medicines in a steroid-dependent person can cause serious side effects.

2. Active or recurrent gastritis, peptic ulcer disease or gastroesophageal reflux disease.

Drugs: Aspirin in excess of 325 mg. per day.

Risk: “May exacerbate ulcer disease, gastritis, and gastroesophageal reflux disease (GERD).”

Note: The panelists did not believe that enteric coated aspirin would be beneficial since aspirin exacerbates these conditions primarily through its systemic effects rather than its local effects.

Potential Side Effects: Nausea, dyspepsia, vomiting, abdominal pain, heartburn, epigastric pain, diarrhea, flatulence.

Drugs: Potassium supplements such as Kaochlor, Klorvess, Kaon, K-Lor, K-Tab, K-Dur, K-Lyte, Slow K, Klotrix, Micro K or Ten K. This includes liquid oral dosage forms which, if used, should be administered after meals with an optimal amount of water or fruit juice (depending on the resident's fluid restrictions) to decrease the potential of gastric distress or bad taste as much as possible.

Risk: "May cause gastric irritation with symptoms similar to ulcer disease."

Potential Side Effects: Nausea, dyspepsia, vomiting, abdominal pain, heartburn, epigastric pain, diarrhea, flatulence.

Exception: Use of these medications to treat low potassium levels until they return to normal range if determined by the prescriber that use of fresh fruits and vegetables or other dietary supplementation is not adequate or possible.

3. Seizures or Epilepsy

Drugs: Clozapine (Clozaril), Chlorpromazine (Thorazine), Thioridazine (Mellaril), Chlorprothixene (Taractan), Metoclopramide (Reglan), Fluphenazine (Prolixin, Permitil), Perphenazine (Trilafon), Mesoridazine (Serentil), Prochlorperazine (Compazine), Promazine (Sparine), Trifluoperazine (Stelazine), Triflupromazine (Vesprin), Haloperidol (Haldol), Loxapine (Loxitane), Molindone (Moban), Olanzapine (Zyprexa), Pimozide (Orap), Risperidone (Risperdal), Thiothixene (Navane), Quetiapine (Seroquel).

Risk: "May lower seizure threshold."

Potential Side Effect: Increased risk of seizure activity.

Exception: Use of these drugs within the already established CMS guidelines (483.25(1)) for a 72 hour period or less, when treating acute psychosis, such that the individual is a danger to self or others.

4. Benign Prostatic Hypertrophy (BPH)

Drugs: Narcotic drugs such as Codeine (Empirin with Codeine, Tylenol with Codeine), Meperidine (Demerol), Fentanyl (Duragesic), Hydromorphone (Dilaudid), Morphine (many brands), Oxycodone (Percocet, Roxicodone, etc.), Propoxyphene (Darvon, Darvon Comp-65, Darvon-N, Darvocet-N, etc.).

Risk: "Anticholinergic drugs may impair micturition and cause obstruction in men with BPH."

Potential Side Effects: Urinary retention, urinary incontinence, reflux, pyelonephritis, nephritis, low grade temperature, low back pain.

Exception: Review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

Drugs: Flavoxate (Urispas), Oxybutynin (Ditropan), Bethanechol (Urecholine, Duvoid).

Risk: “Bladder relaxants may cause obstruction in persons with BPH.”

Potential Side Effects: Urinary retention, incontinence, hesitancy, reflux, hydronephrosis.

5. Constipation

Drugs: Anticholinergic antihistamines such as Chlorpheniramine (Chlor-Trimeton), Diphenhydramine (Benadryl), Hydroxyzine (Vistaril & Atarax), Cyproheptadine (Periactin), Promethazine (Phenergan), Tripeleminamine (PBZ), Dexchlorpheniramine (Polaramine).

Exception: Review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

Anti-Parkinson medications such as Benztropine (Cogentin), Trihexyphenidyl (Artane), Procyclidine (Kemadren), Biperiden (Akineton).

GI Antispasmodics such as Dicyclomine (Bentyl), Hyoscyamine (Levsin & Levsinex), Propantheline (Pro-Banthine), Belladonna Alkaloids (Donnatal), Clidinium containing products such as Librax.

Exception: Review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

Anticholinergic antidepressant drugs such as Amitriptyline (Elavil), Amoxapine (Asendin), Clomipramine (Anafranil), Desipramine (Pertofrane), Doxepin (Adapin, Sinequan), Imipramine (Tofranil), Maprotiline (Ludiomil), Nortriptyline (Aventyl, Pamelor), Protriptyline (Vivactil).

Narcotic Drugs such as Codeine (Empirin with Codeine, Tylenol with Codeine), Meperidine (Demerol), Fentanyl (Duragesic), Hydromorphone (Dilaudid), Morphine (many brands), Oxycodone (Percocet, Roxicodone, etc.), Propoxyphene (Darvon, Darvon Comp-65, Darvon-N, Darvocet-N, etc.).

Exception: Review by the surveyor is not necessary if these drugs are used periodically (once every three months) for a short duration (not over seven days) for symptoms of an acute, self-limiting illness.

6. Insomnia

Drugs:

- Decongestants such as Phenylephrine (Duo-Medihaler), Phenylpropanolamine (Genex), Pseudoephedrine (Novafed, Sudafed, Triaminic AM, Efidac/24);
- Theophylline (Elixophyllin, Bronkodyl, Theo-Dur, Slo-Bid);
- Desipramine (Pertofrane, Norpramin);
- Selective Serotonin Reuptake Inhibitors such as Fluoxetine (Prozac), Paroxetine (Paxil), Sertraline (Zoloft);
- Methylphenidate (Ritalin);
- Monamine Oxidase Inhibitors (MAOIs) such as Phenelzine (Nardil), Tranylcypromine (Parnate); and
- Beta Agonists such as Isoproterenol (Isuprel), Albuterol (Proventil), Bitolterol (Tornalate), Terbutaline (Brethine).

Risk: “May cause or worsen insomnia.”

(The surveyor should consider that insomnia is often a symptom of untreated depression and Chronic Obstructive Pulmonary Disease (COPD.))

F430

§483.60(c)(2)

these reports must be acted upon.

Interpretive Guidelines §483.60(c)(2)

The director of nursing and the attending physicians are not required to agree with the pharmacist’s report, nor are they required to provide a rationale for their “acceptance” or “rejection” of the report. They must, however, act upon the report. This may be accomplished by indicating acceptance or rejection of the report and signing their names. The facility is encouraged to provide the medical director with a copy of drug regimen review reports and to involve the medical director in reports that have not been acted upon.

F431

§483.60(d) Labeling of Drugs and Biologicals

Drugs and biologicals used in the facility must be labeled in accordance with currently accepted professional principles, and include the appropriate accessory and cautionary instructions, and the expiration date when applicable.

Interpretive Guidelines §483.60(d)

This section imposes currently accepted labeling requirements on **facilities**, even though the pharmacies will be immediately responsible for accomplishing the task.

The critical elements of the drug label in a long-term care facility are the name of the drug and its strength.

The names of the resident and the physician do not have to be on the label of the package, but they must be identified with the package in such a manner as to assure that the drug is administered to the right patient.

All drugs approved by the Food and Drug Administration must have expiration dates on the manufacturer's container. "When applicable" means that expiration dates must be on the labels of drugs used in long term care facilities unless State law stipulates otherwise.

F432

§483.60(e) Storage of Drugs and Biologicals

- (1) In accordance with State and Federal laws, the facility must store all drugs and biologicals in locked compartments under proper temperature controls, and permit only authorized personnel to have access to the keys.
- (2) The facility must provide separately locked, permanently affixed compartments for storage of controlled drugs listed in Schedule II of the Comprehensive Drug Abuse Prevention and Control Act of 1976 and other drugs subject to abuse, except when the facility uses single unit package drug distribution systems in which the quantity stored is minimal and a missing dose can be readily detected.

Interpretive Guidelines §483.60(e)

Compartments in the context of these regulations include but are not limited to drawers, cabinets, rooms, refrigerators, carts, and boxes. The provisions for authorized personnel to have access to keys must be determined by the facility management in accordance with Federal, State, and local laws and facility practices. "Separately locked" means that the key to the separately locked Schedule II drugs is not the same key that is used to gain access to the non-Schedule II drugs.

F441

§483.65 Infection Control

The facility must establish and maintain an infection control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of disease and infection.

§483.65(a) Infection Control Program

The facility must establish an infection control program under which it--

- (1) Investigates, controls, and prevents infections in the facility;
- (2) Decides what procedures, such as isolation should be applied to an individual resident; and
- (3) Maintains a record of incidents and corrective actions related to infections.

Intent §483.65(a)

The intent of this regulation is to assure that the facility has an infection control program which is effective for investigating, controlling, and preventing infections. If infection control has been identified as an area of concern during Phase 1 of the survey, investigate aspects of the program, as appropriate, during Phase 2.

Interpretive Guidelines §483.65(a)

The facility's infection control program must have a system to monitor and investigate causes of infection (nosocomial and community acquired) and manner of spread. A facility should, for example, maintain a separate record on infection that identifies each resident with an infection, states the date of infection, the causative agent, the origin or site of infection, and describes what cautionary measures were taken to prevent the spread of the infection within the facility. The system must enable the facility to analyze clusters, changes in prevalent organisms, or increases in the rate of infection in a timely manner.

F442**§483.65(b) Preventing Spread of Infection**

(1) When the infection control program determines that a resident needs isolation to prevent the spread of infection, the facility must isolate the resident.

F443

§483.65(b)(2) The facility must prohibit employees with a communicable disease or infected skin lesions from direct contact with residents or their food, if direct contact will transmit the disease.

F444

§483.65(b)(3) The facility must require staff to wash their hands after each direct resident contact for which handwashing is indicated by accepted professional practice.

Intent §483.65(b)(3)

The intent of this regulation is to assure that staff use appropriate handwashing techniques to prevent the spread of infection from one resident to another.

Interpretive Guidelines §483.65(b)(3)

Procedures must be followed to prevent cross-contamination, including handwashing or changing gloves after providing personal care, or when performing tasks among individuals which provide the opportunity for cross-contamination to occur. Facilities for handwashing must exist and be readily available to staff. The facility should follow the CDC's "Guideline for Handwashing and Hospital Environmental Control, 1985," for handwashing.

F514**§483.75(l) Clinical Records**

(1) The facility must maintain clinical records on each resident in accordance with accepted professional standards and practices that are--

- (i) Complete;
- (ii) Accurately documented;

- (iii) Readily accessible; and
- (iv) Systematically organized.

Intent §483.75(l)(1)

To assure that the facility maintains accurate, complete, and organized clinical information about each resident that is readily accessible for resident care.

Interpretive Guidelines §483.75(l)(1)

A complete clinical record contains an accurate and functional representation of the actual experience of the individual in the facility. It must contain enough information to show that the facility knows the status of the individual, has adequate plans of care, and provides sufficient evidence of the effects of the care provided. Documentation should provide a picture of the resident's progress, including response to treatment, change in condition, and changes in treatment.

The facility determines how frequently documentation of an individual's progress takes place apart from the annual comprehensive assessment, periodic reassessments when a significant change in status occurs, and quarterly monitoring assessments. Good practice indicates that for functional and behavioral objectives, the clinical record should document change toward achieving care plan goals. Thus, while there is no "right" frequency or format for "reporting" progress, there is a unique reporting schedule to chart each resident's progress in maintaining or improving functional abilities and mental and psychosocial status. Be more concerned with whether the staff has sufficient progress information to work with the resident and less with how often that information is gathered.

In cases in which facilities have created the option for an individual's record to be maintained by computer, rather than hard copy, electronic signatures are acceptable. In cases when such attestation is done on computer records, safeguards to prevent unauthorized access, and reconstruction of information must be in place. The following guideline is an example of how such a system may be set up:

- There is a written policy, at the health care facility, describing the attestation policy(ies) in force at the facility.
- The computer has built-in safeguards to minimize the possibility of fraud.
- Each person responsible for an attestation has an individualized identifier.
- The date and time is recorded from the computer's internal clock at the time of entry
- An entry is not to be changed after it has been recorded.
- The computer program controls what sections/areas any individual can access or enter data, based on the individual's personal identifier (and, therefore his/her level of professional qualifications).

F520

§483.75(o) Quality Assessment and Assurance

- (1) A facility must maintain a quality assessment and assurance committee consisting of--
- (i) The director of nursing services;

- (ii) A physician designated by the facility; and
- (iii) At least 3 other members of the facility's staff.

F521

(2) The quality assessment and assurance committee -

- (i) Meets at least quarterly to identify issues with respect to which quality assessment and assurance activities are necessary; and
- (ii) Develops and implements appropriate plans of action to correct identified quality deficiencies.

(3) A State or the Secretary may not require disclosure of the records of such committee except insofar as such disclosure is related to the compliance of such committee with the requirements of this section.

(4) Good faith attempts by the committee to identify and correct quality deficiencies will not be used as a basis for sanctions.