TEXAS
Health and Human Services

Texas Medication Aides

Basic course curriculum

for Nursing Facilities and related institutions

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Texas Health and Human Services Commission
(HHSC) Medication Aide Program, E-416
P.O. Box 14930, Austin, Texas 78714-9030

Communicate before you medicate!

Helping people make the best of medications

Acknowledgements

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Table of Contents: Medication Aide and basic course curriculum

Course activities:

The following activities are optional.

* An asterisk signifies the use of the *Medication Flash Cards* in the activity.

Course outline

Unit I. Introduction, orientation and basic concepts

Section A.
Basic Roles and Responsibilities of the Medication Aide.

1. Overall requirements, course objectives.
   a. Self-evaluation and review.
   b. Achievements expected.
   c. Course examinations and final examination.
   d. Prerequisites for enrolling in the training program.
2. Comprehend acts or practices prohibited by medication aides.
3. Understand functions authorized to be performed by the medication aide.
4. Identify the legal and ethical implications for the medication aide.
   a. Need to administer medications as ordered by practitioner.
   b. Administer medications limited under medication aide rules.
   c. Responsibilities for own actions.
   d. Additional roles and responsibilities as taught by the instructors.
5. Discuss the types of clinical experiences that the students will gain during the portion of the training program.
6. Treat residents as individuals and be aware of their medication and treatment orders.
   a. Identify each resident in any setting in the facility.
   b. Know each patient's normal activity and recognize that deviations from this may be a result of their medication therapy.
7. Discuss ethical conduct, ethical responsibilities, treatment of residents, Health Insurance Portability and Accountability Act (HIPAA).
8. Discuss what is normal aging: (e.g., physical, social, and emotional).

Teaching aids/plans

<u>Medication Aide Training Program Rules.</u>
Secure most current rules and regulations.

Discuss Students perception of the medication aide role.

Medications are administered only as ordered by practitioner.

Stress:
- the importance that medication aides act under supervision of a licensed nurse – not independently; and
- the students are responsible for their own actions.

Indicate that the clinical portion of the medication aide training is "hands-on" rather than observation.

Review program training rules regarding training requirements.

Provide students with:
- ethics handout; and
- normal aging handout.

Course outline	Teaching aids/plans
Section B. Medication overview 1. Drugs commonly used in facilities are grouped according to: a. scheduled (controlled) – Medication which has the potential to be abused and which must be counted and controlled. Log kept for each medication. b. legend – Require prescription. c. non-Legend – Can be purchased without aprescription. Must be supplied by the facility for Medicaid residents. (Over the Counter, OTC)	Identify and know drugs from the three groups. Discuss current websites available to use for drug references such as www.epocrates-drugs.com www. Drugs.com www.fda.gov
Section C. Reasons for giving drugs. 1. Cure disease 2. Relieve symptoms 3. Aid in diagnosis 4. Replace body fluids 5. Prevent illness 6. Maintain quality of life	Lecture and discuss reasons. Expand upon any areas not covered in the outline.
Section D. Problems in drug administration. 1. Availability of drugs 2. Self-medications 3. Protection of residents against "patent" medications purchased over the counter 4. Cost of medications 5. Modern attitude toward drugs 6. Alteration of body functions by drugs 7. Determining the need of PRN (as needed) medications 8. Reasons to withhold medication 9. Residents refusal privilege 10. Crushing inappropriate medications 11. Risk versus benefits 12. Medications with special considerations 13. Failure to follow through • Establish procedures • Facility policies	Discussion of these problems; correlate problems as related between facility and general public. Discuss hoarding of medications. Discuss follow through. Discuss that sample medications do not meet labeling requirements.

ACTIVITY #1: Group think

Explain

Divide Learners into three teams. Ask teams to choose which of the three medication groups (from the review on Section B/Medication Overview) they want to represent during the activity. Each team will each represent one of the following groups:
1. legend;
2. non-legend (over-the-counter); and
3. scheduled or controlled.

The purpose of the activity is to distinguish similarities and differences of the three medication group categories. Place special emphasis on prescription medications (that fall under both legend and scheduled/controlled groups).

Teams will review a sample collection of various medications (provided by the Instructor) placed in one large grouping on a table in the front of the classroom. Teams will come up to the front table and begin to arrange medications that belong in their team's assigned medication group.

Teams will have to work together to determine how to accurately group the scheduled samples from the legend samples, as both of these groups require a prescription.

Spend extra time reviewing the samples that are considered to be in the controlled/scheduled group category and why.

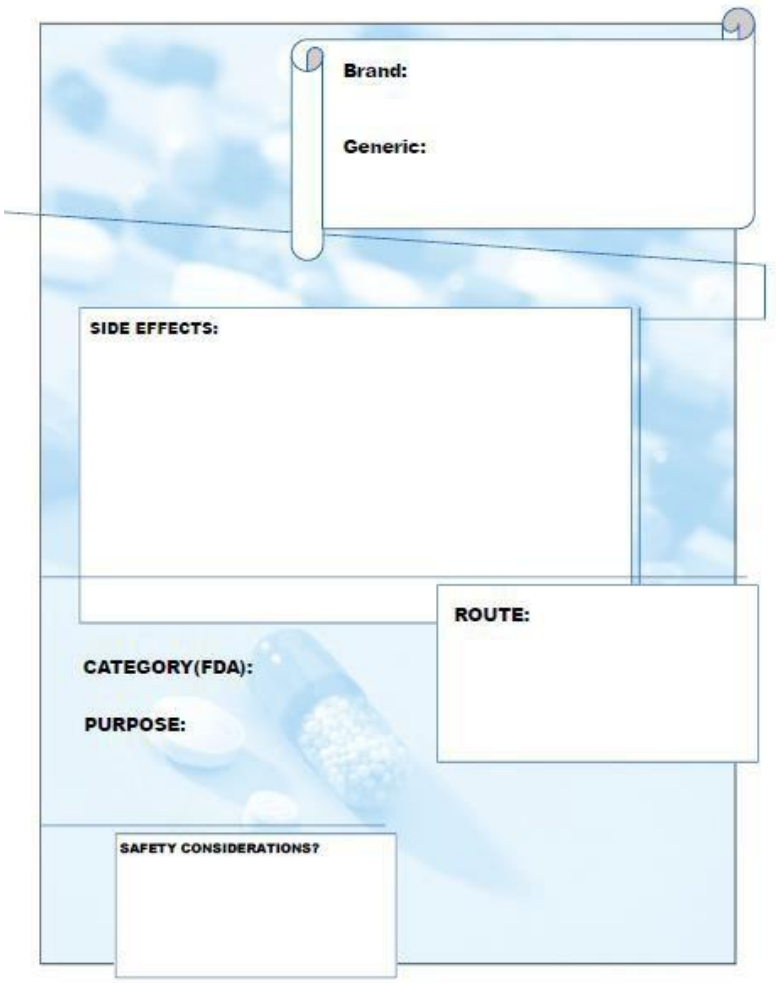
Teaching aids/plans

As Instructor, you will supply a display of a variety of different medications (in empty containers or in photo form on the front table in the room.

Each team will have at least six different medications that appropriately fit into their group classification of legend, non-legend or scheduled/controlled.

For both legend and scheduled/controlled, use only empty prescription bottles with a label (so that no actual medication is provided).

ACTIVITY #2: Homework assignment
It is all in the cards! *Medication Flash Cards*



FRONT OF THE *MEDICATION FLASH CARD*
(See Appendix A for full size)

The purpose of the activity is to provide the opportunity for Learners to individually research and complete medication profiles for use by the class over the course of the semester.

Learners will fill in the information (via online research) and bring the completed cards to class. Each Learner will research and complete five cards for use in class activities.

Teaching aids/plans

Explain

Instruct Learners to review the recommended list of medications (Top 200) in Appendix C for the semester course. Starting from the top and using the alphabetical class roster, assign five medications to each student.

State

Learning all aspects of each medication will be important to your position in the facility. The more background and familiarity you have with a number of different medications, the more you will recognize potential errors and improve your skills. Even more important is your connection with each Resident. A solid knowledge base of medications will improve your efficiency and accuracy.

Your first assignment is to create your own deck of oversize *Medication Flash Cards*. Take the five medications assigned to you and research each one online at home or at the library, printer business, etc.

Fill in the blank copies you receive today and bring them back completed for the class to use.

ACTIVITY #2: It is all in the cards!

Medication Flash Cards (cont'd)

BACK OF THE *MEDICATION FLASH CARD*

(See Appendix B for full size)

Learners must also complete the information on the back of the card.

Teaching aids/plans

Explain

Review the backside of the *Medication Flash Card*. The graphics provide all of the body systems, the three drug groups, the three forms of medications and a space to write in medication warning information.

State

In researching your five medications, use this side of the card to either check or circle the main body system affected, the form each drug is available and the type of drug group.

Use the warning area to fill-in any additional medication information important to provide as a warning on the drug labeling.

Course outline

Section E. Drug legislation

1. Federal Food, Drug, and Cosmetic Act.
2. Texas Dangerous Drug Laws
3. Nurse Practice Act
4. Controlled Substance Act
   a. Classification of controlled substances.
      - Schedule I –highest abuse potential
      - Schedule II
      - Schedule III
      - Schedule IV
      - Schedule V – lowest abuse potential
   b. Special Considerations
      - Schedule I – not medically approved or very limited approval.
      - Schedule II – most abused, must count
      - Schedule III, IV, V – must count per facility procedure.
5. Facility Standards for Participation under Medicare and Medicaid
6. Facility Standards
7. Non-FDA approved drugs obtained from outside the U.S.

Teaching aids/plans

Use the *Medication Flash Cards* to set up for another quick activity involving the different classifications (five) for controlled substances.

The activity to follow will create a team-based game using specific drugs identified for Learners to process from each of the five classification groups. Teams will create a mnemonic device to help memorize aspects for each medication.

As Instructor, choose two medications from the *Medication Flash Cards* that represent each of the five schedule classifications for controlled substances.

If a card is unavailable from the deck, use the *Top 200 List* (Appendix C) to choose two drugs for each schedule category.

Briefly discuss Section E. Review legislation under Federal and State Food, Drugs, and Cosmetic Act; state dangerous drug laws and Controlled Substances Act (consultant Pharmacist provides discussion here).

Discuss problems with self medication, transferring between containers and labeling requirements here.

ACTIVITY #3: Mnemonic meds

Schedule classification mnemonics:

The purpose of the activity is to challenge Learners to create a means to memorize complex medication characteristics using a mnemonic device.

A mnemonic device is a technique you can use to help improve your memory of information. Using the definition of your controlled drug classification group and one of the *Medication Flash Cards* provided by your Instructor, create a rhyme or a new fun way with words to remember characteristics of the medication.

Sample mnemonic (Rhyme):
I'm from Schedule IV, let me tell you more…
If you take me as prescribed, you may sleep on the floor.
I balance your brain
and promote deep sleep.
And I'm easily abused, but not as much as Schedule III.
My generic name is Zolpidem.
Take me as prescribed
and sink into R.E.M.

Answer: Ambien

Other mnemonics may include the following types:

- Musical mnemonic – Use a popular song/tune to make up a song using the information. For example, use the medication information as the words to an Adele or Tina Turner song.
- Expression mnemonic – Use the first letter of each word to come up with a name, phrase or thing.
  (e.g., Ambien is **A**LICE **M**AY **B**E **I**NCOHERENT **E**VERY **NI**GHT.)
- Name mnemonic – Use the word to make up a person. You can even expand on information about the person to help you remember more info! (e.g., Ambien might be A.M. Bien, who sleeps well!)
- Image mnemonic – Use the image of a *BAT* to remember three types of depressant drugs: **B**arbiturates, **A**lcohol and **T**ranquilizers)

Source: University of Central Florida, Nine Types of Mnemonics for Better Memory (PDF)

Teaching aids/plans

Choose at least two medications for each of the five controlled substance classifications (Schedules one through five).

Use the mnemonic example to illustrate how to create a word memory game.

Explain

Divide the class into five teams. Each team will be assigned one of the Schedule/Classification groups for controlled substances. Assign each team two medications according to their team's assigned classification group.

Have each team make up a rhyme or create another mnemonic device for remembering characteristics for their med. This technique may be used to help the class learn how to identify and memorize complex medication information.

Make sure the mnemonic includes the schedule number classification and at least one important characteristic accurate to the drug.

Course outline	Teaching aids/plans
Section F. Personnel involved in Residents' drug therapy. 1. Physician (Nurse Practitioner, Physician Assistant) 2. Pharmacist 3. Registered Nurse and Licensed Vocational Nurse, and Medication Aides a. Preparing drugs for administration i. Equipment ii. Procedure b. Administration of medications c. Observing, documenting, and reporting reactions to medicine 4. Therapist 5. The role of the medication aide in relation to the healthcare team. **Section G. Resource reference for drug information** 1. Identify various up-to-date textbooks and materials used in the training program and found in facilities. 2. Demonstrate the ability to use these resources. 3. Discuss several common drug standards and references. 4. Select various (common) references where information may be obtained concerning drugs. 5. Prepare practice problems to demonstrate resource use and familiarity. 6. Identify procedures for contacting the pharmacist for drug information.	Identify the roles of the physician, pharmacist, registered nurse, and licensed vocational nurse. Various textbooks and resource materials. Drug package brochures prepared by pharmaceutical manufacturers. Prepare drug cards for commonly ordered medications. Nursing-oriented medication reference textbook. Discuss the facility's pharmaceutical and nursing policies and procedures manuals. Other appropriate references, text, and handouts. Review drug websites (See Appendix C).

Course outline	Teaching aids/plans
Section H. Pharmacodynamics. 1. Medications are ordered for a specific resident to modify or change a specific condition. 2. Medications may cause unwanted reactions. a. Side effects b. Toxic effects c. Synergistic effects d. Allergic reactions e. Drug-drug interactions f. Drug-food interactions g. Other reactions as selected by the instructors • Tolerance • Idiosyncratic (distinctive) reaction 3. Types of drug reactions. a. Local effect b. Systemic effect c. Emotional (placebo) effect – The fact that placebos work is not because the pain is only imagined. Recent research indicates that placebos work probably because they enhance the effects of the body's own pain – relieving mechanisms. 4. Factors that influence medication action. a. Dosage strength b. Presence of food in stomach c. Interaction with other medication d. Solubility of the medication e. Disease state of the patient f. Aging g. Ostomates h. Other factors as selected by instructors (ie: labvalues) i. Hemodialysis versus Peritoneal dialysis 5. Conditions of residents which may modify dosage. a. Age, weight, and sex b. Time of administration c. Route of administering medication d. Rate excreted from body e. Drug combination f. Drug interaction g. Drug absorption	Discuss how the bioavailability of oral (PO) drugs entering the systemic circulation is reduced after first passing through the liver (first pass). Be alert for changes in the residents' responses to their present medications when new medications are ordered and administered. The greater the amount of the drug above usual dosage requirements, the greater the expected effect. Food delays emptying the stomach. When best time to take medication. Fat soluble drugs. Water soluble drugs. Diseases involving the liver where many drugs may be detoxified or metabolized, and the kidneys which excrete most drugs, may alter drug responses. Aging may cause patient to be more sensitive to drugs. Actual examples may be discussed as to how these conditions may affect a resident. Explain each condition.

ACTIVITY #4: *Jeopardy!* (action/reaction round)

The purpose of this activity is to challenge Learners to integrate and assess knowledge of multiple content areas using a competitive game show format.

This activity provides an electronic version of the popular TV game show, *Jeopardy.*

Instruct Learners to create two teams. Teams will flip a coin to see who will start the game. The starting team will choose any panel from the board. The Instructor will read the answer presented for each panel. The Team playing will always answer in the form of a question, as in the *Jeopardy* game format.

Six columns of categories offer multiple questions about drug *actions* and reactions including:

1. unwanted reactions;
2. drug reactions;
3. factors that influence medication actions;
4. Resident conditions that may require medication change;
5. drug sensitivities; and
6. anything goes!

An electronic version of the game is available with sound effects for an enhanced activity experience. If a laptop and LCD projector are unavailable, provide paper copies to all Learners of the game board. See page 14 for a copy of the game board that matches the presentation.

Assign a scorekeeper to cross off the panel questions as the game proceeds. The scorekeeper will also keep track of the points awarded to each team for correct responses.

You will play game show host and read aloud each panel question and answer as teams choose.

As Instructor, print a copy of the PPT file that includes the notes section of information. The file includes *notes* for both the panel response and the panel answer (in the form of a question) that each team must provide.

See Appendix D for details on how to use the PowerPoint game file. Hard copies of the game file are provided in Appendix E. If an electronic game is used, the Instructor will need to practice **prior** to class, as the Instructor must understand all of the navigation steps for the game's progression and scoring.

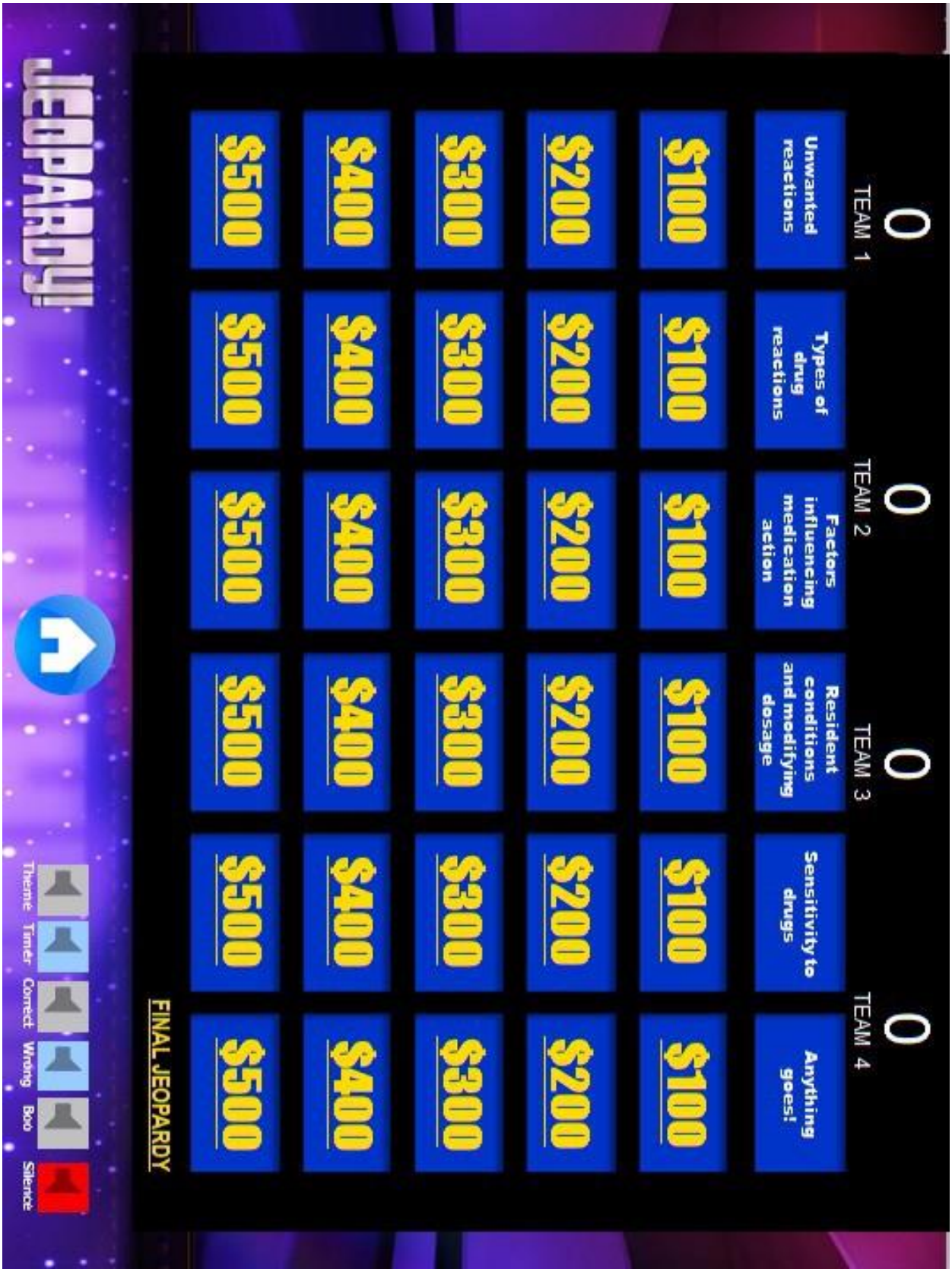
Teaching aids/plans

Instruct

Use examples of commonly known medications to illustrate these definitions.

Give students examples of unwanted reactions to medications. Students may have information about drug reactions to share from their own experiences.

The *Jeopardy* game provides this content for review.


TEAM 1
0
TEAM 2
0
TEAM 3
0
TEAM 4
0
Unwanted reactions
Types of drug reactions
Factors influencing medication action
Resident conditions and modifying dosage
Sensitivity to drugs
Anything goes!
$100
$200
$300
$400
$500
FINAL JEOPARDY
JEOPARDY!
Theme
Timer
Correct
Wrong
Boo
Silence

Course outline

Section I. Forms in which medication are available.

Drug preparations: liquids, solids, and semi-solids.

1. Solid oral dosage forms
   a. Tablets
      i. Scored
      ii. Unscored
   b. Capsules
   c. Enteric – coated
   d. Long – acting or prolonged-action tablets or capsules
   e. Sublingual
   f. Orally disintegrating tablets
   g. Buccal
2. Liquid oral dosage forms
   a. Syrup
   b. Elixir
   c. Sugar-free liquid
   d. Effervescent tablets
   e. Solution
   f. Emulsions
   g. Suspensions
3. Suppositories
   a. Rectal
   b. Vaginal
4. Aerosol, under pressure
   a. Solutions
   b. Powders
5. Topicals
   a. Ointments (usually semi-solids oily base)
   b. Creams (non-greasy)
   c. Lotions (usually water base)
   d. Liniment (oils, alcohol)
   e. Shampoos

Teaching aids/plans

Section I:

Show examples of these forms by the pharmacist instructor.

Discuss and learn examples of various drug forms.

Discuss special problems associated with the various drug forms (if any).

Aerosol – Discuss principle and nebulizer; however, emphasize that medication aides may not administer medications by the aerosol route involving inhalation therapy.

Demonstrate and discuss routes of administration.

- Oral
- Rectal
- Sublingual
- Topical
- Otic
- Nasal
- Ophthalmic
- Aerosol

Parenterals are not discussed since the medication aide may not administer these drugs; however, they should be knowledgeable of the routes of parenteral injection.

Course outline	Teaching aids/plans
Section I. (cont'd) 6. Other forms a. Magmas b. Gels c. Mixtures d. Mucilage e. Tincture f. Extracts g. Patches 7. Factors influencing choice of dosage form of medication. 8. Other common route of administration for the dosage forms involved. a. Otic medication b. Ophthalmic medication c. Nasal medication d. Transdermal **Section J.** **Medical abbreviations, symbols, terminology, and drug names.** 1. Study and learn common medical abbreviations. 2. Terminology used in ordering and administering of medications. a. Generic names b. Brand names c. Drug labeling d. Controlled drug e. Pharmacology f. Therapeutics g. Chemotherapeutic agents h. Dangerous drug i. Non-legend drug 3. Drug names a. Generic name b. Brand name 4. Brand name drugs versus generic	**Section J:** Students learn abbreviations in short lists over several class sessions, and as appropriate to other class lessons. Students learn all abbreviations on the *Do Not Use* list. Use flash cards and other approaches as deemed necessary by the instructors. Names by which drugs are used and their differences can be quite confusing to the student. However, this information is vital to the person preparing and administering the drug. Give the students a list of drugs and have them recognize and list the generic, and brand name. Provide students with handout on Medical Abbreviations. Provide students with handout on Medical Terminology.

Course outline	Teaching aids/plans
Section K. Weights, measures, and simple mathematics. 1. Study and learn the metric system as it relates to medications. 2. Review the basic four arithmetic functions. a. Add b. Subtract c. Multiply d. Divide 3. Explain how to read decimals and fractions. 4. Explain how to add simple fractions and decimals. 5. Student should be knowledgeable, for example: a. That ¼ + ¼ = ½ b. That 0.5 x 2 = 1.0 c. That a milligram is smaller unit of measure than a gram. d. That an ounce is larger than a gram. 6. Know basic Roman numerals, ½ through 100, as it relates to medications. 7. Medication aides may not calculate any resident's medication doses for administration. However, medication aides may measure a prescribed amount of a liquid medication to be administered and may break a tablet for administration to residents provided that the licensed nurse has calculated the dosage, and is accurately documented on the Medication Administration Record (MAR) or its equivalent. **Section L. Use of generic drugs.** 1. Cross reference of generic drugs with brand name drugs. **Section M. Medication storage and distribution cart system.** 1. Types of medication cart systems used. 2. Unit dose packaging. 3. Unit of use dose.	**Section K:** Write abbreviations for units of measurement in the metric system when given the name. Organize in order of relative size units of measurements within the metric systems. Review math, measurements, and Roman numerals throughout entire course of study. Use practical problems. Use graduated medicine cups, graduated dropper. **Section L:** Learn how to look up generic drug names when the brand name drug is known. Learn generic drug name of the same brand name drug as selected by the instructor. Know how medication cart systems are used. Discuss the various types of cart systems. Lecture and demonstrate.

ACTIVITY #5: How do you measure up?

The purpose of this activity is to challenge teams to create their own Resident scenarios using the examples provided of the most common medication errors involving dosage, as well as the *Medication Flash Cards*. Use the template pages to follow. Each page contains an example (split into four sections) of a common medication error involving dosage.

As Instructor, copy each sheet for distribution to teams. There are six medication error examples to work with, as time allows.

Divide the class into three teams. Copy the six pages of examples and hand out two examples to each team (pages 19 through 24).

Instruct teams to select two *Medication Flash Card*s so they have all of the basic information for creating a Resident scenario. Five of the six examples involve measurement references, but one involves Inderal (which is on the list of top medications as a medication for hypertension).

Ask each team to make up one scenario using one of the *Medication Flash Cards* involving a situation with a nursing facility Resident.

Teams will try to stump the rest of the class using their example of the common error. Make sure the example makes sense as it relates to both the medication and the nursing facility Resident.

Walk around to assist the three teams, if necessary.

Each scenario contains the following information:

A. dosage designation and other error-related information;
B. intended meaning;
C. misinterpretation that is common; and
D. correction to the error.

Once Learners have made up a scenario, ask a team member to use flip chart pages and markers to draw the scenario for the class to solve.

Be sure the example clearly shows where the common mistake occurs.

Source for common medication errors:
http://www.ismp.org/tools/errorproneabbreviations.pdf

Teaching aids/plans

Explain

Use the *Medication Flash Cards* (created by the class) to create Resident scenarios based on the common error example assigned to your team.

Provide one copy for each of the six common examples on the following pages (page 19-24).

Teams will use flip chart pages to illustrate their scenario for the class.

Provide at least three dark color markers per team (for visibility).

EXAMPLE A (Common mistake) **Trailing zero after decimal point (e.g., 1.0 mg)**	**EXAMPLE A** (Correct Abbreviation) **1 mg**
EXAMPLE A (Misinterpretation) **Mistaken as 10 mg if the decimal point is not visible.**	**EXAMPLE A** (Correction of error) **Do not use trailing zeros for doses expressed in whole numbers.**

EXAMPLE B (Common Mistake) **Naked decimal point (e.g., .5 mg)**	**EXAMPLE B** (Correct Abbreviation) **0.5 mg**
EXAMPLE B (Misinterpretation) **This is often mistaken as 5 mg if the decimal point is not clearly visible.**	**EXAMPLE B** (Correction of error) **Use zero before a decimal point when the dose is less than a whole unit.**

EXAMPLE C (Common Mistake) **Abbreviations such as mg. or mL. with a period following the abbreviation**	**EXAMPLE C** (Correct Abbreviation) **mg or mL**
EXAMPLE C (Misinterpretation) **The period is unnecessary and can be mistaken as the number 1 if written poorly.**	**EXAMPLE C** (Correction of error) **Use mg, mL, etc. without a terminal period.**

EXAMPLE D (Common Mistake) **Drug name and dose run together (especially problematic for drug names that end in l such as Inderal40 mg; Tegretol300 mg) Inderal 40 mg**	**EXAMPLE D** (Correct Abbreviation) **Tegretol 300 mg**
EXAMPLE D (Misinterpretation) **Mistaken as Inderal 140 mg** **Mistaken as Tegretol 1300 mg**	**EXAMPLE D** (Correction of error) **Place adequate space between the drug name, dose, and unit of measure.**

EXAMPLE E (Common Mistake) **Numerical dose and unit of measure run together (e.g., 10mg, 100mL)**	**EXAMPLE E** (Correct Abbreviations) **10 mg** **100 mL**
EXAMPLE E (Misinterpretation) **The m is sometimes mistaken as a zero or two zeros, risking a 10- to 100-fold overdose.**	**EXAMPLE E** (Correction of error) **Place adequate space between the dose and unit of measure.**

EXAMPLE F (Common Mistake) **Large doses without properly placed commas (e.g., 100000 units; 1000000 units)**	EXAMPLE F (Correct Abbreviations) **100,000 units** **1,000,000 units**
EXAMPLE F (Misinterpretation) **The number 100000 is mistaken as 10,000 or 1,000,000; 1000000 has been mistaken as 100,000.**	EXAMPLE F (Correction of error) **Use commas for dosing units at or above 1,000, or use words such as 100 thousand or 1 million to improve readability.**

Course outline	Teaching aids/plans

Unit II. Infection control

Section A. Introduction

Infections are a significant cause of illness, disease and death for residents that reside in certain living situations including nursing facilities. Residents of long-term care facilities are particularly at risk for infection due to the increased severity of illness experienced by residents being cared for in the facilities.

The resident is more at risk because of multiple underlying diseases, medications that reduce resistance to microorganisms, and use of medical devices such as urinary catheters to treat symptoms. Infection control is one of the most important aspects of providing a safe environment for residents. Nurse aides must understand and follow the facility's infection control policies and procedures.

Section B. Microorganisms (germs, pathogens)

1. Only seen with a microscope
2. Found in our everyday environment
   a. Air
   b. On our skin
   c. In our bodies
   d. In food and in water
   e. On surfaces
3. Have certain requirements to survive
   a. Oxygen (aerobic)
   b. No oxygen (anaerobic)
   c. Warm temperature
   d. Moist environment
   e. Darkness for growth
   f. Food – dead tissue or live tissue
   g. Natural Immune Response

Course outline	Teaching aids/plans
4. Body defenses a. Beneficial in maintaining balance in our bodies and in our environment b. Microorganisms may cause illness, infection and disease c. External defenses to prevent illness, infection and disease • Skin as a barrier • Intact mucous membranes • Cilia • Coughing/Sneezing • Acid in the stomach • Tears • Internal defenses • Inflammation • Fever • Natural immune response **Section C. Chain of Infection** 1. Must have a causative agent (pathogen) a. Bacteria b. Viruses c. Fungi d. Protozoa 2. Must have a reservoir for the pathogen to grow a. Humans with diseases • Symptomatic • Asymptomatic b. Animals/insects c. Food/water d. Environment e. Inanimate objects such as clothing, bedding, mops, resident care devices 3. Must have a point of entry a. Breaks in the skin b. Mucous membranes that are not intact c. Respiratory system d. Gastrointestinal system e. Urinary system f. Reproductive system	Refer to most current CDC recommendations regarding Infection Control. http://www.cdc.gov Provide students with Common Infectious Diseases Handout.

Course outline	Teaching aids/plans
4. Must have a point of exit a. Saliva/other respiratory secretions b. Urine c. Feces d. Drainage from wounds e. Reproductive secretions f. Blood g. Tears (minor risk) 5. Must have a mode of transmission a. Contact • Direct contact – person to person • Indirect contact – inanimate contaminated objects to person b. Airborne • Inhaling small pathogens that float in the air c. Bloodborne • Microorganisms that are present in human blood and can cause disease d. Droplet • Drops of secretions put into the air through sneezing, coughing or talking e. Food and fluids f. Vectors • Mosquitoes, parasites 6. Must have a host individual to harbor the infectious pathogen	

ACTIVITY #6: Chain of infection game

Instruct Learners to form two teams. The purpose of the activity is to create a complete chain of infection by answering infection-related questions to advance along the path from pathogen to host.

Place six squares (pre-printed sheets on pages 29 through 35) in two identical lines on the floor (spaced about one foot apart). Print pages 29 through 35 twice; one set for each team.

The chain/path is mapped out in the following order by placing these pages (steps) on the floor in a straight line:

1. Pathogen;
2. Reservoir;
3. Point of Entry;
4. Point of Exit;
5. Mode of Transmission (Transport); and
6. Host.

Each step of the path to infection will offer teams a chance to answer one question about each of the six stages/steps. If a team answers correctly, that team will advance to the next step in the chain/path mapped out on the floor.

Ask for one team member to stand next to the stage one step (Pathogen) on behalf of the team. This person will visually represent the team's progress along the chain of infection stages.

If a team misses a question for a particular stage/step, they must provide an example of how a Medication Aide can help prevent infection at this stage of infection. A correct response will earn the team another opportunity to answer a new question and possibly advance to the next stage in the chain.

Each team receives questions from the Instructor that are specific to the stage of infection where their team member is standing (on the path of squares provided).

The team that reaches the host first with the least number of missed answers wins the game.

Teaching aids/plans

Instruct

Use pages 29 through 35 to make copies for this activity.

As Instructor, you will need to photocopy two complete sets of seven pages (14 copies total).

Each stage offers four questions for Learners. There will be one question for each team per stage, so there are two extra questions provided for variety.

1

PATHOGEN

(Causative agent)

RESERVOIR

(Location for growth of infection)

POINT OF ENTRY

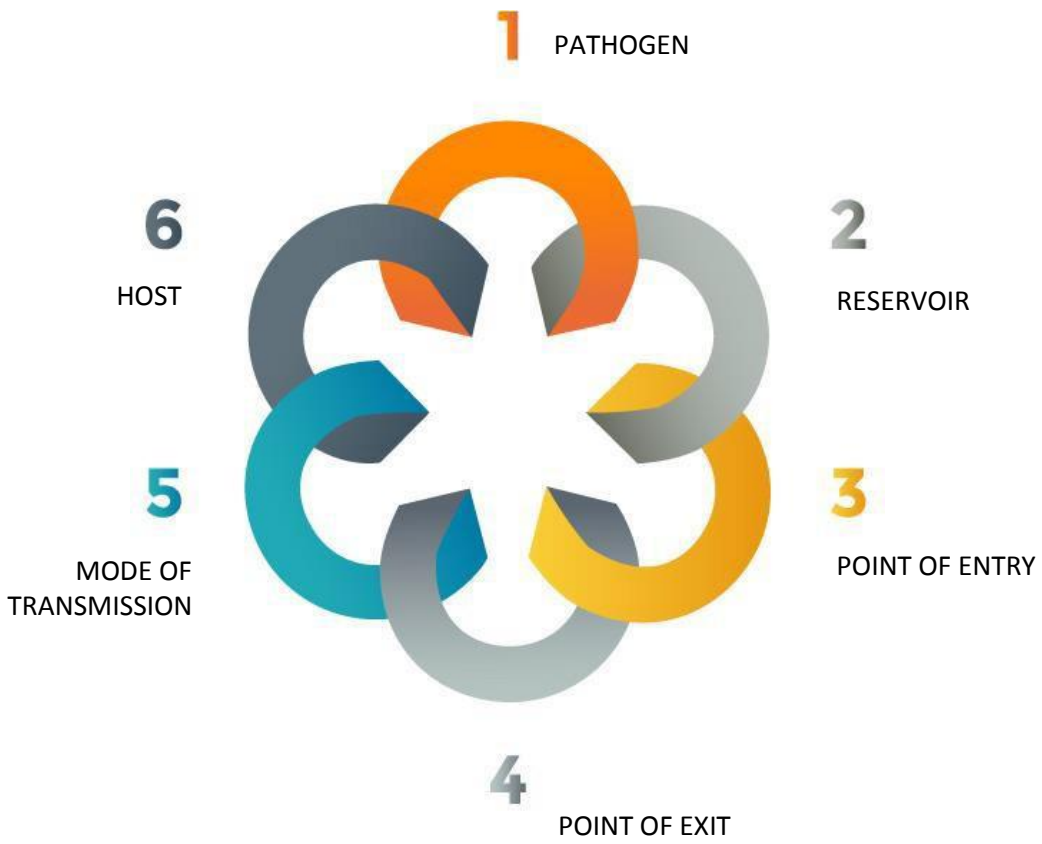
4

POINT OF EXIT

MODE OF TRANSMISSION

HOST

(Infection harbor)



FULL CYCLE

(Path to infection)

Course outline

Section D. General approaches to prevent and control infections

1. Medical asepsis (Clean technique)
   a. Practice(s) used to remove or destroy pathogens to prevent spread of infection from one person/place or object to another person/place or object.
2. Practices to promote medical asepsis
   a. Wash hands with soap and water according to the Centers for Disease Control and Prevention (CDC) guidelines (Procedural Guideline #6). This is the single most important practice to prevent the transmission of infection. List of some situations that require hand washing:
      - Anytime hands are visibly soiled
      - After personal use of the toilet
      - Before and after caring for a resident's personal care, assisting to toilet, feeding and procedures
      - Before and after eating or handling food
      - After coming in contact with a resident's skin, mucous membranes or body fluid
      - After contact with any infectious materials
      - After removing gloves
      - After blowing or wiping nose or covering mouth while coughing
      - After handling any soiled materials
      - After handling used linens, bedpans or urinals

   b. Proper use of gloves (discussed under Standard Precautions)

   c. Following CDC recommendations for Respiratory Hygiene/Cough Etiquette
      - Combination of measures designed to minimize transmission of pathogens via droplet/airborne routes

Teaching aids/plans

Section D:

Demonstrate hand washing.

Provide students with the Hand Washing handout.

Refer to the most current CDC recommendations regarding Hand Hygiene.

www.cdc.gov

Course outline	Teaching aids/plans
Section D. (cont'd) ▪ Cover mouth and nose during coughing and sneezing ▪ Use tissues to contain any respiratory secretions/promptly dispose of tissue ▪ Wear a mask when coughing to decrease environmental contamination (follow facility policy) ▪ Turn head away from others when coughing; try to maintain a distance of 3 feet from other d. Proper use of hand sanitizer (follow facility policy) e. Wash resident hands before and after meals f. Clean used equipment and place in approved storage, avoid cross contamination between clean and dirty (follow facility policy) 3. Methods to kill/control pathogens a. Disinfection • Use of chemical disinfectants to clean equipment b. Sterilization • Process of killing all microorganisms 4. Caring for supplies and equipment a. Disposable equipment • Use once and discard in appropriate container b. Clean non-disposable equipment (follow facility policy) • Disinfectants • Soap and hot water • Disposable wipes, cloths 20	

ACTIVITY #7: Fits like a glove

The purpose of this activity is to identify the important aspects of proper glove techniques. To set up for this activity: Place three pairs of gloves in three sizes (small, medium and large) on the table. Choose three Learners to try on different size gloves to illustrate key points. For example, a Learner with very large hands will put on the small size.

Instruct the Learner (you have identified with the largest hands) to come up to the table and put the smallest pair of gloves on. Next, choose a Learner with very small hands to come up and put on the largest pair of gloves. Finally, have someone with medium hands come up and put on the medium gloves, which will represent a proper fit.

Discuss the importance of using gloves that fit properly. Ask Learners for specific examples for what might happen in a nursing facility if the gloves are:

- too small;
- too large; or
- unavailable.

Write Learner examples out on flip chart pages.

Next, ask three students to come up and choose the pair of gloves that fit best. Place a teaspoon of red finger-paint in the palm of each Learner's gloved hand. Instruct students to roll up their sleeves or take additional measures to protect clothing from the red paint.

Ask Learners to rub the color around on their gloved hands. Then, instruct the Learners to remove the gloves and throw the gloves into the trashcan without getting any coloring on their clothing or skin.

Discuss infection control procedures in more detail. Review the precautions for the different types of infections and conditions found in nursing facilities (see the chart in Appendix F).

Review the additional PPE sequence handout on protective clothing/covering in Appendix G prior to the next activity. Refer to the PPE Poster in Appendix H.

Demonstrate using a gown, mask, gloves, eye goggles, etc., according to the guide content.

Teaching aids/plans

Supplies

- one box each of three different size gloves (small, medium and large)
- easel with flip chart
- dark markers (2 colors)
- container of red finger-paint
- plastic spoons (for dispensing finger-paint)
- wipes (for clean-up)
- trashcan with plastic liner
- gown
- goggles or face shield
- mask or respirator
- Infectious Diseases Chart in Appendix F
- PPE handout and poster (see Appendix G and H)

Activity source:
North Carolina Department of Health and Human Services, Division of Health Service Regulation, Center for Aide Regulation and Education, Adult Care Licensure Section

Course outline	Teaching aids/plans
Section D, General approaches to prevent and control infection (cont'd) 5. Other measures of asepsis a. Keep equipment and supplies, linens, etc. from touching clothing b. Never shake linen, used or unused c. Always clean from cleanest area to the soiled area d. When cleaning, clean away from you to prevent contamination of clothing e. Pour contaminated liquids into appropriate places, designated hoppers, toilets (follow facility policy) f. Clean equipment used on multiple residents between each resident (follow facility policy) 6. Standard precautions (CDC recommendations/takes the place of Universal Precautions) a. Based upon the premise that every person is potentially infected or colonized with an organism that could be transmitted to others in a healthcare setting b. The primary strategy for preventing healthcare associated transmission of infections among residents and healthcare personnel c. The nurse aide must be knowledgeable about and closely follow the facility policies d. Components of Standard Precautions CDC guidelines 2007 (Handout Common Infectious Diseases) In all cases, facility policy will be the standard. Hand hygiene involves washing: • when using friction with soap and warm water forall cases; • if hands are visibly soiled; • before direct contact with patients; • after contact with blood body fluids or excretions, mucous membranes, non-intact skin, wound dressings; • immediately after removing gloves; • between resident contacts; and • between tasks and procedures on the same resident to prevent cross contamination as needed.	

Course outline	Teaching aids/plans
Section D, General approaches to prevent and control infection (cont'd) Personal Protective Equipment (PPE) (Procedural Guideline #4) Gloves are: • used when touching blood, body fluids, secretions, excretions, mucous membranes, non-intact skin, contaminated items or contact with resident; • removed after contact with a resident or surrounding environment including medical devices; • not worn again (the same pair) for the care of more than one resident; and • never washed or reused. Gowns are: • used during procedures/resident care activities when contact of clothing/exposed skin is anticipated from blood, body fluids, secretions and excretions • never reused; and • placed (used gowns) in an appropriate container according to facility policies and procedures. Mask, eye protection and face shield are used: • during procedures/resident care activities likely to generate splashes/sprays of blood, body fluids and secretions. Multiple use Resident care equipment is: • handled in a manner that prevents transfer of pathogens to others or the environment; wear gloves if visibly contaminated; and • always performed with proper hand hygiene after using the equipment. Environmental control guidelines: • follow facility procedures for cleaning and disinfecting environmental surfaces/equipment. Textiles and laundry guidelines: • keep linen away from clothing; • handle in a manner that prevents transfer of pathogens to you/others/environment; • place soiled linen in specified containers; and • never mix soiled linen with clean linen.	

Course outline	Teaching aids/plans
Section D, General approaches to prevent and control infection (cont'd) 7. Transmission based precautions (CDC recommendations/formerly Isolation Precautions) a. Used for residents who are known to be or suspected of being infected or colonized with infectious microorganisms that require additional measures to prevent transmission **Airborne precautions** - Use in addition to Standard Precautions; use for residents with known/suspected infection spread by microorganisms dispersed by air currents. • Resident Placement - Private room, keep doors closed at all times, resident should not leave room • Gowns - Must wear when entering the room • Mask and Eye Wear - For known or suspected pulmonary tuberculosis, respirator mask worn by all prior to entering room (according to facility policies and procedures) • Hand Hygiene – Must wash hands before gloving and after gloves are removed • Resident Transport - Limit as possible/place mask on resident • Resident Care Equipment - Clean and disinfect according to facility policy and • manufacturers' recommendations before use on another resident **Droplet precautions** - Use in addition to Standard Precautions; use for residents with known/suspected infection spread by droplets generated by coughing, sneezing, talking • Resident Placement - Private room or with resident with same disease • Gowns - Must wear when entering the room • Mask, Face Shield, and Eye Wear - Wear mask when working within three feet of resident • Hand Hygiene - Hands must be washed before gloving and after gloves are removed • Resident Transport - Limit as possible/place mask on resident • Resident Care Equipment - Clean and disinfect according to facility policy and manufacturers' recommendations before use on another resident	

Course outline	Teaching aids/plans
Section D, General approaches to prevent and control infection (cont'd) **Contact precautions** - Use in addition to Standard Precautions; use for residents with known or suspected infection that is spread by direct contact with the resident (hand or skin to skin contact that occurs when performing activities that require touching skin or indirect contact with surfaces or items in the resident room) • Resident placement - Private room or with resident with same disease • Gowns - Must be worn when entering the room • Hand hygiene - Hands must be washed before gloving and after gloves are removed • Resident transport - Limit as possible/place mask on resident • Resident care equipment - Clean and disinfect according to facility policy and • manufacturers' recommendations before use on another resident	

ACTIVITY #8: Suit up and prevent infection!

The purpose of the activity is for Learners to assess knowledge of medication conditions that present a need for more precautionary (infection control) measures. Content involves the level of precaution necessary, the type of precautionary covering to wear and the type of infectious material involved for several medical conditions presented. Content is found in Appendix F. Set up for the activity with two tables at the front of the room.

Instruct the class to divide into two teams. Teams will compete to choose the level of precaution (airborne, contact, droplet or standard), the necessary precautionary covering(s) for the condition and the infective material in each scenario. Learners will select which items to use in each scenario, but will not actually put any of the protective covering on the body (so that examples of protective covering may be re-used).

Ask an infection control question to determine which team will go first.

Read a scenario to each team (alternating). The winning team answers all aspects of each scenario correctly (best of three).

Scenario 1: A facility admitted Wilbur from the Hospital. He is homeless and was living in the woods prior to admission. He is diagnosed with Amebiases Dysentery.

Scenario 2: Mabel has cellulitis with pus and needs the dressing changed.

Scenario 3: Bill has a *major decubitus ulcer* that is infected, and the draining is not contained.

Scenario 4: Mary in Room 154 has *German measles.*

Scenario 5: Ted received a diagnosis today of C-Diff.

Scenario 6: Grace got the *Chicken pox* from a visit with her great granddaughter this week.

Remind Learners that Medication Aides are **not** permitted to provide any wound care.

Teaching aids/plans

Supplies/set-up:

Place identical sets of the following items on each table (one for each team): a box of gloves, one gown, a mask, a pair of eye goggles and a cardboard sign labeled *Private Room*.

Instruct

Teams have the opportunity to choose items (from the table) for three scenarios each. Learners may use the *Common Infectious Diseases* chart in Appendix F, if needed.

One team member stands next to one of the tables. As Instructor, you read a scenario to Team one. Team one (member) will choose the appropriate protective items, share what type of precaution is used and share what infective material is involved for the scenario. The team member may ask his/her team for support in answering.

If correct, Team one scores. The next team takes a turn with a new scenario. Team two follows the same process. The team with the highest score out of three scenarios will win the game.

Course outline

Unit III. Administration of medications

Section A. Medication supply and storage.

1. How medications are supplied
   a. Multiple dose containers
   b. Unit dose packaging
   c. Unit dose use
   d. Bulk non-legend drugs (OTC)
   e. Liquid medications
   f. Otic, ophthalmic, nasal special type containers
   g. Aerosols
2. Labeling of the medication container
   a. Resident's full name.
   b. Prescribing physician's name.
   c. Pharmacy's prescription number.
   d. Name, strength, and amount of the drug dispensed.
   e. Expiration date of all time-dated drugs.
   f. Date of issuance (date the prescription was filled or refilled).
   g. Warning labels if needed.
   h. Physician's direction for use.
   i. If the label is on the container of a Controlled Substances Act drug, the label has to have the following warning: "Caution: Federal law prohibits the transfer of this drug to any person other than the patient for whom it was prescribed."
   j. Name, address, and telephone number of the issuing pharmacy.
   k. Small multiple dose containers are placed into another container and the pharmacy's regular label, properly completed, will be affixed to it. Also, if multiple dose containers of drugs are too small for a regular prescription label to be affixed, a strip label will be attached containing the name of the resident and the prescription number. If the two containers become separated, the small drug container will still have the resident identification.

Teaching aids/plans

Have examples of various types of containers.

Discuss the various ways a facility receives medication supplies.

Discuss unit dose systems of packaging drugs and unit of use.

Have examples of property labeled medication containers for nursing homes and other facilities.

Relate what constitutes correct labeling of a dispensed medication.

Demonstrate what constitutes proper labeling for bulk non-legend drugs.

Discuss ethics such as when the medication aide has the right to "say no" as in a situation when the DON tells the medication aide to do things that the RN would not do (something illegal).

Comprehend facility's storage policies of storage of residents' medications and storage of stock, bulk non-legend drugs.

Show how the medication cart is used to store medications.

Discuss and learn medications requiring refrigeration and temperatures.

Course outline:	Teaching aids/plans
Section A. (cont'd) 3. Medication storage. a. Medication room. i. Only authorized personnel may have access. b. Medication cart. c. Schedule II of controlled drugs. i. Under two separate locks. d. Other schedules of controlled drugs. e. Drugs requiring refrigeration. f. Drugs requiring protection from light. g. Emergency drug kit. h. Internal, external, and poisons. i. Stock, bulk and non-legend drugs. j. Storage of excess medications. k. Care and cleaning of storage room, cart and refrigerator. **Section B: Medication orders** 1. Physician's written orders/electronic orders on resident's current clinical records. a. Checking physician's orders 2. Prescription orders 3. Stat orders 4. Verbal orders (Medication Aides are prohibited to take verbal orders) 5. Routine orders 6. PRN (as needed) orders 7. Stop orders on medications 8. Refill instructions 9. Checking the medication orders a. An accessible system of checking current physician's orders is usually used. b. Medication order sheet for each patient/resident contains physician's orders for each medication the individual is to receive. 10. Care plans	Discuss potential errors that may arise in the supplying and storage of medications. Identify the facility's requirements for emergency drugs. Discuss requirements for proper storage of internal medications, external medications, external preparations, and poisons. Demonstrate the care and cleaning of cabinets and bins used to store medications. Discuss that anyone that pulls a medication from an emergency drug kit must administer the medication and must be a licensed nurse. Identify differences between orders in the clinical record and on prescription. Show similarities. Identify facility policy for medication orders and discuss that electronic orders are based on facility policy. Comprehend the medication aide rule that prohibits a medication aide from receiving or assuming responsibility for reducing to writing (taking) verbal or telephone orders from a healthcare professional. Discuss and illustrate the physician order sheet, clinical records, MAR and care plans.

ACTIVITY #9: Do not mar the MAR!

The purpose of this activity is to demonstrate how to work with a *Medication Administration Record (MAR*), as well as demonstrate the distribution of medications from the MAR (as they are documented).

Each facility requires documentation for each medication and treatment when administered according to the physician/ARNP/PA/dentist's order.

The remaining activities will involve a sample MAR, at least one medication from the *Medication Flash Cards* and a Resident condition that reviews information specific to one of the body systems from the course.

Learners will participate in a role-play for each activity. *Assignment Sheets* provide a detailed background necessary for each role-play. This information will assist with interactions between roles (for the Resident, Medication Aide, family member, other facility staff, etc.).

Create a sample *Medication Box* for use in the role-play activities (Activities nine through 14) containing the following items:

- medication container (plastic container or shoebox);
- empty prescription bottles (approximately 23); see Activities #9 through #14 for labeling; label sheets for cutting out and affixing to the bottles are provided in each course activity;
- five to 10 assorted candies for each of the 23 prescription bottles (which may include sample Tic-Tacs, Jellybeans, Altoids, etc.);
- a tube to simulate prescribed ointment;
- a mask to simulate prescribed oxygen;
- printed sample MAR sheets (a total of seven provided in the Appendices);
- nurse call button device (can be a sheet of paper or another object that serves in this function;
- hand sanitizer gel (two large bottles);
- box of disposable gloves (two sizes);
- medication cups (20);
- water container (pitcher);

Teaching aids/plans

Instruct

Review the purpose of the MAR and how to follow procedures for the administration and documentation of medication in a nursing facility.

Use this opportunity to review state and federal regulations on Medication Administration, if necessary.

ACTIVITY #9: Do not mar the MAR! (cont'd)

Sample contents for the *Medication Box* include:

- cups for water (20);
- any other procedural instructions for role plays;
- sample prescriptions (See Appendix I, cut out and tape paper labels to empty/clean prescription bottles to be placed in the Medication Box);
- scotch tape;
- scissors; and
- certificates/awards for acting (optional).

Teaching aids/plans

Instruct

Review the purpose of the MAR and how to follow procedures for the administration and documentation of medication in a nursing facility.

Use this opportunity to review state and federal regulations on Medication Administration, if necessary.

ACTIVITY #9: Do not mar the MAR!
Demonstration (cont'd)

The MAR, a legal document, requires accurate completion. All medications and treatments must be documented during the Medication Aide's shift at the nursing facility. Any medication or treatment not properly documented **must** be entered as a late record.

Both licensed nurses and medication aides record the administration of medication (by the facility) to Residents.

Residents may also administer their own medication (according to regulation §483.10, Resident Rights) if the interdisciplinary care planning team at the facility determines it is safe.

Review all procedures for using the MAR. Demonstrate using the *Medication Box* and review the preferred method using the sample MAR #1 form in Appendix I.

Method one: Remove the unit dose package or card from the storage box, check the information on the package/card with the information on the MAR.
Place the unit dose package(s) in a medicine cup or punch out each med from the unit dose card and place in the med cup. Place several medications for administration in the same cup at the same time.
Take the medication (s) to the Resident and administer exactly as ordered. Observe the Resident take every med (whether swallowed or applied), never leave the cup with the Resident. Return to the location of the MAR and place an identifying initial next to every medication administered.

Method two: Identical to method one, except the MA sets up the meds for one Resident. If the Resident does not take a medication, the MA circles his/her initial and records on the back of the MAR, or in the interdisciplinary notes, the reason the Resident did not take any one medication.

Method three: The MA sets up the medications for a group of Residents. *Medication Flash Cards* are available for each medication. Place medication in a medicine cup and the appropriate cards on the tray in a slot under the designated cup. Document administering the medications after administered. Use the *Medication Flash Cards* as the resource to document if needed.

Teaching aids/plans

Instruct

Use the sample MAR #1 *(*Appendix I) in the first exercise demonstrating the method of reading and documenting in the MAR.

Simulate a medication cart with the *Medication Box* and a clipboard or binder that contains the MAR document for the demonstration.

Ask a Learner to volunteer to be the Resident in your demonstration as you administer the meds (using the candy samples from the *Medication Box*) and document what medications you administer.

In closing the demonstration, emphasize that the MAR is a confidential document where only the staff administering the medications have access to the Resident's medication information.

Set-up

See the next page for prescription labels for use in this activity. You will need to affix these labels to empty prescription bottles in the *Medication Box* for this activity.

Prescription Labels for *Medication Box* used in Activity #9

You will need four labeled prescription bottles and four different looking types of candy to simulate these medications. Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box*. The full list of items in the Medication Box is on page 46. All sample medications below are specified in tablet form for use in *Do not mar the MAR!* (Activity #9).

Demonstrate procedures for administering and documenting on the MAR according to regulations.

DOROTHY SHAW LANOXIN 0.125 MG Take 1 tablet by mouth daily (check pulse prior to dosage; HOLD dose if HR is less than 60 BPM) RX#11199 QTY 30 PBR: Dr. Gilbert	**DOROTHY SHAW** COUMADIN 5 MG TABLETS Take 1 tablet once daily (at the same time with each dosage) RX#11199 QTY 30 PBR: Dr. Gilbert Sanchez
DOROTHY SHAW LASIX 40 MG TABLETS Take 1 tablet twice daily (a.m./p.m.) every 12 hours RX#882416 QTY 30 PBR: Dr. Gilbert Sanchez	**DOROTHY SHAW** AMOXICILLIN 250 MG TABLETS; Take 1 tablet by mouth 3X daily. RX#011446 QTY 30 PBR: Dr. Gilbert Sanchez

Course outline	Teaching aids/plans
Section C. Potential causes for medication errors 1. Failure to follow the "8 rights." a. Right patient b. Right medication c. Right dose d. Right route e. Right time f. Right documentation g. Right reason h. Right response 2. Interruptions or loss of concentration 3. Lack of knowledge 4. Too mechanical due to familiarity 5. Inadequate communication 6. Improper transcribing and documentation 7. Omission of medications 8. Incident reports 9. Assumptions 10. Take for granted 11. Failure to listen and/or use 12. Drug availability	Practice order verification system to check medication orders. Discuss points where potential drug errors or unsafe practices may occur and whereby they can be prevented by using the checking medication orders system. This system may be expanded upon to suit local needs. Show procedure and how to report and follow up on administration errors. Explain how to write incident reports for medication error. Discuss drug availability when doing medication pass. Discuss reporting to the nurse in charge http://www.nursingcenter.com/Blog/post/2011/05/27/8-rights-of-medication-administration.aspx

Course outline	Teaching aids/plans
Section D. Role and responsibilities of the Medication Aide in drug therapy 1. Preparing equipment. 2. Preparing drugs for administration. 3. Observing residents before and after medication administration. 4. Preparing the residents and equipment. 5. Administering medications. 6. Observing, recording, and reporting. 7. Responsibilities for other medication. a. PRN b. Refused c. Omitted 8. Care of equipment. 9. Communications with facility staff, family, and resident. 10. Maintaining standard precautions. 11. Exercise sound common sense. 12. Report resident changes verbally and writing per facility policy.	Emphasize that students will perform the expected tasks through lecture, demonstration, and laboratory. Relate this topic to what is outlined in the medication aide program training rules. Know the responsibilities of medication aide when giving a medicine to a resident. Emphasize importance of checking expiration dates. Discuss when to report changes that warrant immediate reporting to nurse in charge.

Course outline	Teaching aids/plans
Section E. Medication preparation 1. Expected effects of each medication administered. 2. Preventing the transfer of infection and contamination of medications. a. Hand washing/hand sanitizer between contacts with resident according to facility policy. b. Handling medications as little as possible. c. Keep medication cart in clean area while passing medications. d. Cleaning medication cart following use. 3. The medication room must be: a. Well lighted b. Free of distractions and interruptions c. Neat, clean, and orderly d. Ventilated and comfortable (71 to 81 degrees F) 4. The medication aide must concentrate on accuracy in preparing medications. 5. If any medication has fallen from its container or found in storage bin or shelf, it must be discarded. Discard it in the presence of a witness according to facility policy. 6. Read and reconcile the label three times: a. When taking medicine from resident's storage bin. b. When removing or pouring medication from containers or unit dose medications from the package. c. When returning the medication container to the storage bin. 7. The person that prepares the medicine must administer the medicine. 8. To maintain security do not leave medications unattended in accordance with facility policy. a. Keep the medication room locked. b. Do not store or leave unlocked medications unattended. c. Do not leave medications or medication cart unattended or unsecured.	Identify the equipment needed to prepare and administer. Describe expected effects of several prescribed medications as selected by the instructor. Practice how to properly wash hands to prevent infection. Identify procedures to prevent drug contamination. Demonstrate proper care for medication cart and other equipment. Review additional techniques to prevent transfer of infection and contamination. Review special precautions for cytogenic and teratogenic drugs (e.g., drugs that women should not touch). Return demonstration of the administration of medications. Discuss the security of medications and its relationship to the safety of residents per facility policy.

Course outline	Teaching aids/plans
Section E. (cont'd) 9. Medications must be available on a reasonable and timely basis, in advance of the last available dose and present said "medication needs list" to the facility's licensed nurse. a. Wands b. Automatic dispensing units c. Routine medications 10. Proper inventory records must be maintained on controlled drugs. 11. Crushing medication. a. Make sure that the medication may be safely crushed, i.e., not enteric coated, sustained-release or similar form. b. Use Medication Crusher. Make sure that equipment is free of residue from crushed medication. c. Mix with appropriate substance – according to facility policy. 12. Liquid medication. a. Pour on side away from label. b. View medication cup at eye level. c. Read level of medication from bottom of meniscus or curve of liquid surface.	Discuss the correct dosage of medications for the resident, also practice laboratory demonstration. Define unattended, unsecured, and/or locked. Relate methods and procedures for informing licensed nurse of the need of additional medications. Identify drugs which may require special controls and record keeping. Name controls which may be used. Show examples of forms which may be used for signing out controlled drugs and for change of shift counting. Practice specific techniques for crushing medications. Borrow crusher, if possible, to illustrate how to use and keep clean (Double Cup). Practice specific techniques for pouring medications.

Course outline	Teaching aids/plans
Section F. Procedures and techniques for administering medications 1. Route of administration a. Oral b. Rectal c. Sublingual d. Ophthalmic e. Otic f. Nasal g. Liquids h. Aerosols (skin) i. Transdermal j. Vaginal 2. Special techniques a. Aged patient b. Hostile patient c. Mute/withdrawn patient d. Residents with physical limitations e. Residents refusing to take medications f. Non-communicating residents g. Non-ambulatory residents h. Children/infants i. Pregnant residents j. Postpartum residents k. Residents with dysphagia (swallowing and thickening liquids) 3. Identification of the resident is essential before administering any medication. 4. Review medications which require checking vital signs before administering. 5. Inform resident of your presence and explain procedure. (No surprises, do not startle.)	Demonstrate proper procedures and techniques for administering medications through lecture and laboratory. Practice administering oral medicines in lab. Small candies make satisfactory "medication." Use carts, unit dose packages and cups as found in the work setting. Illustrate how to deal with the special type of resident through lecture and role demonstrations. Review techniques to correctly identify Resident.

Course outline	Teaching aids/plans
Section G. Administration of oxygen 1. Medication aides may administer oxygen per nasal cannula or a non-sealing face mask only in an emergency. Immediately after onset of the emergency, the medication aide shall verbally notify the licensed nurse on duty or on call and appropriately document the action and notification. 2. Oxygen administration procedures a. Administration of oxygen by use of nasal cannula. b. Administration of oxygen by use of a non-sealing face mask. c. Regulation of the prescribed flow of oxygen to the resident.	Demonstrate correct procedure and flow rate for oxygen. Emphasize emergency.

Course outline	Teaching aids/plans
Section H. Medication Aides responsibilities following drug administration 1. Observation of Resident's. a. Intended drug action and effects. b. Side effects and untold side effects. c. Stomach irritations. d. Toxic reactions. e. Allergic reactions. f. Assure oral medications were swallowed. 2. Nursing action a. Prevention of side effects and what to do when side effects occur. b. Recognition of changes in Resident's behavior indicating symptoms of drug reactions. c. Reporting to licensed nurse when side effects occur. Take vital signs as instructed per facility policy. Be alert to changes in Resident, observe, and monitor. a. Temperature b. Pulse c. Respiration d. Blood pressure e. Pain	Lecture and use examples for ways you may observe residents for side effects. Discuss additional ways for observation as selected by the instructor. Relate how to prevent side effects such as medications to be taken with food, or away from food, or crushing of medications, and other responsibilities. List side effects as selected by the instructor. Each student shall be required to learn and develop skill in taking a resident's vital signs. Laboratory demonstrations of accurately taking vital signs. Discuss individual nursing facility policies regarding parameters.

Course outline	Teaching aids/plans
Section I. Medical records 1. Medical records appropriate to medication administration. a. Medication - administration record b. Treatment – administration record c. Nurse notes d. Medication error reports e. Flow sheets f. Care plan 2. Protection of medical records (HIPAA and websites) 3. Access to medical records 4. Release of information from medical records 5. Retention of medical records 6. Legal responsibility 7. Documentation of medication administered a. Control b. Accountability c. Confidentiality 8. General guidelines a. Chart after giving. b. Write clearly using ink or electronic signature. c. Initial or sign all charting according to facility policy. 9. Specific situations a. Medication not given at scheduled time (also if refused or held). i. Usually charted by circling the scheduled time on medication record and initialing it ii. Completed by recording in nurse's notes reason drug was not given as per facility policy iii. Notify nurse of referrals and holds.	Lecture and demonstration. Demonstrate how to properly complete (fill out) the appropriate records. Discuss care plan pertaining to medication. Practice recording medication administration on the appropriate records and correlate with physician's orders, and the MAR as assigned by the instructor. Include study of the entire chart if you feel it is appropriate. Provide practice problems to illustrate how to chart specific situations. Use actual chart materials, if possible. Identify general guidelines to follow in recording medication administration. Reinforce the value of reporting errors. Give examples of how this is beneficial and how this will help prevent future errors. Use forms from more than one facility, if possible, show how to complete form. Identify appropriate recording procedures when medication is given at times other than regularly scheduled or when errors are made.

Course outline	Teaching aids/plans
Section I. (cont'd) b. Controlled drug inventory records. i. Ongoing individual doses ii. Shift reconciliation c. PRN, STAT, and NOW i. Chart on medication record, according to facility procedure. ii. Record administration in nurse's notes along with observations of pertinent resident behavior. iii. Facilities may also report PRN and STAT medication use during change of shift report. d. Medication errors i. Reporting error to supervisor is vital so that necessary remedial measures may be started. ii. Completing medication error report, following facility policy and procedure. iii. Reporting verbally in a timely manner.	Define and discuss definitions. Discuss cosigning for PRNs (scope of practice).

ACTIVITY #10: This MAR is from Mars! (error check)

The purpose of this activity is to assess knowledge of Learners as they review a completed MAR with known errors. Learners will review four different aspects (in teams) of common types of medication errors including dosage, documentation, medication name/type and incomplete instructions (for administering the medication).

Begin with sample MAR #2 in Appendix J. Divide the class into four teams. Each team reviews MAR #2 to check for specific types of errors.

Assign one error type to each team as follows:

- Team one: dosage errors only
- Team two: documentation errors only
- Team three: medication specific errors (by name/type)
- Team four: incomplete instructions for administering

The profile for 65-year-old Resident Ellie Thompson presents a MAR with a number of different errors.

Instruct each team to make a list of errors found using their assigned error type. Present the team's list to the rest of the class.

Some error types may fit into more than one category. For example, Lasix may have been administered correctly but not documented accurately according to the MAR or vice versa.

Teaching aids/plans

Set-up

Provide each team with a copy of the MAR #2 for this activity.

Provide prescription labels for this activity if the Instructor wants to include actual samples that match the MAR in the *Medication Box* (optional).

Instruct

Instruct teams to find the errors on the MAR based on the error type assigned to each team.

Prescription Labels for *Medication Box* (if used in Activity #10)

Four labeled prescription bottles and four different looking types of candy to simulate these four medications are provided if the Instructor chooses to use samples from the *Medication Box* (to match up with the printed MAR). This step is optional. Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box* (see Activity #9). All of these prescriptions are in tablet form for ELLIE THOMPSON for *This MAR is from Mars* (Activity #10).

ELLIE THOMPSON DULCOLAX 100 MG Take 1 tablet once daily. RX#44389 QTY 30 PBR: Dr. Dr. O. Ramirez	**ELLIE THOMPSON** ARICEPT 30 MG TABLETS Take 1 tablet daily at bedtime. RX#5549-01 QTY 30 PBR: Dr. Dr. O. Ramirez
ELLIE THOMPSON LASIX 40 MG TABLETS Take 1 tablet twice daily (a.m./p.m.) every 8 hours. RX#882416 QTY PBR: Dr. Dr. O. Ramirez	**ELLIE THOMPSON** BACTRIM 80 MG TABLETS; Take 1 tablet twice daily. RX#224132 QTY 30 PBR: Dr. O. Ramirez

Course outline

Unit IV. Drugs affecting the Cardiovascular System

1. Cardiovascular structure and function
   a. Heart – a muscular, multi-chambered organ which rhythmically pumps blood; heartbeat should be regular in rate and force
   b. Blood vessels
      i. Arteries – muscular tubes which carry blood containing oxygen and other nutrients to body tissue; can constrict and dilate to changes blood pressure
2. Heart failure
   a. Heart failure results from the hearts inability to work effectively as a pump; many conditions can cause Congestive Heart Failure (CHF); heart cannot pump effectively and fluid backs up in the vessels/tissues causing edema in tissues spaces, abdomen and lungs; diuretics are commonly administered to treat/prevent CHF in additions to cardiac-related drugs
3. Medication used to treat Heart Failure
   a. Symptomatic treatment (not affecting overall mortality)
4. Diuretics
   a. Generic names
      i. Furosemide, bumetanide, HCTZ, torsemide
   b. Adverse Drug Reaction (ADR)
      i. GI effects, dizziness, headache and vertigo
5. Potassium sparing Diuretics
   a. Generic name
      i. Spironolactone
   b. Adverse Drug Reactions
      i. GI effects, dizziness, headache, drug induced hyperkalemia
6. Nitrates
   a. Mechanism of Action: decreased cardiac output secondary to peripheral vasodilation
   b. Generic names
      i. Nitroglyerine (sublingual), isosorbide mono and dinitrate, NTG patch
   c. Adverse Drug Reactions
      i. Headache, Orthostatic Hypotension, flushing, syncope, nausea/vomiting

Teaching aids/plans

Discuss the safe use of the NTG patch (12 hours on and 12 hours off)

Discuss how to measure and where to apply ointment.

Discuss why a headache is a positive action of sublingual NTG.

Review orthostatic hypotension.

Discuss digoxin use *vs.* ACE inhibitors for heart failure.

Review contractility

Define halo effects

Discuss vasoconstriction

Review that all ACE inhibitors end in *pril*.

Discuss the mechanism of ACE inhibitors

Continue the discussion on vasoconstriction.

Discuss why a headache may be a bad symptom with ARBs which require notification of the nurse in charge.

A non-productive cough is one of the more common adverse drug reactions to ACE inhibitors. It is dose dependent and usually relieved when the medication is discontinued.

Course outline

Unit IV. Drugs affecting the Cardiovascular System (cont'd)

7. Cardiac Glycosides
   a. Mechanism of Action: slow and strengthen the heart's contractions so that it pumps more blood with each beat.
      i. Generic name - digoxin
      ii. Adverse Drug Reactions are often signs of toxicity – excessive slowing of the heart, irregular heartbeat, GI symptoms, confusion, weakness and visual blurring
8. Maintenance Medication Used to Treat Heart Failure
   a. ACE Inhibitors
      i. Generic name – captopril, enalapril, fosinopril, lisinopril, quinapril, ramipril, trandolapril
      ii. Adverse Drug Reactions - GI effects (nausea, vomiting, diarrhea), loss of appetite, drowsiness and blurred vision
   b. ARBs (angiotensin II Receptor Blockers)
      i. Generic name – candesartan, valsartan
      ii. Adverse Drug Reactions – headache, dizziness
   c. Beta blockers
      i. Generic names - carvedilol, metoprolol, propranolol
      ii. Adverse drug reactions - GI effects, dizziness, fatigue, vivid dream or nightmares, hallucinations

9. Angina
   a. How the body malfunctions: angina results from lack of oxygenated blood to areas of the heart muscle. The pattern of pain remains fairly constant for one individual but varies between individuals, angina attacks are usually set off by physical activity or emotional stress.
   b. Drugs used to treat transient angina - Nitrates
      i. Generic name - nitroglycerine (sublingual)
      ii. Adverse drug reactions include headache, orthostatic hypotension, flushing, syncope

Teaching aids/plans

Discuss the action of beta blockers.

Discuss that a blood pressure should be taken for any drug ending with *lol*.

Revisit blood pressure parameters for Beta Blockers.

Course outline	Teaching aids/plans
Unit IV. Drugs affecting the Cardiovascular System (cont'd) (Angina, cont'd) c. Drug treatment may include nitrates, beta blockers, calcium channel blockers and piperazine derivatives. i. Nitrates - generic name (see above) ii. Adverse drug reactions (see above) d. Beta blockers i. Generic names - atenolol, nadolol, metoprolol, propranolol ii. Adverse drug reactions include GI effects, dizziness, fatigue, vivid dreams or nightmares, hallucinations e. Calcium channel blockers i. Generic names - amlodipine, diltiazem, nicardipne ii. Adverse drug reactions include edema (dose related), dizziness, palpations, flushing f. Piperazine derivatives i. Generic names - ranolazine ii. Adverse drug reactions include dizziness, headache, asthenia, confusion, tremor	Discuss the symptoms of angina – stable angina and unstable angina. Revisit headache with sublingual NTG for instable angina. Review hot to check apical pulse. Revisit blood pressure parameters for beta blockers. Discuss how calcium channel blockers may be both effective for angina, but may also exacerbate symptoms. Discuss non-pharmacologic interventions (ted hose, elevate lower extremities, etc) Discuss exacerbation of symptoms with calcium channel blockers (excessive hypotension, increasing heart rate, and worsening of symptoms).

Course outline	Teaching aids/plans
Unit IV. Drugs affecting the Cardiovascular System (cont'd) 10. Arrhythmias - an arrhythmia is an abnormal heart rhythm; these medications promote a normal rhythm of the heartbeat. Drugs have this effect by depressing the ability of the cardiac muscle to respond to the irregular or weak signals. a. Generic names - procainamide, quinidine, mexiletine, flecainide, propafenone. b. Adverse drug reactions include hypotension, GI effects c. Other agents that may be used to treat arrhythmias are beta blockers, calcium channel blockers. d. Agents used for tachyarrythmias i. Generic names - amiodarone, dofetilide, dronedarone, sotalol ii. Adverse drug reactions include GI upset, hypotension	Discuss perfusion. Discuss electrical conductivity. Review tachycardia, bradycardia, atrial fibrillation, atrial flutter, ventricular fibrillation, ventricular flutter and heart block. Discuss how to research/look up new drugs. Discuss repolarization. Name commonly used anti-hypertensive drugs. Identify the action and major side effects of antihypertensive drugs. Discuss that BP needs to be checked routinely. Discuss postural hypotension and resident safety.

Course outline

Unit IV. Drugs affecting the Cardiovascular System (cont'd)

11. Antihypertensives
    a. How the body malfunctions: with hypertension, the blood pressure remains elevated. If not reduced, blood vessels in the brain, kidney, and heart are likely to be damaged.
    b. Action: lowers blood pressure; many do this by dilating blood vessels. Will not improve hypertension caused by arteriosclerosis. Often used in conjunction with diuretics.
    c. Side effects: postural hypotension, drowsiness.
    d. Examples: calcium channel blockers, ACE inhibitors, beta-blockers, etc.
    e. When hypertension is not relieved by the use of one drug, a combination of two or more may by ordered either in combination as one drug or two separate agents. Examples are Lisinopril/HCTZ, enalapril/HCTZ or aldactone/HCTZ.
12. Anticoagulants
    a. How the body malfunctions:
        i. Abnormal clotting may cause damage to the:
            A. Cerebrovascular accident, myocardial infarction, pulmonary embolism, TIAs – Transient Ischemic Attacks
    b. Drugs that may be used for anticoagulant therapy
        i. Generic names
            A. pentoxifylline, cilostazol
                i. Adverse drug reactions
                    A. GI distress, weight loss, dizziness
    c. Stroke/DVT prophylaxis/atrial fibrillation
        i. Generic names
        ii. warfarin
        iii. Observe for signs of bleeding, bleeding gums, bruising, and blood in urine or stool.
        iv. Other drugs that may be used instead of warfarin: apixaban, aspirin, clopidogrel, dabigatran, rivaroxaban, ticlopidine, vorapaxar
        v. Adverse drug reactions
        vi. GI distress, increased bleeding, headache, dizziness, vertigo

Teaching aids/plans

Discuss clotting mechanism.

Discuss platelet aggregation.

Discuss lab work needed with warfarin.

Discuss how Vitamin K (Mephyton) is used to counter act excessive bleeding.

ACTIVITY #11: Getting to the heart of the matter

The purpose of this activity is to assess knowledge of the cardiovascular system and the medications that affect Residents with cardiovascular conditions. Learners will have the opportunity to process information and integrate solutions by reviewing a Resident profile and observing a role-play between a Resident and a Medication Aide. All aspects of the Medication Aide's job responsibilities are required to process the scenario information. Assignment sheets provided to Learners in the role-play will offer specific issues (e.g., medication errors, poor communication skills, etc.) to recognize and resolve for the observers.

Using the sample of MAR #3 (Appendix K), read the following scenario to the class. Ask for two volunteers. One will represent the Medication Aide role; the other, the Resident role.

Instruct the Learners to act according to their *Assignment Sheet*, which provides detailed guidance for each role-play (e.g., how to act and what to reveal to the class).

Resident profile for Bill:

Bill is an 80-year-old Resident admitted to the facility on New Year's Day. His primary diagnosis is mild dementia and recuperation from a lumbar fracture (from a fall in his home).

Teaching aids/plans

Set-up

Provide each volunteer Learner with a copy of the *Assignment Sheet* for their assigned roles.

The following pages provide specific details for the role-play as outlined for Bill (the Resident) and Carrie (the Medication Aide).

Explain

Learners will simulate the administration of medication for *Bill* using a copy of MAR #*3* (Appendix K) and the *Medication Box*.

Affix the prescription labels (provided on the next page) to empty prescription bottles in the *Medication Box* for this activity.

Use the *Medication Flash Cards* for the medications used in the MAR (Furosemide, Nitrostat, Lanoxin, Vicodin and Warfarin) so both players have access to the medication details, if needed.

The rest of the class can also use these same *Medication Flash Cards* for reference.

Prescription Labels for *Medication Box* used in Activity #11

You will need six labeled prescription bottles and six different looking types of candy to simulate these medications. Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box* (see Activity #9). All sample medications below are in tablet form for the *Getting to the heart of the matter* (Activity #11).

BILL KING FUROSEMIDE 40 MG Take 1 tablet by mouth twice daily; every 12 hours RX#4499-01 QTY 30 PBR: Dr. Farragut	**BILL KING** VICODIN 500 MG TABLETS Take 1 tablet by mouth once daily; PRN for pain No more than 10 consecutive days. RX#600-382 QTY 30 PBR: Dr. Farragut
BILL KING LANOXIN 0.125 MG TABLETS Take 1 tablet by mouth daily (check pulse before; hold Rx if pulse is less than 60 BPM) RX#833498-1 QTY 30 PBR: Dr. Farragut	**BILL KING** WARFARIN 5 MG TABLETS; Take once daily in the a.m. RX#0330087 QTY 30 PBR: Dr. Farragut
BILL KING NITROSTAT 0.4 MG TABLETS Dissolve one tablet under tongue or inside mouth against cheek wall; PRN for sudden Angina/chest pain RX#22207 QTY 30 PBR: Farragut	**BILL KING** ALDACTONE 100 MG TABLETS Take 1 tablet by mouth in the a.m. RX#031997-87 QTY 30 PBR: Dr. Farragut

Course outline

Unit V. Drugs affecting the Urinary System

1. Urinary structure and functions
   a. The main functions of the urinary system are to remove waste products from the body and regulate the amount of water in the body.
   b. Structures
      i. Kidneys – contain the filtering units
      ii. Ureters – muscular tubes which drain urine from kidney to bladder
      iii. Bladder – muscular structure which stores urine
      iv. Urethra – muscular tube through which urine passes out of the body
      v. Prostrate – male reproductive gland located around the urethra at the base of the bladder. Enlargement may produce urinary obstruction.
2. Diuretic drugs
   a. Mechanism of action: to increase urine production.
   b. Adverse drug reactions: some diuretics cause excessive potassium loss and should be given with potassium replacement or conscientious dietary replacement; some diuretics are potassium sparing and may not require potassium replacement.
   c. Loop diuretics
      i. Furosemide, torsemide, bumetanide
   d. Aldosterone antagonists
      i. spironolactone
   e. Combination medications
      i. triamterene/HCTZ

Teaching aids/plans

Review anatomy and physiology of the kidney.

Discuss changes in color, amount, odor and consistency of urine.

Discuss situations in which diuretics are used such as for edema and hypertension.

Discuss potassium wasting versus potassium sparing diuretics.

Discuss given diuretics early in the day and with plenty of fluid unless physician restricts.

Discuss monitoring the effectiveness of diuretics by taking routine body weight and observing for edema, checking blood pressure, presence of thirst, and input and output according to physician orders or facility policy.

Discuss why a daily weight change of greater than +2lbs is significant.

Discuss that potassium depletion may result in confusion, gas, muscle weakness, muscle cramping, and/or an irregular heartbeat.

Discuss the need encourage the resident to eat a variety of foods.

Course outline	Teaching aids/plans
Unit V. Unit V. Drugs affecting the Urinary System (cont'd) 3. Potassium replacement therapy a. Mechanism of action: to replace potassium (K) with diuretic therapy b. Availability i. K-Dur (tablet) A. Administer with food and 4 oz. of fluid due to gastric irritation. B. Do not crush. C. May dissolve in warm water then further dilute. ii. Effervescent tablets A. Klor-Con B. K-Lyte – must be absorbed in 4 oz. water or juice prior to administration. iii. Liquid A. Klor-Con B. KCL liquid 10% and 20% - must be diluted prior to administration. 4. Bladder tonicity a. Antispasmodic b. Mechanism of action: reduce bladder contractions and delay the initial urge to void. c. Generic names i. oxybutynin, solifenacin, tolterodine, trospium d. Adverse drug reactions i. Dry mouth, constipation, blurred vision	Discuss implications when furosemide is "held" and potassium is not. Discuss and review the potential need for pain medication due to bladder spasms.

Course outline	Teaching aids/plans

Unit VI. Drugs affecting the Respiratory System

1. Structure and function of the respiratory system.
   a. Parts of the respiratory system and their function.
      i. Nose – warms, moistens, and filters inhaled air.
      ii. Pharynx (throat) – passageway for air.
      iii. Larynx – "voice box."
      iv. Trachea – "wind pipe", - reinforced tube leading to bronchi.
      v. Bronchus (bronchi) – tube(s) leading to the lungs.
      vi. Bronchioles – smaller divisions of tubes leading deeper within the lung tissue.
      vii. Alveolus – small sac at end of bronchiole. Oxygen and carbon-dioxide are exchanged from the blood circulation through the walls of the alveoli.
      viii. Lung – organ which contains the bronchioles and alveoli.
2. Oxygen
   a. Used to treat hypoxia. May be given continuously for a person whose lung tissue has been severely damaged by disease. May be given on an emergency basis to a resident who suddenly becomes short of breath.
   b. Toxic effects:
      i. Results from oxygen being supplied in greater amounts than the body needs.
      ii. May include drowsiness, confusion, and respiratory depression (dangerously slowed breathing).
   c. Implications for care:
      i. Maintain oxygen flow rate at low levels ordered by practitioner to prevent respiratory depression.
      ii. Oxygen supports combustion. Take special precautions to limit the potential source of fire.

Course outline	Teaching aids/plans
Unit VI. Drugs affecting the Respiratory System (cont'd) 3. Respiratory agents a. There are many combination medications used for relieving respiratory symptoms. Some are OTC and others are RX. The classes that can be combined include i. Analgesics ii. Antitussives iii. Decongestants iv. Expectorants v. Antihistamines vi. Opiate Antitussives 4. Antitussives a. Mechanism of Action: Works directly on the cough center to suppress cough. b. Generic names i. benzonatate ii. dextromethorphan c. Adverse drug reactions i. Drowsiness ii. Fatigue Opiate Antitussives a. Mechanism of action: Depresses the cough reflex b. Generic names i. codeine ii. hydrocodone c. Adverse drug reactions i. GI effects ii. Dizziness iii. Drowsiness	Add teaching aid so students can understand the mechanism of action of each class of medication in these combinations and know the side effects of each class. FYI: common variables of (e.g., Robitussin) Discuss the indication for use between antitussives and opiates.

Course outline	Teaching aids/plans
Unit VI. Drugs affecting the Respiratory System (cont'd) 6. Decongestants a. Nasal decongestants b. Mechanism of action: A potent vasoconstrictor of the nasal mucosa; leads to a decongestant effect c. Generic names i. phenylephrine ii. oxymetazoline iii. tetrahydrazaline d. Adverse drug reactions i. Nasal irritation and burning ii. Rebound congestion 7. Expectorants a. Mechanism of action: Loosens and thins phlegm and bronchial secretions b. Generic names i. guiafenesin c. Adverse drug reactions i. GI effects ii. Drowsiness iii. Dizziness d. Clinical Pearle: Discussion of Robitussin liquid and fluid restriction minimum of 15 minutes 8. Oral Antihistamines a. Mechanism of action: Relieve runny nose, sneezing, and itchy, watery eyes, caused by allergy. May also relieve urticarial. b. Generic names i. hydroxyzine ii. certirizine iii. diphenhydramine iv. loratadine v. fexofenadine	Discuss which are inhaled and which are oral products. Define rebound congestion. Discuss sedating vs. non-sedating.

Course outline	Teaching aids/plans
Unit VI. Drugs affecting the Respiratory System (cont'd) 9. Nasal antihistamines a. Mechanism of action: Inhibits histamine release b. Generic names i. azelastine c. Adverse drug reactions i. Headache ii. Nasal congestion iii. Pharyngitis 10. Respiratory antiinflammatory agents a. Generic names i. montelukast ii. Cromolyn sodium b. Adverse drug reactions i. GI distress ii. Headache iii. Gastritis 11. Respiratory corticosteroids a. Nasal corticosteroids b. Mechanism of action: Prevent or suppress inflammation and immune responses c. Generic names i. Beclomethasone ii. Ciclesonide iii. Fluticasone iv. Mometasone v. Triamcinolone Acetonide d. Adverse drug reactions i. Drying of mucous membrane	Clinical Pearle: All nasal inhalers should remain upright in the drawer to the "prime".

Course outline	Teaching aids/plans
Unit VI. Drugs affecting the Respiratory System (cont'd) 12. Respiratory oral inhalers a. Mechanism of action: Helps reduce respiratory effort so that breathing is easier b. Generic names i. albuterol ii. Ipratropium Bromide iii. forado iv. serevent v. serevent diskus c. Adverse drug reactions i. Cough ii. Headache iii. Pharyngitis d. Implications for care: i. Residents may become very dependent on the use of their inhalers. Excessive use results in loss of effectiveness or even decrease in opening size on bronchioles. ii. Check pulse to monitor effect on heart.	Discuss short acting vs. long acting oral inhalers and uses of each. Long-term care SNFs CMA's may not administer metered dose inhalers. However may only administer in assisted living.

ACTIVITY #12: An inspirational conversation

The purpose of this activity is to assess knowledge of the respiratory system and the medications that affect Residents with respiratory conditions. Learners will have the opportunity to process information and integrate solutions by reviewing a Resident profile and observing a role-play between a Resident and a Medication Aide. All aspects of the Medication Aide's job responsibilities are required to process the scenario information. Assignment sheets provided to Learners in the role-play will offer specific issues (e.g., medication errors, poor communication skills, etc.) to recognize and resolve for the observers.

Using Sample MAR #4 (Appendix L), read the following scenario to the class. Ask two volunteers to represent the Medication Aide role and the Resident role.

Instruct the Learners to act according to their *Assignment Sheet*, which provides detailed guidance for each role-play (e.g., how to act and what to reveal to the class).

Resident profile for Louise:

Louise is a 72-year-old Resident with a primary diagnosis of Chronic Obstructive Pulmonary Disease (COPD) and long-term asthma. She has been living at the facility for the past two years, and her overall condition is declining as her COPD progresses. Breathing is more difficult, and she has less energy than a month ago. She is on continuous oxygen for hypoxia and takes several medications to manage her respiratory inflammation and breathing rate.

Teaching aids/plans

Set-up

Provide each volunteer Learner with a copy of the *Assignment Sheet* for their assigned roles.

The following pages provide specific details for the role-play as outlined for Louise (the Resident) and George (the Medication Aide).

Explain

Learners will simulate the administration of medication for Louise using a copy of MAR #4 (Appendix L) and the *Medication Box*.

Affix the prescription labels (provided on the next page) to empty prescription bottles in the *Medication Box* for this activity.

Use the *Medication Flash Cards* for the medications used in the MAR (Oxygen, Montelukast, Albuterol and Prednisone) so both players have access to the medication details, if needed.

The rest of the class can also use these same *Medication Flash Cards* for reference.

Prescription Labels for *Medication Box* used in Activity #12

You will need three labeled prescription bottles and three different looking types of candy to simulate these medications. Four prescribed medications are involved in this activity, but one is for continuous delivery of oxygen (indicated in the MAR). Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box* (see Activity #9). Three of the sample medications below are used in tablet form for *An inspirational conversation* (Activity #12).

LOUISE LEWIS MONTELUKAST 10 MG Take 1 tablet by mouth twice daily; RX#14359-00 QTY 30 PBR: Dr. Nell Compton	**LOUISE LEWIS** PREDNISONE 30 MG Take 1 tablet by mouth once daily for 5 days; taper dose as indicated: Day1-30mg, Day2-30mg, Day3-20mg, Day4-10mg, Day5-5mg RX#4668-001 QTY 30 PBR: Dr. Nell Compton
LOUISE LEWIS ALBUTEROL 200 mcg Take 1 tablet by mouth (every 4-6 hours) RX#833068-1 QTY 30 PBR: Dr. Nell Compton	**LOUISE LEWIS** CONTINUOUS OXYGEN 2 LITRES of Oxygen/Day for Hypoxia/COPD Minimum of 15 hours RX#41159920-3 PBR: Dr. Nell Compton

Course outline	Teaching aids/plans
Unit VII. Drugs affecting the Digestive System 1. Structure and functions of digestive system organs. a. Mouth: chews food and mixes it with saliva. b. Esophagus: connects mouth and stomach. c. Stomach: hold and mixes food with digestive juices. d. Small intestine: food absorbed into the bloodstream here. e. Large intestine: absorbs water from feces. f. Rectum: far end portion of large intestine. g. Anus: opening at far end of digestive tract for expelling feces. h. Liver: secretes digestive substances. i. Pancreas: secretes other digestive substances into the digestive tract and insulin into the bloodstream. j. Changes associated with aging. 2. Drugs affecting digestive system a. Antacids i. Action: neutralize stomach acid, treat hyperacidity. ii. Uses: peptic ulcer. iii. Examples of drugs, grouped as to ingredient and side effects: A. Sodium bicarbonate (baking soda) – persons on sodium restriction should not use, e.g., persons with heart and kidney problems. Not safe for long term use. B. Calcium salts (TUMS) – potentially constipating. C. Aluminum salts (Amphojel, Rolaids) – usually constipating, D. Magnesium salts (Milk of Magnesia) – usually causes diarrhea. E. Combination of magnesium and aluminum (Maalox, Mylanta, Gelusil) – used to balance out the constipating and laxative effect of each. F. Simethecone (Mylicon) – antiflatulant agent often added to antacids or taken as preventive.	Use anatomical charts. Name drugs, actions, side effects, and implications for care for medications which reduce stomach acidity.

Course outline	Teaching aids/plans
Unit VII. Drugs affecting the Digestive System (cont'd) iv. Implications for care: A. Antacids may interfere with drug absorption so should not be given simultaneously with other medications. B. Antacids effect is prolonged when medication is taken with food. b. Drugs that inhibit gastric acid secretion. i. Action: used to treat stomach and duodenal ulcers, prevents the release of gastric acid. Side effects are minor. High doses may cause confusion. ii. Examples: A. famotidine B. nizatidine C. ranitidine D. Other – cimetidine, omeprazole, lansoprazole, dexlansoprazole, sulcralfate – should be given before meals. c. Antiemetics. i. Action: suppress nausea and vomiting by acting on brain control center. ii. Side effect: drowsiness, altered mental status. iii. Examples: A. prochlorperazine B. promethazine C. ondansetron D. dolasetron E. granisetron d. Emetic. i. Action: induce vomiting by acting on brain control center. ii. Side effect: do not use when corrosive product ingested, such as acids or alkalines, or if patient is drowsy or unconscious. iii. Examples: syrup of ipecac	Discuss the various classifications of gastric acid inhibitors-H2 blockers, proton pump Inhibitors, gastric mucosal agents. Review general care to prevent and control nausea, vomiting, and diarrhea. List action, side effect and examples of drugs to treat nausea and vomiting. Know Poison Control Center phone number 1-800-222-1222.

Course outline	Teaching aids/plans
Unit VII. Drugs affecting the Digestive System (cont'd) e. Antidiarrheals – drugs to relieve diarrhea. i. Absorbants. A. Action: soak up excess fluids and bacteria. B. Side effects: minimal. C. Examples: bismuth subsalicylate. ii. Drugs which slow intestinal motility, opiates. A. Action: reduce peristalsis by action on central nervous system. B. Side effects: drowsiness may be addicting C. Examples: opium tincture iii. Drugs which alter intestinal motility. A. Action: acts on autonomic nervous system to alter peristalsis. B. Uses: spastic colon; diarrhea; GERD C. Side effects: varied and many because of effect on entire autonomic nervous system: blurred vision, dry mouth, heart palpitations, urine retention, and constipation. D. Examples for decreased motility: atropine sulfate and diphenoxylate HCLw/atropine, loperamide dicyclomine, hyoscyamine. E. Examples of drugs that enhance intestinal motility: metoclopramide; bethanelhol monitor for diarrhea. iv. Implications for care in diarrhea in addition to medications; remove cause of diarrhea, replace fluids, rest intestines (limit solids eaten). f. Cathartics (laxatives) – drugs which promote defecation. i. Laxatives which stimulate intestinal peristalsis: usually act 6-8 hours in oral form. Suppositories act faster. A. Examples: amitza, dulcolax, sorbitol, fiber lax, glycerine, magnesium citrate. B. Side effect: abdominal cramping. ii. Laxatives which pull fluid into large intestine (saline cathartics). A. Example: magnesium hydroxide (Milk of Magnesia); acts within 8 hours. B. Implications for care: must be accompanied by good fluid intake.	Name examples and side effects of antidiarrheal medications according to their action. State non-drug means of controlling diarrhea List examples, side effects, action, speed of action for drugs which promote defecation. Discuss hazards of chronic use of laxatives. Review bowel training.

Course outline	Teaching aids/plans
Unit VII. Drugs affecting the Digestive System (cont'd) iii. Laxatives which increase bulk: act within 12 hours to three days; most natural, least irritating action. A. Examples: psyllium, methylcellulose B. Side effects: minimal C. Implications of care: must be administered with adequate water and continued good fluid intake. Metamucil contains 50% sugar. Use sugar-free formula for diabetics. i. Laxatives which lubricate feces. A. Example: mineral oil – acts within two to six hours. B. Side effects: interferes with absorbing nutrients. Should not be taken at mealtime or long term. i. Laxatives which moisten fecal matter (fecal softeners): safe and non-irritating; acts in one to three days. A. Docusate sodium; ducosate calcium. ii. Implication for care in preventing constipation: B. Diet should include bulk and adequate fluid. Exercise helps prevent constipation. g. Gastrointestinal anti Inflammatory agents i. Helps stop production of prostaglandin (which causes inflammation) thereby decreases colonic inflammation. a. Example: canasa, dipentum, mesalamine, sulfasalazine, budesonide, hydrocortisone ii. Gastrointestinal enzymes – helps break down fats, fatty acid starches and proteins to aid digestion. a. Examples: beano, lipase, probiotics Flora Q iii. Hemorrhoidal Agents a. benzocaine, dibucaine, lidocaine, pramoxine	State non-drug methods to help prevent and correct constipation. Describe foods which add bulk to diet; methods to help maintain good fluid intake. Discuss which agents are oral vs. rectal vs. topical. Discuss hemorrhoids.

ACTIVITY #13: See a difference with C. diff.

The purpose of this activity is to assess knowledge of the digestive system and the medications that affect Residents with digestive conditions. Learners will have the opportunity to process information and integrate solutions by reviewing a Resident profile and observing a role-play between a Resident and a Medication Aide. All aspects of the Medication Aide's job responsibilities are required to process the scenario information. Assignment sheets provided to Learners in the role-play will offer specific issues (e.g., medication errors, poor communication skills, etc.) to recognize and resolve for the observers.

Using Sample MAR #5 (Appendix M), read the following scenario to the class. Ask two volunteers to rep*resent the Medication Aide role and the Resident role.*

*Instruct the Learners to act in their role acco*rding to their *Assignment Sheets*, which will give Learners more detailed guidance for how to act and what to reveal to the class during the role-play activity.

Resident profile for Larry:

Larry is a 78-year-old Resident with a diagnosis of Clostridium Difficile Colitis or C. difficile (also known as C. diff.), inflammatory bowel disease and gastroesophageal reflux disease (GERD).

C. diff. is rare compared to other intestinal bacteria, but a common occurrence in long-term care facilities. It is also one of the most important causes of infectious diarrhea, requiring additional infection control/precautionary measures. Larry is also a higher risk due to his age (over 65) and his inflammatory bowel diagnosis.

Larry's symptoms today are severe diarrhea, a low-grade fever, abdominal pain/tenderness, recent weight loss of ten pounds in one week, lack of appetite and general weakness.

Teaching aids/plans

Set-up

Provide each volunteer Learner with a copy of the *Assignment Sheet* for their *assigned roles.*

The following pages provide specific details for the role-play as outlined for Larry (the Resident) and Tony (the Medication Aide).

Explain

Learners will simulate the administration of medication for Larry using a copy of MAR #5 (Appendix M) and the *Medication Box*.

Affix the prescription labels (provided on the next page) to empty prescription bottles in the *Medication Box* for this activity.

Use the *Medication Flash Cards* for the medications used in the MAR (Vancomycin, Flagyl, Prilosec and extra fluids) so both players have access to the medication details, if needed.

The rest of the class can also use these same *Medication Flash Cards* for reference.

Prescription Labels for *Medication Box* used in Activity #13

You will need four labeled prescription bottles and four different looking types of candy to simulate these medications. There are five medications listed in the MAR for this activity, but one references extra fluids. Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box* (see Activity #9). All sample medications use a tablet form for *See a difference with C. diff.* (Activity #13).

LARRY SUMMERS FLAGYL 250 MG Take 2 tablets by mouth once daily; RX#833024-001 QTY 30 PBR: Dr. Gray Cullen	**LARRY SUMMERS** ALIGN Probiotic Take 1 capsule twice daily for intestinal support. RX#559716 QTY 30 PBR: Dr. Gray Cullen
LARRY SUMMERS PRILOSEC 20 MG Take 1 tablet by mouth twice daily, PRN. RX#22206-35 QTY 30 PBR: Dr. Gray Cullen	**LARRY SUMMERS** VANCOMYCIN 250 MG Take 1 capsule by mouth twice daily for 10 days. RX#7233-001 QTY: 10 PBR: Dr. Gray Cullen

Course outline

Unit VIII. Drugs affecting the Central Nervous System

6. Structure and function of nervous system.
   a. Brain – control center for vital bodily functions.
   b. Spinal cord – contains motor and sensory nerve pathways.

7. Drugs which are central nervous system stimulants.
   a. Cerebral stimulants (Select psychoactive drugs).
      i. Action: speed up brain activity which in turn speeds up body activity.
      ii. Uses: to improve cognitive awareness and Attention Deficit Disorder (ADD). Also use for narcolepsy.
      iii. Side effects: excitement, dizziness, dry mouth, restlessness, palpitations, increase pulse and blood pressure, anorexia, insomnia.
      iv. Examples: methylphenidate, amphetamines/dextroampehtamines, dexmethylphenidate, caffeine.
      v. Implications for care: should be given early in day so the drug's stimulating effect does not interfere with sleep; monitoring required.
   b. Antidepressants (Select psychoactive drugs).
      i. Action: alters the chemical process of the brain to relieve symptoms of depression.
      ii. Uses: depression.
      iii. Side effects: postural hypotension, mouth dryness, blurred vision, constipation, difficult urination, confusion, agitation, tremors.
      iv. Implications for care: provide for adequate elimination because of difficult urination and constipation; safety because of blurred vision and postural hypotension; hydration because of mouth dryness; monitoring suggested.
      v. Examples:
         A. Tricyclic (TCA) – amitriptyline, doxepin, imipramine, nortripty line, clomiprane
         B. Monomine Oxidase Inhibitors (MAO) – tranylcypromine, phenelzine. Recommended not to consume wine, cheese, pickled fish.

Teaching aids/plans

List parts of the central nervous system and their function.

Many of these drugs are Schedule II controlled substances.

Discuss symptoms of depression.

Behavior changes including: constant feelings of sadness, hopelessness or guilt, irritability, decreased interest or pleasure in usual activities, changes in appetite increase or decrease, leading to significant weight gain or loss, change in sleeping patterns, restlessness, decreased ability to concentrate, thoughts of suicide or death.

Course outline

Unit VIII. Drugs affecting the Central Nervous System (cont'd)

C. Selective Serotonin Reuptake Inhibitors (SSRI) – sertraline, paroxetine, fluoxetine, citalopram, escitalopram. Should be given in morning due to stimulation. May decrease appetite.
D. Selective Norepinephrine Reuptake Inhibitor (SNRI) – duloxetine, venlafaxine, desvenlafaxine.
E. Other – trazodone, bupropion, mirtazapine.

8. Drugs which depress the central nervous system.
   a. Analgesics (narcotics). (CNS depressants.)
      i. Action: relieve pain, also used to slow peristalsis and as antitussive.
      ii. Side effects: drowsiness, dizziness, respiratory depression, constipation (may cause paradoxical excitement in elderly).
      iii. Examples: codeine, hydrocodone, meperidine, oxycodone, hydromorphone, morphine, fentanyl patch.
      iv. Implications for care:
         A. May cause physical dependence. To be most effective, should be given before pain becomes intense.
         B. Provide for prevention of constipation.
         C. Report a respiratory rate less than 12 prior to administration.
         D. Use non-drug measures to promote comfort by providing physical care: positioning, massage, environmental comfort, emotional support. Anxiety makes pain seem more acute.
         E. Monitoring recommended.

Teaching aids/plans

Discuss other uses for mirtrazapine, trazodone and bupropion.

List drug names, actions, and side effects for narcotics and analgesics.

Discuss resident assessment, pain threshold, analgesic effectiveness, and documentation. Discuss scope of practice in regards to identifying vs. assessment of pain (e.g., recognize and report).

Discuss factors in administration of analgesics which enhance their effect.

Discuss non-drug measures for relieving pain.

Course outline

Unit VIII. Drugs affecting the Central Nervous System (cont'd)

b. Analgesics – Antipyretics (non-narcotic) cont'd
   i. Action: relieve pain and reduce fever.
   ii. Side effects: aspirin – gastric upset, interferes with blood clotting.
   iii. Examples: acetylsalicylic acid, aspirin, acetaminophen, buffered aspirin, non-steroidal anti-inflammatory drugs (NSAID's) such as ibuprofen, naproxen
   iv. Tramadol– in its own class
   v. Implications for care:
      A. Giving aspirin with food can reduce gastric upset.
c. Sedative/hypnotics (Select psychoactive drugs).
   i. Action: sedatives – give calming effect; hypnotics – larger doses of sedatives, cause sleep.
   ii. Side effects: some medications may cause morning "hangovers" and short-term memory loss; some elderly may become excited rather than sedated. Long-term continual use is discouraged.
   iii. Examples: temazepam, zolpidem, flurazepam, eszopiclone, ramelteon, zaleplon.
   iv. OTC options: melatonin, diphenhydramine.
   v. Implications for care: try non-drug measures first to promote sleep; ensure resident swallows medication; do not substitute sedatives for good nursing care; monitoring recommended.

Teaching aids/plans

Name the action, side effects and examples of the drug that are considered a sedative/hypnotic.

Discuss differences in benzodiazepines and hypnosedatives (Zolpidem, etc.).

Discuss why Diphenhydramine may not be a good choice for the elderly.

Elaborate on non-drug measures which promote sleep; snacks, empty bladder, relief of discomfort

Course outline	Teaching aids/plans
Unit VIII. Drugs affecting the Central Nervous System (cont'd) d. Anticonvulsants. i. Action: depress abnormal neuronal discharge in CNS. ii. Use: inhibit seizure activity. iii. Side effects: drowsiness, lethargy, decreased cognitive awareness. iv. Examples: phenytoin sodium, carbamazepine, valproic acid, divalproex sodium, phenobarbital, primidone, gabapentin. v. Implications for care with Dilantin: good oral hygiene due to potential overgrowth of gum tissue; monitoring recommended. e. Antiparkinsonian Agents. i. Action and use: treat Parkinson's disease by various actions. ii. Side effects: dizziness, postural hypotension, drowsiness, blurred vision, difficult voiding, dry mouth, G.I. upset. iii. Examples: benztropine mesylate, trihexyphenidyl HCL, levodopa, levodopa and carbidopa, amantadine, selegiline. iv. Omplications for care: A. Measure to promote voiding. B. Adequate hydration. C. GI side effects lessened by giving drug with food; monitoring recommended.	Elaborate on non-drug measures which promote sleep; snacks, empty bladder, relief of discomfort. Review care of person during convulsion. Anticonvulsants should be given precisely at the same time each day to maintain therapeutic blood levels. Use lab values to monitor therapeutic blood levels. Discuss a need to shake liquid for recommended time (e.g., Dilantin suspension). May review symptoms of Parkinsonism. State action, side effects, examples of drugs given to treat Parkinsonism, and implications for care. Antiparkinsonian agents should be given precisely at the time each day to maintain therapeutic blood levels. Discuss food interactions (especially protein intake) when given certain antiparkinsons drugs.

Course outline	Teaching aids/plans
Unit VIII. Drugs affecting the Central Nervous System (cont'd) f. Psychoactive medications. i. Action: may act selectively on the CNS and affects the mind. ii. Uses: anxiolytics – primarily treat nervousness and anxiety; anti-psychotics primarily treat mental illness. iii. Examples: anxiolytics – diazepam chlordiazepoxide; hydroxyzine; lorazepam; alprazolam; clonazepam; buspirone. A. Side effects: drowsiness, dizziness, blurred vision, dry mouth, constipation, impaired coordination, decrease respiratory rate. B. Implications for care: monitoring required. iv. Examples: antipsychotic – thioridazine; chlorpromazine; haloperidol; risperidone; ziprasidone; aripiprazole; quietiapine; clozapine. A. Side effects: may cause Parkinson-type symptoms and abnormal movement of extremities: in and out movement of tongue, sucking and smacking lips, lateral jaw movements may affect thirst awareness. Abrupt withdrawal may trigger seizures. B. Implications for care: monitoring required. 9. Drug used for treating manic-depressive (bipolar) disorders. a. Action: control and prevent manic episodes. b. Side effects: drowsiness, symptoms of toxicity (nausea, tremor, muscle weakness). c. Implication for care: persons receiving lithium carbonate should also adequate salt and juice intake. Unusual loss of salt or fluid from body (vomiting, diarrhea, excessive sweating) may result in toxicity; monitoring recommended.	Discuss conditions for which psychoactive medications are used. Discuss implications for care for the person receiving psychoactive medications. Name actions, side effects, and examples of anxiolytics. Alcohol may potentiates the action of anxiolytic activity. Discuss extra pyramidal symptoms (EPS). Describe or define tardive dyskinesia. Discuss risk of falls associated with psychoactive medications. Discuss manic-depressive symptoms. Discuss use of valproic acid. Discuss the importance of laboratory monitoring and therapeutic window. Discuss other mood stabilizers carbamazepine, lamotrigine.

Course outline	Teaching aids/plans
Unit VIII. Drugs affecting the Central Nervous System (cont'd) 5. Alzheimer's medications i. History of Alzheimer's disease. ii. Basic characteristics of Alzheimer's patients. iii. Four phases of Alzheimer's disease. iv. Basic procedures in dealing with Alzheimer's patients. a. Create calm and safe environment b. Maximize patient's freedom and independence c. Monitor resident's functional abilities. d. Establish routine for medication administration. i. Administer one drug at a time. ii. Do not argue with patient who refuses medication. v. Medications: Donepezil; memantine; tacrine; rivastigmine 6. Anti-migraine medications i. Understand migraines vs. other headaches ii. Discuss why Tylenol or Advil won't work iii. Medications: Ergot alkaloids; sumatriptan, rizatriptan	Review basic characteristics of Alzheimer's patients. Cover the four phases of Alzheimer's disease. Outline some of the misconceptions of Alzheimer's patients. Discuss that medications do not cure the disease, but may slow down the progress.

Course outline	Teaching aids/plans

Unit VIII. Drugs affecting the Central Nervous System (cont'd)
 	
7. Organic brain syndrome and some of their ramifications.
The *why* behind the behaviors of nursing residents: these behaviors are not random, nor do they occur unpredictably, but rather they almost always arise from the following problems:
• Cognitive Impairments
• Catastrophic reactions
• Delusion, hallucinations, depression
• Physical illness
• Drug toxicity
Define and discuss the above as well as:
• Alzheimer's Disease
  ○ Amnesia
  ○ Aphasia
  ○ Apraxia
  ○ Agnosia
• Parkinsonism – Movement Disorders
  ○ Akinesia
  ○ Dystonia
  ○ Akathisia
  ○ Tardive dyskinesia
• Clinical Discomforts
  ○ Hypotension
  ○ Urinary retention
  ○ Dry mouth/fecal impaction
• Other types of organic brain syndromes
  ○ Psychosis
  ○ Mania
  ○ Dementia
  ○ Paranoia
  ○ Schizophrenia and related situations in the nursing home which may involve drug/behavior phenomenon. Discuss facility "good practices".
	Discuss symptomatic treatment and ramifications of drugs being used unnecessarily and Federal Regulations governing unnecessary drugs and anti-psychotic medication.

ACTIVITY #14: A case of nerves

The purpose of this activity is to assess knowledge of the central nervous system and the medications that affect Residents with central nervous system conditions. Learners will have the opportunity to process information and integrate solutions by reviewing a Resident profile and observing a role-play between a Resident and a Medication Aide. All aspects of the Medication Aide's job responsibilities are required to process the scenario information. Assignment sheets provided to Learners in the role-play will offer specific issues (e.g., medication errors, poor communication skills, etc.) to recognize and resolve for the observers.

Using Sample MAR #6 (Appendix N), read the following scenario to the class. Ask two volunteers to represent the Medication Aide role and the Resident role.

Instruct the Learners to act in their role according to their *Assignment Sheets*, which will give Learners more detailed guidance for how to act and what to reveal to the class during the role-play activity.

Resident profile for Dorothy:

Dorothy Shaw is an 84-year-old Resident diagnosed with a history of Congestive Heart Failure (CHF) and early stage Alzheimer's disease. She is ambulatory and requires supervision on the Dementia Care Unit.

Recently, her doctor prescribed an antidepressant because her mood significantly changed over the course of the past 60 days. She has agitated outbursts and sleeps more often. Dorothy used to participate in the game activities, but now stays in her room and frequently cries.

She is taking Lexapro for depression, Aricept for early onset of Alzheimer's Disease, Coumadin and Lasix for CHF.

Teaching aids/plans

Set-up

Provide each volunteer Learner with a copy of the *Assignment Sheet* for their assigned roles.

The following pages provide specific details for the role-play as outlined for Dorothy (the Resident) and Brittany (the Medication Aide).

Explain

Learners will simulate the administration of medication for *Dorothy* using a copy of MAR #6 (Appendix N) and the Medication Box.

Affix the prescription labels (provided on the next page) to empty prescription bottles in the *Medication Box* for this activity.

Use the *Medication Flash Cards* for the medications used in the MAR (Lexapro, Aricept, Coumadin and Lasix) so both players have access to the medication details, if needed.

The rest of the class can also use these same *Medication Flash Cards* for reference.

Prescription Labels for *Medication Box* used in Activity #14

You will need four labeled prescription bottles and four different looking types of candy to simulate these medications. Photocopy the boxes below and cut out along the lines to yield prescription labels for bottles in the master *Medication Box* (see Activity #9). All sample medications below are used in tablet form for the *A case of nerves* (Activity #14).

DOROTHY SHAW LEXAPRO 10 MG Take 1 tablet by mouth in the a.m. (same time per dosage) RX#113896-02 QTY 30 PBR: Dr. Gilbert Sanchez	**DOROTHY SHAW** LASIX 40 MG Take 1 tablet twice daily (every 12 hours) RX#47893-002 QTY 30 PBR: Dr. Gilbert Sanchez
DOROTHY SHAW ARICEPT 5 MG Take 1 tablet by mouth daily at bedtime. (Dissolve in mouth; follow with water) RX#0439-006 QTY 30 PBR: Dr. Gilbert Sanchez	**DOROTHY SHAW** COUMADIN 5 MG Take 1 tablet by mouth daily at the same time every time (a.m.) RX#4660012-334 PBR: Dr. Gilbert Sanchez

Course outline

Unit IX. Drugs affecting the Musculoskeletal System

1. Structure and function of musculoskeletal system.
   a. Bones.
      i. Are living tissue; calcium in spaces between cells makes bone hard.
      ii. Bones function as framework for muscles' produce blood cells, store calcium and fat.
      iii. Cartilage- soft tissue covering parts of bones.
      iv. Bone marrow- soft, center part of bone, red blood cells manufactured here.
   b. Joints.
      i. Where bones connect to each other.
      ii. Ligaments hold bones together.
   c. Muscles.
      i. Skeletal muscles – work together with bones for body movement.
      ii. Tendons attach muscles to bones.
2. Drugs used to treat musculoskeletal disorders.
   a. Anti-inflammatory.
      i. Action and use: reduce pain, fever and inflammation. Used for diseases such as osteoarthritis, rheumatoid arthritis.
      ii. Side effects: G.I ulceration; exacerbation of asthma; decline of renal function.
      iii. Examples: acetylsalicylic acid (aspirin), ibuprofen, sulindac, naproxen, nabumetone, meloxicam
      iv. Implications for care: take care in handling patients requiring these medications so as not to cause further pain in handling or positioning them; may be better tolerated with food.

Teaching aids/plans

Name drugs, their actions, use, side effects, and implications in treatment of musculoskeletal disorders.

Discuss symptoms and care of arthritis.

Discuss symptoms (side effects) with large doses of aspirin.

Discuss the assets of proton pump inhibitors use with NSAIDs.

Course outline	Teaching aids/plans
Unit IX. Drugs affecting the Musculoskeletal System (cont'd) b. Uricosurics. i. Action and use: increases urinary excretion (and decreases serum levels) for uric acid. ii. Side effects: rash, G.I. disturbance. iii. Example: allopurinol, cochicine, probenecid iv. Implications for care: should be accompanied with lots of fluids. c. Skeletal muscle relaxants. i. Action and use: CNS depressant; relieves pain and stiffness in muscles, from orthopedic disorders and injuries. ii. Side effects: drowsiness, light-headedness. iii. Example: methocarbamol; cyclobenzaprine, carisoprodol, metaxalone, tizanidine. iv. Implications for care: recommended not to take with alcoholic beverages, fall risk precautions.	Discuss gout. Discuss skeletal muscle relaxants in combination with pain relievers. The combination may cause risk of fall and other side effects.

Course outline

Unit X. Drugs affecting the Endocrine System

1. Drugs used to replace thyroid hormone.
   a. Structure and function: thyroid gland located in neck, controls body's metabolism rate.
   b. Action and use: for persons who produce insufficient thyroid hormone. May be given for life.
   c. Side effects: symptoms of excess thyroid hormone (e.g., increase in vital signs, nervousness, and weight loss) Dosage is regulated individually; infrequent side effects.
   d. Examples: levothyroxine; thyroid.
   e. Implications for care: assessment of therapeutic effect, side effects and adverse reactions.
2. Drugs used for diabetes.
   a. Structure and function: pancreas gland located in abdomen, produces insulin (necessary for body cells to be able to use/store glucose or digested sugar).
   b. How the body malfunctions:
      i. Due to lack of or insufficient production of insulin, body cells are unable to use glucose, resulting in glucose excretion into the urine. The body, starved for an energy source, breaks down fats and proteins for energy. Byproducts of the breakdown (ketones) are also excreted in the urine, but can accumulate in the body to such a level to cause coma.
      ii. Growth onset diabetes- onset in people aged 20 and under, difficult to regulate, usually requires insulin replacement (Type I).
      iii. Adult onset diabetes – onset usually after age 40, easier to regulate, may often be controlled with diet or oral hypoglycemic agents. This type found more frequently than growth onset diabetes among nursing home residents (Type II)
      iv. Potential complications with diabetes:
         A. Decrease blood circulation.
            1) organ damage (rental failure, liver damage)
            2) visual disturbances
            3) infections
            4) amputations

Teaching aids/plans

List actions, side effects, and names of drugs replacing thyroid hormones.

Laboratory monitoring required.

Describe how the body malfunctions in diabetes, and what changes occur in the urine of an untreated diabetic.

Discuss and/or give examples of interrelationships of insulin, diet, activity, stress, and other disease processes.

Course outline	Teaching aids/plans
Unit X. Drugs affecting the Endocrine System (cont'd) v. Potential complications with diabetes: A. Decrease blood circulation. 1) organ damage (rental failure, liver damage) 2) visual disturbances 3) infections 4) amputations c. Treatment of diabetes. i. Diet – keeping body weight ideal; measured amounts of carbohydrate, protein, fat. Diet must balance the amount of insulin in the body, whether given as medication or occurring naturally; mild diabetes may be controlled by diet alone. ii. Activity – this must balance with food and insulin. Increase in activity enhances insulin's effect. iii. Insulin or hypoglycemic agent as medication. A. Insulin can be given only by injection, so may not legally be administered by medication aide. B. Oral hypoglycemic agents. 1) Action: this is not insulin; exact method of action unknown, but effect is to make more of body's insulin available for use. 2) Examples: glipizide; glyburide; metformin 3) Side effects: G.I. disturbance	May review testing of blood sugar levels and glucometer recording and techniques. Discuss scope of practice in SNIFF unit's vs other settings. Use this opportunity to emphasize that checking blood sugar is outside the scope of practice for Medication Aides and in violation of the regulatory requirements. State the name, action and side effects of oral hypoglycemic agents. Review complications associated with diabetes as well as nursing measures to help minimize the complications.

Course outline	Teaching aids/plans
Unit X. Drugs affecting the Endocrine System (cont'd) C. Implications for care: 1) Oral hypoglycemic agents recommended to be given approximately 30 minutes before meals. 2) Change from prescribed diet will upset balance of insulin and glucose. Not eating (flu, diarrhea, or other reasons) may cause hypoglycemia. Eating excess may cause acidosis. 3) Hypoglycemia (insulin shock) caused by too much insulin or too little glucose in blood. Treat by giving immediately some source of sugar (fruit juice, soft drink, candy). 4) Diabetic acidosis and coma – caused by lack of insulin. 5) Monitoring drug-drug interaction, drug-food interaction.	State causes, symptoms, emergency response to hypoglycemia and diabetic acidosis. Discuss importance of different dosage forms containing sugar, alcohol, and sugar-free products.

Course outline	Teaching aids/plans
Unit X. Drugs affecting the Endocrine System (cont'd) 3. Sex hormones a. Male: testosterone – produced in testes. i. Action and use: A. Replacement when there is inadequate production. B. Anabolic effect – promoter. Building of body tissue. ii. Side effects: masculinizing when given to females, edema. iii. Example: testosterone iv. Implications for care: to be effective, hormones given for anabolic effect must be accompanied by improvement in nutrition. v. Changes associated with aging. A. Benign Prostatic Hypertrophy (BPH) – examples: doxazocin terazocin B. Prostate Cancer – examples: finasteride C. Erectile Dysfunction – examples: sildenafil, tadalafil, vardenafil b. Female: estrogen produced in ovaries. i. Action and use: replacement after menopause, menstrual disorders, osteoporosis. ii. Side effects: nausea, abnormal vaginal bleeding. iii. Examples: (check to see what is commonly used in your area). Conjugated estrogen; estradiol transdermal system. c. Female hormone: progesterone. i. Action and use: menstrual disorders. ii. Side effects: minimal. iii. Example: medroxyprogesterone acetate. d. Combinations of estrogen and progesterone. i. Action and use: contraception for some pre-menopausal residents of nursing homes. ii. Side effects: nausea, abnormal vaginal bleeding, edema, blood clots. iii. Example: norgestrel estradiol	Discuss the various routes of administration of testosterone. Discuss caution with topical testosterone. Discuss potential side effects of finasteride and women of child bearing years. Discuss the various routes of administration of estrogen. Discuss various combination estrogen/progesterone products.

Course outline	Teaching aids/plans
Unit X. Drugs affecting the Endocrine System (cont'd) 4. Adrenal cortical steroids. a. Produced by adrenal cortex. b. Action: replacement therapy, suppress inflammation. c. Use: rheumatoid arthritis, allergies, asthma, many unlabeled uses. d. Side effects: i. Short term: GI disturbances ii. Long term: interferes with healing and infection resistance; weight gain, fluid retention, hypertension, "moon" face; osteoporosis; sodium retention; psychosis; ulcers; potassium loss; drug induced diabetes. e. Examples: prednisone; hydrocortisone, methylprednisolone and dexamethasone. f. Implications for care: withdrawing these is done gradually, may be on alternate day therapy. Abrupt withdrawal or omitting dose may cause severe, even life-threatening symptoms; many drug-drug interactions.	Show examples of various cortical steroids available: methylprednisolone dose pack.

Course outline	Teaching aids/plans
Unit XI. Antibiotics and other anti-infective agents 1. The nature of infection. a. Cause: microorganisms cause infection. Infection maybe spread from one person to another in many ways. (e.g., various body secretions, by touch, in the air and by contact with contaminated equipment). b. Control: effective hand washing is of primary importance. Discuss other means of preventing of containing infection. c. Signs and symptoms: may not be as prominent as with a younger person i. Localized signs and symptoms – local redness, warmth, swelling, pain and limitation of motion ii. Bodily signs and symptoms A. First noticeable sign may be a general decline, increasing weakness or confusion B. Temperature elevation C. Chills and sweating 2. Topical agents a. Terms: i. Antiseptic – inhibits the growth of microorganisms; can be used on living tissue with reasonable safety ii. Disinfectant or germicide – kills microorganisms; use on living tissue is limited since this is a more potent substance; commonly used for objects	Review specific action s the Medication Aide may take to prevent transferring the infection. Review institution's infection control procedures to further illustrate. Emphasize the role of the Medication Aide plays in observing for signs of infection and prevention of cross contamination. Identify the cause, control measures, signs and symptoms of infection. Identify terms describing topical agent's actions. Name topical agents and identify actions which promote effective use.

Course outline	Teaching aids/plans
Unit XI. Antibiotics and other anti-infective agents (cont'd) b. Examples and uses: i. Povidone – iodine solution (Betadine) combination of iodine and detergent used to reduce microorganisms grown on skin. ii. Alcohol – dries skin excessively while removing microorganisms grown skin. iii. Include other agents commonly used in your area. c. Implications for care: i. Topical agents are most effective when applied to cleansed skin or to other surface. 3. Drugs used to treat skin disorders- Anti-infectives. a. Kill fungus. i. Examples: clotrimazole; tolnaftate. b. Kill parasites (lice, scabies). i. Examples: lindane; permethrin 4. Systemic anti-infective drugs. a. Use: treat infection b. Side effects: i. Allergic reaction is the most common adverse effect. Serious allergic reactions are most common with the penicillins and sulfa drugs. ii. Some cause gastric distress, resulting in nausea, vomiting and diarrhea.	Identify anti-infective drugs, their use, side effects, and implications for care. Since new products are frequently available, check for current use. Display any new drug information for the students.

Course outline	Teaching aids/plans
Unit XI. Antibiotics and other anti-infective agents (cont'd) c. Examples: i. sulfonamides: e.g., sulfisoxazole ii. penicillin antibiotics: e.g., penicillin V; ampicillin; amoxicillin. iii. tetracyclines: e.g., doxycycline – most members of this group should not be taken at the same time as dairy products, antacids, laxatives, or iron containing medication. iv. cephalosporins: cephalexin; cefaclor v. macrolides: erythromycin, clarithromycin; azithromycin vi. antifungals – nystatin; miconazole, ketoconazole; fluconazole vii. fluoroquinolones: levofloxacin; ciprofloxacin viii. aminoglycosides: gentamycin ix. antituberculosis drugs: isoniazid (various); rifampin x. amebicides: metronidazole xi. antiviral agents: zidovudine (AZT); acyclovir; amantadine. xii. miscellaneous anti-infectives: extensive – please consult various resource manuals. d. Implications for care: i. many anti-infective drugs are best absorbed when taken on an empty stomach, 1-2 hours before meals. Some antibiotics may be taken without regard to food. (amoxicillin, penicillin V, cephalosporins and some others). Give with some food if the drug causes gastric distress. ii. Give at regularly spaced intervals to help maintain consistent blood level drug. iii. Observe for signs that infection is improving. iv. Observe for secondary infection (diarrhea, mouth infection, vaginal infection) which results when resistant microorganisms flourish or normal flora is destroyed. v. Be aware of stop orders and disease management protocols.	Discuss anaphylactic shock. Discuss cross sensitivities of penicillins and cephalosporins. Discuss photosensitivity with tetracycline and sulfa drugs. Report frequent episodes of diarrhea with foul order. Discuss sufficient fluid intake with medication administration unless contraindicated.

Course outline	Teaching aids/plans
Unit XI. Antibiotics and other anti-infective agents (cont'd) 5. Anti-tubercular drugs in more detail: a. Action: bacteriostatic, arrests multiplication of infectious bacteria; bacteriocidal, kills tuberculosis organisms, inhibits bacterial synthesis by blocking or interfering with cellular enzyme reactions. b. Use: treatment of pulmonary tuberculosis and as a preventive in high-risk persons. c. Side effects: most common are cutaneous and gastrointestinal; use with caution in residents with severe kidney and/or liver impairment; be alert to peripheral neuritis preceded by numbness or tingling in hands and feet. d. Examples: rifampin; isoniazid; pyrazinamide; ethambutol. e. Implications of care: residents are to be carefully monitored and interviewed regularly; it is importantthat doses are not missed; liver and kidney functions tests performed; cultures and chest X-rays conducted, complete the drug regimen therapy per protocol; advise resident to report any visual defects or jaundice; drug treatments generally continue for three to six months to two years for active tuberculosis and for 12 months for preventive therapy. 6. Otic drugs used for infection: a. Side effects: potential allergic reaction. b. Examples: i. Topical medication for treating outer ear infections – hydrocortisone, neomycin, polymyxin B (combo agent). ii. Inner ear infections require treatment with systemic antibiotics.	Discuss why anti-infective drugs may be used in the ears vs. given systemically.

Course outline	Teaching aids/plans
Unit XI. Antibiotics and other anti-infective agents (cont'd) 7. Ophthalmic drugs used for infection. a. Use: for various eye infections, inflammations, or for preventive care following cataract surgery. b. Examples: erythromycin; sodium sulfacetamide; ciprofloxacin; tobramycin. c. Implications for care: may be applied as ointment or drops; general guideline for use is 10-14 days. 8. Urinary anti-infectives in more detail. a. Action and use: to prevent or treat urinary tract infections. b. Side effects and examples of drugs and some implications for care: i. nitrofurantoin – frequently causes G.I. upset. Give with food. May color the urine rust-brown. Other drugs used to treat urinary infections may also color the urine. ii. trimethoprim and sulfamethoxizole (a combo agent). iii. ciprofloxacin c. Implications for care: encourage fluids and regular emptying of bladder.	Discuss why anti-infective drugs may be used in the eyes. Reinforce sterile technique and good hand washing. Identify drugs which are used to treat urinary tract infections and nursing measures to promote effectiveness. Discuss/reporting signs and symptoms of pending UTI's (ie: mental status, color urine).

Course outline

Unit XII. Drugs affecting the eye

1. Description of the eye.
   a. Structure and function.
      i. Conjunctiva – mucous membrane which lines the eyelid.
      ii. Sclera – white of eye.
      iii. Cornea – clear surface of anterior eye.
      iv. Iris – pigmented circular muscle which adapts eye to light and gives color to eye.
      v. V. pupil – opening in center of iris which expands (mydriasis) or constricts (miosis).
      vi. Lens – clear structure which changes shape to focus image for the eye.
   b. Terms used for medication administration are abbreviations for Latin words:
      i. O.D. (oculus dexter) – right eye.
      ii. O.S. (oculus sinister) – left eye.
      iii. O.U. (oculi unitas) – both eyes.
2. Drugs used for glaucoma.
   a. How the eye malfunctions: glaucoma is the result of increased pressure within the eye. Untreated glaucoma results in blindness.
   b. Action: decrease intraocular pressure.
   c. Side effects:
      i. Miosis (impaired vision in low light).
      ii. Visual blurring.
   d. Examples: azopt, trusopt, isopto carpine, combigan, cosopt, betagan, timoptic.
   e. Implications for care:
      i. Provide adequate lighting, especially at night, check vital signs.
      ii. Pain in eye may be a symptom of increasing pressure. Report promptly.

Teaching aids/plans

Include a review of special care needs of those with eye disorders.

Review the procedure for administration of eye medications. Reinforce sterile technique.

Discuss multiple eye drops be sure to mention to wait 3-5 minutes between drops.

Identify measures which help ensure the safety for the resident with glaucoma.

Identify names, action and side effects of drugs used to treat glaucoma.

Discuss *Black Box* Warning associated with some eye drops that are stopped suddenly (beta blockers).

Discuss that there are oral as well as ophthalmic agents for glaucoma.

Course outline	Teaching aids/plans
Unit XII. Drugs affecting the eye (cont'd) 3. Eye lubrication. a. How the eye malfunctions: individuals may have insufficient tear production. b. Use: may be used temporarily following cataract surgery. Also used with artificial eyes and contact lenses. c. Action: provide tear-like lubrication. d. Side effects: minimal. e. Example: methylcellulose, systane. f. Implications for care: may be applied as ointment or drops. 4. Ophthalmic drugs used for infection. a. Will be covered in the anti-infective section. 5. Ophthalmic drugs for inflammation/anesthetic/analgesia. a. Use: cataract surgery, inflammation. b. Examples: FML, Astelin, Akten, Alcaine, Pataday, Patanol. c. Implications for care: usually used short-term; observe for worsening of condition.	Identify action, use and name for eye lubrication. Discuss why anti-infective drugs may be used in the eyes. Reinforce sterile techniques and good hand washing. Discuss cataracts and surgery. Discuss allergy eye drops-decongestants and antihistamines either in combination or alone.

Course outline

Unit XIII. Drugs affecting the ear

1. Structure and function of the ear.
   a. Ear canal: leads from outside to ear drum.
   b. Ear drum: vibrates, transmitting sound to middle ear.
   c. Middle ear: three small bones that vibrate conducting sound to inner ear.
   d. Inner ear: contains specialized hearing cells. Hearing is transmitted from these to brain via auditory canal.
   e. Auditory nerve: transmits round impulses to brain. Eustachian tube: connects pharynx and middle ear, equalizes pressure.
2. Otic agents
   a. Otic anesthetics and anti-inflammatory agents
      i. Mechanism of action: provides anti-inflammatory plus pain relief.
      ii. Generic names:
         A. antipyrine
         B. benzocaine
      iii. Adverse drug reaction:
         A. Erythema
         B. Itching
3. Other Otic Agents
      i. Mechanism of action: helps to soften impacted cerumen (ear wax) and through its foaming action.
      ii. Trade name: Debrox
      iii. Adverse drug reactions:
         A. Erythema
         B. Rash
         C. itching

Teaching aids/plans

Need to have teaching aid that discusses how to properly administer ear drops.

FYI: If lavage is ordered, coordinate with nurse the timing of the ear drops.

Course outline	Teaching aids/plans
Unit XIV. Drugs affecting the skin 1. Structure and function of skin. a. Epidermis: top layer – cells, flat, horny, constantlyshed. b. Dermis: underneath layer – contains blood vessels, oil and sweat glands, hair follicles, nerves, receptors for touch sensations. c. Function of skin: protection, help regulate body temperature, manufacture vitamin D; sense temperature, pain, touch. 2. Precautions for care: topical preparations for skin are more concentrated than preparations for mucous membranes. Do not apply skin preparations to mucous membranes because of risk of over-medicating. 3. Transdermal applied medication. a. Examples: nitroglycerin patches/ointment, estradiol patches, fentanyl patches, rivastigmine patches. b. Implications for care: avoid contact with practitioner skin, rotate sites. 4. Topical medications can treat various conditions. a. Examples: topical steroids, topical antibiotics, topical pain relievers, topical estrogen, topical testosterone, etc.	Review changes of skin associated with aging. Review prevention of decubitus ulcers (treatment of such is not permitted by medication aides of stages II-IV). Medication Aides can treat unbroken or unblistered skin only. Discuss why transdermal patch may be the choice rather than oral medication. Review application procedures. Review the various topical medications and their uses. Discuss medication aides are not allowed to apply topical preparations on broken skin. Contact nurse on duty. Report any changes in skin.

Course outline

Unit XV. Cognitive impairment

1. Definitions
   a. Cognitive impairment means impaired or damaged thinking.
      i. The main symptoms are memory loss and confusion.
      ii. Cognitive impairment is not a normal part of aging.
   b. Dementia is a brain disorder that results in cognitive impairment.
      i. Acute dementia
      ii. Chromic dementia
   c. Alzheimer's Disease (AD) is a chronic, progressive brain disease that eventually destroys cognition.
      i. AD is the most common type of chronic dementia.
      ii. There is known cause or cure for AD.
2. The developmental stages of Alzheimer's Disease:
   a. Early
   b. Middle
   c. Late
3. Effects of Alzheimer's Disease
   a. Progressive deterioration of behavior and personality
   b. Impaired learning
   c. Impaired thinking
   d. Impaired judgment
   e. Impaired memory
   f. Impaired impulse control
4. Abilities that are spared (not lost) in Alzheimer's Disease.
   a. Emotions and feelings
   b. Physical strength
   c. Senses such as vision, hearing, taste, smell, and touch.
   d. Habits such as piano playing and cycling

Teaching aids/plans

Define cognitive impairment, dementia and Alzheimer's Disease.

State the major difference between acute and chronic dementia.

Describe the effects of Alzheimer's Disease.

Describe the behavioral responses to cognitive impairment.

Discuss the special needs of cognitive impairment.

Discuss the special needs of cognitively impaired residents (e.g., as in early, middle and late stages of Alzheimer's Disease).

Discuss the importance of using verbal and non-verbal communication in working with cognitively impaired residents.

Course outline	Teaching aids/plans
Unit XV. Cognitive impairment (cont'd) 5. Some behavioral responses to cognitive impairment a. Memory loss b. Confusion and disorientation c. Lack of self-control 6. Special needs of cognitively impaired residents a. Physical care i. Provide for the residents physical needs. ii. Establish a routine for care and try to adhere. Be flexible if needed. iii. Provide direction and encourage the resident to assist with care as much as possible. iv. Ask resident if they have pain and report to nurse. b. Safety needs i. Provide a safe environment to avoid risks as directed by the nurse and according to the care plan. c. Supportive needs i. Always approach in a calm, respectful manner. ii. Recognize when the resident is becoming frustrated and offer assistance. iii. Limit decision making based on the residents ability according to direction from the nurse and according to the care plan. iv. Do not attempt to force the resident to think or remember. v. Orient the resident to name, place, day and time. vi. Use calendars, clocks and other devices to assist the resident.	Discuss pitfalls to avoid. Describe and/or demonstrate skill in assisting cognitively impaired Residents. Question the use of antipsychotic medications for any patient with dementia.

Course outline	Teaching aids/plans
Unit XV. Cognitive impairment (cont'd) d. Communication needs i. Use positive body language as it may be the only message the resident can receive. ii. Watch the resident's body language as it may be the only message the resident can send. iii. Speak slowly and calmly iv. Greet by preferred name making eye contact. v. Identify yourself by name and title. Always explain what you are going to do. vi. Give simple easy to follow instructions. vii. Ask only simple questions and wait for a response. Repeat if necessary. viii. Avoid using "NO" and "DON'T". e. Behavior management i. Reorient resident to name, place, day and time. ii. Do not validate false thinking which may result in increased confusion. iii. Do not correct resident with a negative message that may result in withdrawal or anger. f. Guidelines for assisting residents who wander i. allow the resident to wander if it is not harmful to resident or others ii. Ensure that the resident who wanders wears appropriate identification. iii. Ensure that appropriate doors and windows are locked and alarms are turned on. iv. Try to redirect the resident with an interesting object or favorite activity. v. Look for the cause(s) of wandering, which may include seeking an exit, restlessness, stress, boredom, or unmet needs. vi. Follow instructions of the nurse and behavior management plan as appropriate.	

Course outline	Teaching aids/plans
Unit XV. Cognitive impairment (cont'd) g. Guidelines for assisting residents who resist care i. Keep care simple and routine. Give care in a calm, patient manner. Don't rush. ii. Resisting care often occurs when the caregiver activities require skills that the cognitively impaired resident no longer has. iii. Match the demands of the care to the resident's abilities. iv. Observe for signs of anxiety and body language that indicate early resistance to care such as restlessness, shifting position, clenching fists, wringing hands, or moaning. v. At the first sign of distress, stop the care as soon as you can safely do so. vi. Report the behavior to nurse. The caregiver (who has to get the job done) may be expecting too much of the resident, rushing the resident, communicating his/her own anxiety or impatience to the resident, or sending mixed messages. vii. Provide care following instructions from the nurse and according to the care plan to eliminate the cause such as meet unmet needs. Delay care until the resident is no longer exhibiting signs of distress. Simplify the task, provide additional assistance, slow down, and adjust your approach. viii. Follow instructions of the nurse and the Resident's behavior management plan as appropriate.	Use task segmentation to prevent confusion/resident resistance. (e.g., instead of saying "get dressed" use "put your shirt on", "put your pants on", and "put your shoes on").

Course outline	Teaching aids/plans
Unit XV. Cognitive impairment (cont'd) h. Guidelines for assisting residents with self-control problems i. Allow the resident to do as much as possible, but assist before anxiety and frustration occurs (help, but don't do it for them) ii. Know and avoid situations that lead to loss of self-control for the resident. iii. Redirect the resident's thoughts and/or activities before they become agitated. iv. Use measures to comfort or redirect the resident. v. Remove the resident to a private space before self-control is lost. vi. Provide care as indicated to eliminate the cause(s) of the behavior. vii. Follow instructions of the nurse and the Resident's behavior management plan as appropriate. i. Guidelines for assisting resident with catastrophic reaction. i. A catastrophic reaction is an emotional outburst, which may include crying, screaming, agitation, or fighting that is out of the control of the resident. ii. Try to avoid stressful situations and multiple distractions or over stimulation. iii. Approach the resident in calm, reassuring manner. iv. Guide the resident to a quiet place or remove distractions. v. Give verbal and non-verbal support. Do not scold, argue, teach or reason. vi. Try to comfort/redirect the resident with a favorite object, activity or caregiver. vii. Leave the resident alone to calm down if you can safely do so. viii. Provide care that may assist in controlling the behavior. ix. Follow the instructions of the nurse and behavior management plan as appropriate.	

Course outline	Teaching aids/plans
Unit XVI. Pediatric patients 1. Nutritional considerations. a. Infants have limited nutritional reserves; therefore any loss of fluids can be dangerous. b. Frequency of feeding. c. Symptoms of dehydration: i. Age under 18 months – sunken soft spot. ii. Loss of skin elasticity. iii. Decreased urine output. iv. Dry mouth and lips. v. Lethargy. 2. Implications for care: a. Nutritional considerations. b. Physical activity concerns. c. Ways to administer medication. 3. Ways to administer medications. a. Pediatric doses will be smaller than adult doses based on body weight. b. Try to make medication palatable – can it be mixed with juice or applesauce? c. Equipment: dropper, oral syringes, syringe attached to nipple. d. Prevent aspiration. e. Determine what quantity actually went into child.	Stress that techniques used to administer medication to children may be modified based on activity level of pediatric patient. Discuss pediatric patients in long term care facilities and their special health problems. Use pediatric equipment if needed or necessary.

Course outline	Teaching aids/plans
UNIT XVII. Care planning assistance 1. Purpose of care planning. a. Optimal patient outcomes. b. For shift reports; to plan assignment sheets; to assistwith charting 2. Significance of Interdisciplinary Care Plans 3. Role of the medication aide as it relates to patient care planning	Discuss purpose of care planning. Explain how the medication aide is important in patient care planning. For Centers for Medicare and Medicaid Services (CMS)/Federal Long Term Care regulation forms, survey protocols, the Standard Operating Manual (SOM) and CMS contact information, please see reference section. For a link to the Minimum Data Set (MDS) Manual, please see reference section.

UNIT XVIII – TEACHING PROCEDURES

Teaching Procedures

Teaching Procedure #1 - Administering Oral Medications

A. General Guidelines and Precautions
   1. Medication Aides must understand and follow the Rules at 26 TAC Chapter 557 with attention to §557.103 and §557.105 on administering medications.
   2. Work in a clean, organized, well-lighted area and avoid distractions while preparing and administering medications.
   3. Give only medicines that you have prepared.
   4. Medicines may not be borrowed from another resident.
   5. Give medicines only from clearly labeled containers.
   6. Follow the **EIGHT RIGHTS** of medication administration.
      a. Right Patient
      b. Right Medication
      c. Right Dose
      d. Right Route
      e. Right Time
      f. Right Documentation
      g. Right Reason
      h. Right Response
   7. Read the label 3 times as you prepare a medication, carefully checking the drug label against the Medication Administration Record (MAR) according to facility policy:
      a. Check #1 as you take the medicine from medication cart.
      b. Check #2 as you pour the medicine.
      c. Check #3: For multi-dose drugs - as you replace the label container into medication cart. For unit-dose drugs - before opening the unit-dose medicine package.

B. Activities to be completed prior to preparing medications
   8. Check medication card or MAR against physician's orders according to facility policy. Check for the **EIGHT RIGHTS.**
   9. Review your knowledge of medications and look up needed information such as drug actions, therapeutic effects, side effects, usual doses/routes, contraindications and nursing implications.
   10. Review resident data, observe and assess residents on an on-going basis to determine therapeutic effects, side effects, drug allergies, contraindications, and nursing implications.

C. Preparation (setting-up)
   11. Assemble needed supplies and equipment.
   12. Wash hands.
   13. Wear gloves and follow Universal or Standard Precautions if contact with blood, moist body substances, non-intact skin or mucous membrane is likely.
   14. Prepare each medicine separately.
   15. Take medicine container from medication cart and check the label per facility policy (6)(a).
   16. Pour the ordered dose of the medication and check the label per facility policy (6)(b).
      a. For multi-dose tablets of capsules, pour ordered amount into container lid and then transfer into medicine cup.
      b. For unit-dose packaging, place the unopened, labeled, single-dose container into medicine cup – unopened.

Teaching Procedure # 1 (cont'd)

c. If a scored tablet is to be divided, divide tablet following facility policy.
Exception: Medication Aides may not divide a tablet unless the requirements of 26 TAC 557.105 (a) (8) are met.

d. If a tablet is to be crushed, crush tablet following facility policy.
Exception: Medication Aides may not crush a tablet unless the requirements of 26 TAC 557.105 (a) (9) are met.

e. If tablets are to be placed in food or fluids, prepare following directions on the (MAR), safe practice, residents preference and facility policy.

f. To pour liquid medications:
   1) Shake suspension before pouring.
   2) Pour liquid from the unlabeled side of container.
   3) Pour ordered amount into calibrated medicine cup, holding cup at eye level to measure.
   4) Wipe up spills and recap container.

17. Return medicine container to proper medication cart, and check the label per facility policy. (Check (6)(c) for multi-dose containers only).

D. Administration

18. Take the medication to the resident on cart or tray, per facility policy. If possible, give medications that are highest priority first.
19. Knock on door, identify self and greet resident by name.
20. Provide privacy, good lighting and elevate height of bed as appropriate.
21. Identify resident following facility policy.
22. Inform resident of medications to be given, explain any special instructions and encourage resident to participate as appropriate.
23. Observe and listen carefully to the resident. Recheck anything that the resident says is new or wrong.
24. Make preliminary pre-administration assessments as ordered and as indicated to determine contraindication and therapeutic effects.
25. Assist resident to as upright a position as possible.
26. Check resident's preference for taking multiple drugs separately or all together.
27. Give ordered medication(s) to resident by cup, or gently place medicine in resident's mouth if indicated. (Follow the **EIGHT RIGHTS).**
28. Offer water from glass and assist resident to drink and swallow medications.
29. Observe that resident swallows medicines. Assist resident to place medicine on back of tongue to help make swallowing easier if indicated.
30. Assist resident to a position of comfort and safety with call signal in easy reach.
31. Discard disposable supplies. Clean and replace reusable supplies following facility policy.
32. If used, remove and discard gloves following facility policy. **Hand hygiene**. According to facility policy.
33. Document medications given following facility policy including date, time, dosage, route, signature, and title. Chart and/or report pertinent observations of resident and nursing actions according to facility policy.
34. If medication is refused, or is not going to be given, consult with licensed nurse for destruction.

Teaching Procedure #2 - Administering Ear Drop

1. Follow Teaching Procedure #1 steps 1 through 23.
2. Check that medicine is labeled "for use in ear".
3. Warm ear drops to body temperature by holding bottle in hand for a few minutes.
4. Position resident in a flat, side-lying position with pillow under head and exposing ear to be treated.
5. Observe external ear structure and external ear canal for condition (pain, drainage, etc.). Document and/or report pertinent observations per facility policy.
6. Clean and dry external ear structure and external ear canal with cotton swabs as ordered as indicated.
7. Draw ordered amount of medication into dropper.
8. Straighten ear canal by gently pulling pinna:
   a. upward and outward for adults
   b. downward and backward for children
9. Hold dropper just above - but not touching ear canal, resting hand on resident's chin.
10. Instill ordered drops on the side of the ear canal - not directly onto the tympanic membrane.
11. Gently press on tragus (forward part of ear) several times to help drops flow down the ear canal.
12. Place clean cotton ball loosely into outer ear canal, if ordered by doctor.
13. Wipe up any spills with tissues.
14. Instruct resident to remain in same position for at least 5 minutes.
15. Wash hands.
16. Reposition resident and repeat procedure for other ear if ordered.
17. Proper **Hand hygiene** according to facility policy.
18. Follow Teaching Procedure #1 steps 30 through 34.

Teaching Procedure # 3 – Administering Nose Drops/Spray.

1. Follow Teaching Procedure #1 steps 1 through 23.
2. Check that medicine is labeled "for nasal use".
3. Observe degree and character of nasal congestion and drainage. Document and/or report pertinent observations per facility policy.
4. Instruct resident to gently blow nose or clean external nares as appropriate before nose drops are given.
5. Warm nose drops to body temperature by holding bottle in hand for a few minutes.
6. To administer nose drops into nasal cavity: position resident sitting up-right or lying supine. Place a pillow behind shoulders and neck to tilt the head backward until the nasal cavities are nearly vertical.
7. To administer nose drops into nasal sinuses: position resident supine with head of bed as flat as tolerated. Also, as tolerated, have resident extend head over edge of bed or place a pillow under resident's shoulders to tilt head backward until nasal cavities are horizontal.
8. Support neck with your hand if indicated.
9. Raise the tip of the nose with your thumb to visualize nasal passages.
10. Draw the correct dosage of drops into dropper.
11. Instruct resident to breathe through mouth while drops are being given.
12. Hold dropper just above nostril - avoid touching nostril.
13. Drop ordered amount of medicine into one nostril, directing drops toward center or upper part of nostril.
14. Repeat with other nostril if ordered.
15. Keep resident in same position for about 5 minutes for maximum absorption, unless contraindicated.
16. Offer tissues to wipe any drainage from nose, but caution against blowing nose.
17. To administer Nasal Spray: position residents to sitting up-right. Follow manufactures directions. Follow Teaching Procedures 14-16.
18. Follow Teaching Procedure #1 steps 30 through 34.

Teaching Procedure #4 - Administering Eye Drops and Eye Ointments

1. Follow Teaching Procedure #1 steps 1 through 23.
2. Check that medicine is labeled "sterile - for ophthalmic use".
3. Hand hygiene. Alcohol gel is NOT acceptable for this procedure.
4. Position resident supine or setting with head slightly hyperextended and with head turned slightly toward affected eye.
5. Observe condition of eyes, nature and amount of drainage, and complaints related to eyes Document and/or report pertinent observations per facility policy.
6. If order is indicated, cleanse affected eye with clean cotton balls and normal saline from inner to outer canthus. To prevent cross-contamination, use a different cotton ball to clean each eye. Hand hygiene. Alcohol gel is NOT acceptable for this procedure.
7. Warm eye drops or ointment to body temperature by holding bottle in hands for a few minutes.
8. Uncap ordered eye ointment, placing cap open side up, and discard first drop of ointment. Do not contaminate container, bottle or opening of ointment tube.
9. Expose conjunctival sac by placing fingers of non-dominate hand on resident's cheekbone slightly below eyelashes and applying gentle downward pressure.
10. Instruct resident to look upward.
11. To administer eye drops:
    a. Hold eyedropper close to - but not touching - conjunctival sac.
    b. Instill ordered eye drops into conjunctival sac.
    c. Repeat any drops that land outside of the eye. Follow facility policy for repeating drops that are blinked out.
    d. With a clean tissue over your finger, apply gentle pressure over the inner canthus for 1 to 2 minutes. This will increase ophthalmic effects and decrease potential systemic effects.
    e. If administering more than one type of eye drop, remember to wait 3-5 minutes between each type of eye drop.
12. To administer eye ointment:
    a. Hold tube of ointment close to - but not touching - eye.
    b. Squeeze a thin line of ointment (about 0.5 inch unless otherwise ordered) into conjunctival sac from inner to outer canthus.
    c. Release squeeze, then twist and lift tube slightly to stop flow of ointment.
13. Slowly release lower lid and instruct resident to gently close eye for 2 to 3 minutes without squeezing or blinking.
14. Wipe or blot excess medication from outside of eye.
15. Hand hygiene. Alcohol is NOT acceptable for this procedure.
16. Repeat procedure for other eye if ordered.
17. Follow Teaching Procedure #1 steps 30 through 34.

Teaching Procedure #5 - Administering Vaginal Medications

1. Follow Teaching Procedure #1 steps 1 through 23.
2. Check that medicine is labeled "for vaginal use".
3. Assure privacy, good lighting and elevate height of bed as appropriate.
4. Assist resident to void prior to procedure if indicated.
5. Observe condition of perineum and presence of vaginal drainage. Document and/or report pertinent observations per facility policy.
6. Cleanse perineal area if indicated.
7. Assist resident into dorsal recumbent position with protective pad under buttocks and draped for privacy and warmth.
8. Hand hygiene and wear disposable gloves.
9. To insert vaginal suppository without applicator:
   a. Remove wrapper and lubricate rounded end of suppository.
   b. Lubricate gloved index finger of dominate hand.
   c. Separate labia with non-dominate hand and locate vaginal opening.
   d. Gently insert rounded end of suppository along posterior vaginal wall approximately 2 to 3 inches with index finger of dominate hand.
10. To insert vaginal medication by applicator:
    a. To prepare vaginal suppository: remove wrapper, lubricate rounded end of suppository and place tip of suppository on end of applicator.
    b. To prepare vaginal creams, gels or ointments: fill applicator with medicine as ordered and as instructed on package insert.
    c. Separate labia with non-dominate hand and locate vaginal opening.
    d. Gently insert applicator along posterior vaginal wall approximately 2 to 3 inches with gloved dominate hand.
    e. Push plunger of applicator to empty medication into the vaginal vault.
    f. Withdraw applicator.
    g. Discard disposable applicator or clean reusable applicator with warm water and soap and store according to package insert and facility policy.
11. Wipe excess lubricant from perineum and provide perineal pad if indicated.
12. Instruct resident to remain in supine position for 20 minutes if ordered or indicated.
13. Remove and discard gloves following facility policy. Hand hygiene.
14. Follow Teaching Procedure #1 steps 29 through 32.

Teaching Procedure #6 – Administering Rectal Suppository

1. Follow Teaching Procedure #1 steps 1 through 23.
2. Check that medicine is labeled "for rectal use".
3. Assure privacy and good lighting and elevate height of bed.
4. Assist resident with toileting if indicated.
5. Position resident in a left side-lying position, if tolerated, with upper leg flexed and supported with pillows as needed. Drape for privacy and warmth.
6. Hand Hygiene and wear disposable gloves.
7. Remove wrapper and lubricate rounded end of rectal suppository with water-soluble lubricant.
8. Lubricate gloved index finger of dominate hand.
9. Instruct resident to take slow deep breaths through mouth and relax anal sphincter as you insert suppository.
10. Separate buttocks with non-dominate gloved hand and locate anus.
11. Gently insert suppository though anus, past internal anal sphincter and into rectum (about 3 inches) using gloved index finger.
    a. Place suppository against rectal wall for absorption – not in fecal mass.
    b. Stop procedure and report to charge nurse if strong resistance or sharp pain occurs.
12. Withdraw finger and wipe anal area with tissue.
13. Instruct resident to retain suppository for at least 20 minutes.
14. If resident has urge to expel suppository, apply gentle pressure by holding pad of tissue over anal area or press buttocks together with hands.
15. Remove and discard gloves following facility policy. Hand Hygiene.
16. If suppository is to stimulate bowel movement, be sure resident has ready access to call signal and assistance.
17. Follow Teaching Procedure #1 steps 29 through 32.

Teaching Procedure #7 – Guidelines for Administering Topical Skin Medications

1. Note the Rules at 26 TAC §557.105 (b) (10) relating to prohibited practices in applying topical medications to the skin.
2. Follow Teaching Procedure #1 steps 1 through 24.
3. Check that medicine is labeled "for topical use".
4. Techniques for applying topical skin medication vary widely based on the patient, the drug and the affected area.
5. Apply topical medicines following doctor's orders, facility policy, and instructions from package inserts and assistance from the charge nurse as indicated.
6. Position resident in bed or chair, exposing area to be treated as appropriate.
7. Observe condition of affected area and need for analgesic prior to topical medication. Document and/or report pertinent observations per facility policy.
8. Protect clothing and linen with pads if appropriate.
9. Hand Hygiene and wear gloves if contact with moist body substances is likely.
10. Gently cleanse skin area to be treated with warm and mild soap as appropriate unless contraindicated.
11. Generally apply topical skin medicine in the direction of hair growth, as this is more comfortable to residents.
12. To apply topical skin medicine in multi-use jars:
    a. Remove lid from jar and set lid upside down position to avoid contaminating inside or lid.
    b. Remove required amount of medicine from container with sterile tongue blade or applicator.
    c. Do not return medicine or used tongue blade/applicator back into container.
    d. Apply to affected skin as ordered or as indicated.
13. To apply topical skin medicine from sealed tubes:
    a. Cleanse piercing cap with alcohol swab.
    b. Remove cap and invert it back into tube to puncture seal.
    c. Squeeze out required medicine and apply as ordered or indicated.
14. General guidelines for applying various forms of topical skin medicines:
    a. Creams: rub gently into affected area as ordered.
    b. Locations: pat or dab onto affected area as ordered.
    c. Ointments: apply with applicator or tongue blade as ordered.
    d. Pastes: usually applied in thin layer with tongue blade as ordered.
    e. Liniments: usually rubbed vigorously into affected area as ordered, being careful to avoid trauma to fragile skin.
    f. Foam Sprays: hold can inverted close to affected area and spray as ordered.
    g. Aerosol Sprays: hold can upright 3 to 6 inches from affected area and spray as ordered. A Second and third application may be ordered or indicated.
    h. Transdermal Patches: they need to be dated and initialed properly, sites of application rotated, site of application documented, document removal and follow facility policy and procedure for disposal.
15. When applying topical skin medicine to face, avoid application near the eyes and apply sparingly and carefully near the mouth and nose, because skin topicals are not intended for ophthalmic, oral or nasal use.
16. When applying topical medicine to the scalp: be sure the drug is applied directly to scalp – not just to the hair. The recommended technique is to part the hair at about ½-inch intervals, and

Teaching Procedures #7 (cont'd)

17. apply the medication to the visible scalp at each part. Determine the recommended time and frequently or shampooing the hair in relation to the scalp treatments.
18. If used, remove and discard gloves following facility policy. Hand Hygiene.
19. Follow Teaching Procedure #1 steps 30 through 34.

UNIT XIX – HANDOUTS

ETHICS

Ethical conduct – rules of conduct that may differ from one facility to another, a system of moral principles governing the appropriate conduct for a person or group, a resident is valuable person who deserves ethical care.

Ethical Responsibilities - Ethical standards differ from legal issues in that ethics refers to moral principles, values, or conduct not necessarily included in the law.

Ethical treatment of residents:

- Respecting residents' rights and privacy. The right to have all treatments in the resident room with the curtain drawn. The right to not having the medications they are on discussed in the hallway or with anyone else.
- Respecting residents' individuality and autonomy.
- Right to have personal independence, to be themselves and to make moral decisions and act on them
- Maintaining respectful communication. Speaking to the residents as an adult. It is never okay to speak to them as a child. Speaking to the residents at a respectful tone. Do not raise your voice or yell at a resident.
- Listening to the resident when they are speaking to you. It is never okay to ignore them or tune them out. Also, listen to the resident's story even if you have heard it a hundred times before.
- Having appropriate body language.

Health Insurance Portability and Accountability Act of 1996 (HIPAA) - a law which protects the privacy of individually identifiable health information and includes; the HIPAA Security Rule, which sets national standards for the security of electronic protected health information, and the confidentiality provisions of the Patient Safety Rule, which protect identifiable information being used to analyze patient safety events and improve patient safety. The HIPAA Privacy Rule can be found at: www.hhs.gov/ocr/privacy/

HHSC reviews and investigates allegations of:

a. Abuse – The willful infliction of injury, unreasonable confinement, intimidation, or punishment with resulting physical harm, pain, or mental anguish.

b. Neglect – The failure to provide goods and services necessary to avoid physical harm, mental anguish, or mental illness.

c. Misappropriation of resident property – The deliberate misplacement, exploitation, or wrongful temporary or permanent use of a resident's belongings or money without the resident's consent.

WHAT IS NORMAL AGING?

The aging process happens during an individual's lifespan. We are all involved in this process and none can escape it. When one is young, aging is associated with growth, maturation, and discovery. Many human abilities peak before age 30, while other abilities continue to grow through life. The great majority of those over age 65 today are healthy, happy and fully independent. In spite of this, some individuals begin to experience changes that are perceived as signs of deterioration or decline. We must try to forget the stereotypes and look at older individuals as unique individuals, each with a particular set of resources and challenges.

Normal Aging

The changes aging individuals experience are not necessarily harmful. With age, hair thins and turns gray. Skin thins, becomes less elastic, and sags. There is a slowing down of functions, which goes forward throughout adulthood – loss of function of bodily organs. In the gastrointestinal system, for example, production of digestive enzymes diminishes, reducing the body's ability to break down and absorb the nutrition from food. Some of these losses may not be noticeable until later life.

Scientists theorize that aging likely results from a combination of many factors. Genes, lifestyle, and disease can all affect the rate of aging. Studies have indicated that people age at different rates and in different ways. Normal aging brings about the following changes:

- **Eyesight** – loss of peripheral vision and decreased ability to judge depth. Decreased clarity of colors (for example, pastels and blues).
- **Hearing** – loss of hearing acuity, especially sounds at the higher end of the spectrum. Also, decreasing ability to distinguish sounds when there is background noise.
- **Taste** – decreased taste buds and saliva.
- **Touch and Smell** – decreased sensitivity to touch and ability to smell.
- **Arteries** – stiffen with age. Additionally, fatty deposits build up in your blood vessels over time, eventually causing arteriosclerosis (hardening of the arteries).
- **Bladder** – increased frequency in urination.
- **Body Fat** – increases until middle age, stabilizes until later in life, then decreases. Distribution of fat shifts – moving from just beneath the skin to surround deeper organs.
- **Bones** – somewhere around age 35, bones lose minerals faster than they are replaced.
- **Brain** – loses some of the structures that connect nerve cells, and the function of the cells themselves is diminished. "Senior moments" increase.
- **Heart** – is a muscle that thickens with age. Maximum pumping rate and the body's ability to extract oxygen from the blood both diminish with age.
- **Kidneys** – shrink and become less efficient.
- **Lungs** – somewhere around age 20, lung tissue begins to lose its elasticity, and rib cage muscles shrink progressively. Maximum breathing capacity diminishes with each decade of life.

- **Metabolism** – medicines and alcohol are not processed as quickly. Prescription medication requires adjustment. Reflexes are also slowed while driving, therefore an individual might want to lengthen the distance between him and the car in front and drive more cautiously.
- **Muscles** – muscle mass decline, especially with lack of exercise.
- **Skin** – nails grow more slowly. Skin is more dry and wrinkled. It also heals more slowly.
- **Sexual Health** – Women go through menopause, vaginal lubrication decreases and sexual tissues atrophy. In men, sperm production decreases and the prostate enlarges. Hormone levels decrease.

The aging process also brings social and emotional change and loss into our lives. Inevitably, as we age, older relatives die, then some of our friends may grow frail and die, then loss of a spouse affects many. Physical losses and social losses that can accompany aging may be very difficult emotionally. Grief and sadness are normal reactions to such situations, and we cannot stamp out these reactions in our older relatives or ourselves. Just as the physical losses of later life can be compensated for, so can the social and emotional losses be overcome.

The physical aging process can be influenced in a variety of ways. Excess capacity is built into the human system. The bulk of the changes that take place over the years can be strongly affected by exercise levels and other lifestyle characteristics. People who live in areas with especially long life expectancy have the following characteristics, apart from hereditary or genetic influences:

- **Dietary and Nutritional Factors** – diets tend to be low in animal fats and high in vegetables and whole grains.
- **Moderate Consumption of Alcohol** – some alcohol is consumed, although alcoholism is uncommon.
- **Physical Activity Throughout Life**
- **Sexual Activity Continues in Later Years** – sexually active and free to express themselves in this way.
- **Social Involvement** – respected, valued, and remains in community life.
- **Physical Environment** – challenging and free from pollutants.

In general, the lessons are clear. Regular physical activity, a balanced diet, social involvement, moderate or no drinking, and no smoking, can significantly decelerate the aging process.

Frequently Used Pharmacological Abbreviations and Symbols

Abbreviation	Meaning	Abbreviation	Meaning
Abd	Abdomen	H, hr, hr.	hour
ac, a.c.	Before Meals	HIPAA	Health Insurance Portability and Accountability Act
Ad lib	As desired	HOB	Head of bed
ADLs	Activities of Daily Living	HS/hs	Hour of sleep; bedtime
AMA	Against medical advice	Ht	Height
AMA	American Medical Association	HTN	Hypertension
Amb	Ambulate	Hyper	Above normal, too fast, too rapid
As tol	As tolerated	Hypo	Low, less than normal
Ax.	axillary	Inc	Incontinent
BID, b.i.d.	Two times a day	I&O	Intake and output
BM	Bowel movement	Isol	Isolation
BP, B/P	Blood pressure	IV, I.V.	Intravenous
BPM	Beats per minute	L, lt	Left
BR	bedrest	Lab	Laboratory
BRP	Bathroom privileges	Lb.	Pound
BSC	Bedside commode	Lg	Large
/c	With	LPN, LVN	Licensed Practical (Vocational) Nurse
Cath.	Catheter	LTC	Long Term Care
CBR	Complete bedrest	M.D.	Medical doctor/physician
CHF	Congestive Heart Failure	MDS	Minimum data et
Cl liq	Clear liquid	Meds	Medication
CNA	Certified Nurse Aide	MI	Myocardial Infarction, heart attack
c/o	Complains of	Min	Minute
COPD	Chronic obstructive pulmonary disease	mmHG	Millimeters of mercury
CVA	Cerebro vascular accident, stroke	mL	Milliliter
DAT	Diet as tolerated	Mod	Moderate
DM	Diabetes mellitus	MRSA	Methicillin-resistant *staphylococcus aureus*
DNR	Do not resuscitate	MSDS	Material safety data sheet
DON	Director of Nursing	NA	Nursing assistant
Dr., DR	Doctor	N/C	No complaints
Drsg	Dressing	NG, ng	Nasogastric
Dx/dx	Diagnosis	NKA	No known allergies
Exam	Examination	NPO	Nothing by mouth
FF	Force fluids	OBRA	Omnibus Budget Reconciliation Act
Ft	Foot	OOB	Out of bed
F/U, f/u	Follow up	OSHA	Occupational Safety and Health Administration
Geri-chair	Geriatric chair	Oz.	Ounce (30 mL)
H_2O	water	/p	After
Abbreviation	**Meaning**	**Abbreviation**	**Meaning**
pc, p.c.	After meals	VRE	Vancomycin-resistant *enterococcus*

Peri care	Perineal care	VS, vs	Vital Signs
Per os	By mouth	Wt.	Weight
PO	By mouth	w/c, W/C	wheelchair
PPE	Personal Protective Equipment		
prn, p.r.n.	When necessary		
q 2hr	Every two hours	**Symbols**	**Meaning**
q 3 hr	Every three hours	©	Copyright
q 4 hr	Every four hours	&	And
/q	Every	Δ	Change
Qh, qhr	Every hour	º	degree
qhs	Every night at bedtime	%	percent
q.i.d, qid	Four times a day	<	Less than
R	Respirations, Rectal	>	Greater than
R, rt.	Right		
Rehab	Rehabilitation		
Res.	Resident	**Abbreviation**	**Units of measurement**
Resp.	Respiration	G	Gram
RF	Restrict fluids	gr	Grains
RN	Registered Nurse	Gtt, gtts	Drop, drops
R/O	Rule out	L	Liter
ROM	Range of motion	mL	Milliliter
RR	Respiratory rate	mg	Milligram
/s	Without	TBSP	tablespoon
SOB	Shortness of breath	Tsp	teaspoon
SP	Standard Precautions		
Spec.	Specimen	**Abbreviation**	**Medication routes**
ss	One-half	Inj	Injection
S/S	Signs and symptoms	IM	Intramuscularly
Stat, STAT	Immediately	IV	Intravenously
Std. prec.	Standard precautions	SL	Sublingual
T., temp	Temperature	SQ, Subcut	Subcutaneously
TB	Tuberculosis	top	Topically
Tid, t.i.d.	Three times a day	Ung	Ointment
TLC	Tender loving care		
TPR	Temperature, pulse, respiration		
U/A, u/a	Urinalysis		
URI	Upper Respiratory Infection		
UTI	Urinary Tract Infection		

Official "Do Not Use" List[1]

Do Not Use	Potential Problem	Use Instead
U (unit)	Mistaken for "0" (zero), the number "4" (four) or "cc"	Write "unit"
IU (International Unit)	Mistaken for IV (intravenous) or the number 10 (ten)	Write "International Unit"
Q.D., QD, q.d., qd (daily) **Q.O.D., QOD, q.o.d, qod (every other day)**	Mistaken for each other Period after the Q mistaken for "I" and the "O" mistaken "I"	Write "daily" Write "every other day"
Trailing zero (X.O mg)* **Lack of leading zero (.X mg)**	Decimal point is missed	Write X mg Write 0.X mg
MS **MSO_4 and $MgSO_4$**	Can mean morphine sulfate or magnesium sulfate Confused for one another	Write "morphine sulfate" Write "magnesium sulfate"

[1]Applies to all orders and all medication-related documentation that is handwritten (including free-text computer entry) or on pre-printed forms.

***Exception**: a "trailing zero" may be used only where required to demonstrate the level of precision of the value being reported, such as for laboratory results, imaging studies that report size of lesions, or catheter/tube sizes. It may not be used in medication orders of other medication-related documentation.

Additional Abbreviations, Acronyms and Symbols
(For possible future inclusion in the Official "Do Not Use" List

Do Not Use	Potential Problem	Use Instead
>(greater than) **< (less than)**	Misinterpreted as the number "7" (seven) or the letter "L" Confused for one another	Write "greater than" Write "less than"
Abbreviations for drug names	Misinterpreted due to similar abbreviations for multiple drugs	Write drug names in full
Apothecary units	Unfamiliar to many practitioners Confused with metric units	Use metric units
@	Mistaken for the number "2" (two)	Write "at"
cc	Mistaken for U (units) when poorly written	Write "mL" or "ml" or "milliliters" ("mL" is preferred)
µg	Mistaken for mg (milligrams) resulting in one thousand-fold overdose	Write "mcg" or "micrograms"

HAND WASHING (Hand Hygiene)

A. Purpose: To remove germs from hands and prevent the spread ofinfection.

B. Guidelines and Precautions
   1. Hand-washing is the single most important method in the prevention and control of infection.
   2. Hand-washing should be done at the following times:
      a. When coming on and going off duty.
      b. Before and after caring for each resident.
      c. Before applying gloves and after removing gloves.
      d. Before and after eating, drinking, smoking, using lip balm, touching contact lenses, wiping nose, using toilet.
      e. After contact with blood, body fluids and contaminated items
      f. Whenever hands are obviously soiled.
   3. Precautions
      a. Always keep your fingertips pointed down while washing your hands.
      b. Avoid leaning against sink or splashing uniform during Hand-washing.
      c. Do not touch the inside of sink or faucet handles with cleanhands.
      d. Note where paper towels are located.

C. Procedural Guidelines
   1. Turn on warm water.
   2. Wet hands and wrists.
   3. Apply soap or skin cleanser to hands to produce lather.
   4. Vigorously rub hands together in a circular motion producing lather for at least 20 seconds, washing all surfaces of the fingers and hands (including the wrists).
   5. Clean under nails by rubbing fingertips on palm of hand.
   6. Rinse hands thoroughly from wrist to fingertips, keeping fingertips down.
   7. Dry hands on clean paper towel and discard.
   8. Obtain a clean paper towel and turn off faucet with clean paper towel.
   9. Discard towel appropriately without contaminating hands.

MEDICAL TERMINOLOGY

1. Absorption: passage of a substance into the bloodstream from the site of administration.
2. Aerosol: a solution that can be finely atomized and inhaled for local respiratory or systemic effect.
3. Analgesic: a drug to relieve pain by lessening the sensory function of the brain.
4. Antibiotic: an agent produced by a living organism and is effective against bacteria.
5. Antidote: substance used to counteract a poison or its effects.
6. Antiseptic: against poison, slows down bacterial growth.
7. Anxiolytic: a calming agent, which reduces anxiety and tension without acting as a depressant.
8. Carminative: medication, which relieves flatulence, aids in the expulsion of gas from the stomach and intestines.
9. Cathartic: agent that increases and hastens bowel evacuation (laxative).
10. Chemotherapeutic agent: chemical substance used to inhibit or kill micro-organisms that cause disease.
11. Coagulant: substances that cause blood to clot.
12. Compressed tablet: tablets that have a filler or binder ingredient in them with the medication having no coating.
13. Cumulative action: when a drug accumulates in the body.
14. Decongestant: drug that relieves local congestion.
15. Depressant: cause a decreased activity of the tissue.
16. Diaphoretic: drug used to induce or increase secretion of perspiration.
17. Digestant: drug used to induce or increase secretion of perspiration.
18. Diluent: a substance added to a solid, which reduces the strength of the mixture. It is a substance that dilutes.
19. Diuretic: drug that increases function of kidneys and stimulates the flow of urine.
20. Edema: build-up of excess fluid in the tissue of the body.
21. Emetic: drug used to induce vomiting.
22. Elixir: an aromatic, alcoholic, sweetened preparation usually employed as a vehicle for an active medicine. Elixirs differ from tinctures in that they are sweetened.
23. Emollient: a soothing and softening medicine.
24. Emulsion: an oily or resinous substance held in suspension in some liquid such as water or gum acacia.
25. Enteric-coated: a tablet that does not dissolve until it has reached the intestinal tract, the hard coating is insoluble in the stomach.
26. General actions: occur after absorption of a substance into the circulation, may affect the entire body.
27. Expectorant: drug used to increase the secretions and mucous from the bronchial tubes.
28. Hemostatic: drug used to check bleeding, blood coagulants.
29. Hypnotic: drug used to produce sleep and lessens the activity of the brain.
30. Indiosyncrasy: an unusual response to a drug.
31. Interaction: taking more than one drug at a time may cause them to react differently.

Medical Terminology (cont'd)

32. Irritant: an agent that produces warmth of the skin.
33. Keratolytic: agent that aids in the loosening of the dry, horny layer of skin such as dandruff or some fungal infections.
34. Miotic: any agent that causes the pupil of the eye to contract.
35. Meteria medica: pharmacology.
36. Mydriatic: agent used to dilate the pupil of the eye.
37. Ointment: a semisolid preparation of a drug in a base, to be applied externally.
38. Parenteral: a sterile solution of a medication prepared for injection.
39. Pharmacodynamics: the interaction between drugs and living things such as the human body.
    A. Drug action – the way drugs cause chemical changes in body cells, consists of depressing, stimulating, destroying and replacing.
    B. Drug effect – the physical changes that occur as a result of the drug action.
40. Placebo effect: a therapeutic effect that results from patient believing in the benefit of a medication.
41. Relaxant: a drug used to reduce or relax muscular spasms, usually skeletal muscle.
42. Sedative: drug that reduces excitement does not produce sleep.
43. Stimulant: an agent intended to increase the activity of a tissue.
44. Suppository: mixture of drugs formed into a small mass that is shaped to introduce into a body orifice. Such suppositories are usually formed of a material that melts at body temperature.
45. Suspension: the diffusion of fine particles of a solid through liquid.
46. Syrup: a solution of sugar and water, usually containing flavoring and medicinal substances, often used as a vehicle.
47. Tincture: an alcoholic preparation of a soluble drug or chemical substance such as iodine.
48. Tolerance: the ability to withstand a quantity of a drug.
49. Therapeutic drugs: drugs used to prevent, diagnose, and treat disease and to prevent pregnancy.
50. Vasoconstrictor: a drug that causes a blood vessel to constrict, narrows the lumen of a vessel, raises blood pressure, and causes the heart to beat more forcefully. Used to stop superficial bleeding, raise and sustain blood pressure, and relieve nasal congestion.
51. Vasodilator: a drug that dilates blood vessels, lowers blood pressure by making the vessels larger, causing the heart to pump less forcefully.
52. Vital signs: temperature, pulse, respiration, and blood pressure.

Medical Terminology by Function

In addition to the Medical Terminology listed previously, other medical terms deal with subjects that are more specific or pertain to individual systems of the body. The following is an attempt to categorize these terms according to their general use in the administration of medications.

A. Introduction to Medication Administration:
   1. Anatomy: the structure of body parts.
   2. Assay: identifying and measuring the ingredients of a drug in a laboratory.
   3. Bioassay: identifying the amount of a specific drug that is needed to produce a certain effect in a patient.
   4. Chemical name: drug name given by the chemist, which describes the drugs chemical structure.
   5. Controlled substance: potentially dangerous drug, the sale and use of the drug is regulated by law.
   6. DEA: Drug Enforcement Agency, they enforce the Controlled Substance Act of 1970.
   7. FDA: Food and Drug Administration, they enforce the FDCA.
   8. FDCA: Food, Drug and Cosmetic Act of 1938.
   9. Generic name: name given to a new drug by the manufacturer, which must be approved by the AMA and WHO. A drug may have only one generic name.
   10. GDR: Gradual Dose Reduction, attempt to reduce antipsychotic medication.
   11. Legend drugs: those that require a prescription.
   12. OTC: Over-the-counter drugs, available without and Rx, also called non-legend drugs.
   13. Pharmacology: the study of drugs.
   14. Physiology: study of the mind.
   15. Prescription: a physician's written or verbal order, which permits the purchase of a drug from the pharmacy.
   16. Psychology: study of the mind.
   17. Side effects: effects other than the desired (beneficial) ones.
   18. Therapeutic drugs: drugs used to prevent, diagnose and treat disease of to prevent pregnancy.
   19. Trade name: (brand name or proprietary name) the licensed name under which a drug is solid by a specific company.

B. Pharmacodynamics:
   1. Absorption: passage of a substance into the bloodstream from the site of administration.
   2. Adverse reaction: unexpected of dangerous effect of a drug.
   3. Allergy: reactions of a cell to a substance to which it has developed antibodies.
   4. Anaphylaxis: severe allergic reaction, sometimes produces shock.
   5. Antagonism: two drugs, when given together, cause a lesser effect than one acting alone.
   6. Antibody: a substance produced by the body, which aids in fighting off germs or antigens.

Medical Terminology by Function (cont'd)

7. Biotransformation: one of the four body processes in which a substance is chemically broken down into a form that can be excreted.
8. Capillaries: very thin walled blood vessels that allow certain substances to pass through them.
9. Cell: smallest unit in the body that can keep itself alive.
10. Cyanosis: blue color to the skin because of low oxygen in the blood.
11. Depress: slow down.
12. Distribution: movement of drugs into the cell and spaces between the cells.
13. Drug abuse: taking drugs to the point that they interfere with daily routine living.
14. Drug action: the chemical changes that take place in the cells caused by a drug.
15. Drug effect: the physical change that takes place in the body cells as a result of the drug.
16. Dyspnea: difficult breathing.
17. Edema: swelling of body tissue due to excess fluid.
18. Excretion: the getting rid of waste products from the body.
19. Hypotension: low blood pressure.
20. Main effect: the therapeutic effect for which the drug is given.
21. Shock: severe reaction of the body in which blood flow is very slow and the tissue suffers from lack of oxygen.
22. Side effects: those that are not part of the treatment goal.
23. Stimulate: speed up.
24. Tolerance: a resistance to the effect of a drug.
25. Toxic: poisonous.

C. Forms and Routes of Medication:

1. Extract: drug made by removing and concentrating a substance from an animal or plant.
2. Insertion: placing an object into a body opening.
3. Instillation: placing drops into a body opening 9such as eyes, etc.)
4. Mixture: suspension made with large particles.
5. Physician's Order Sheet: the form for writing orders, which is found on the patient's chart.
6. Prescription: the physician's written order for an outpatient.
7. Self-terminating order: drug order that stops automatically after a certain time or a specific number of doses.
8. Solution: a liquid into which a drug has been dissolved.
9. Suspension: a liquid containing undissolved drug particle.
10. Syrups: heavy solutions of water and sugar (and usually flavoring) into which a small amount of drug has been mixed.
11. Tinctures: solutions of alcohol or water and alcohol, which contain only 10-20% of the active drug.

Medical Terminology by Function (cont'd)

Routes of Administration: Buccal, placed in mouth next to the cheek. Topical, applied to skin or mucous membranes. Rectal, inserted into rectum. Vaginal, inserted into vagina. Oral, given by mouth and swallowed. Sublingual, under tongue. Transdermal Patch, adhesive patch filled with medication applied to skin.

*** Parenteral (drugs given by injection) are not given by medication aides.

D. Calculating Dosages:
   1. Dram: 60 grains (a fluidram – 60 minims).
   2. Grain: basic unit of weight in the apothecaries, system.
   3. Gram: basic unit of weight in the metric system.
   4. Liter: basic unit of volume in the metric system.
   5. Milligram: one-thousandth of a gram.
   6. Milliliter: one-thousandth of a liter.
   7. Minim: basic unit of volume in the apothecaries' system.

E. Infection:
   1. Anti-infective: drug that kills or keeps germs from growing.
   2. Aseptic: free of pathogens.
   3. Benign: harmless.
   4. Cyto: cell (Cytostatic, stops cell growth. Cytotoxic, poisonous to cell).
   5. Disinfectant: substances used to clean nonliving objects.
   6. Infection: entering of the body of pathogens that cause symptoms.
   7. Leukocytes: white blood cells which destroy germ cells.
   8. Malignant: cancerous.
   9. Pathogens: harmful microbes or germs.
   10. Sulfonamide: anti-infective "sulfa-drug", synthetically made.

F. The Skin:
   1. Antifungal: drug that kills or stops growth of fungi.
   2. Anti-inflammatory: drug that reduces inflammation.
   3. Antipruritic: drug given to relieve itching.
   4. Antiseptic: drug that destroys germs on the skin.
   5. Decubitus: bedsore.
   6. Dermatitis: inflammation of the skin.
   7. Dermis: 2nd layer of skin.
   8. Epidermis: outer layer of skin.
   9. Erythema: reddening of the skin.
   10. Inflammation: body process which results in redness, heat, swelling and pain and which is a reaction to irritation.
   11. Keratolytic: drug that promotes peeling of skin.

Medical Terminology by Function (cont'd)

12. Pediculosis: infection caused by lice.
13. Scabies: infection caused by mites.
14. Sebaceous: gland that produces sweat.
15. Sudoriferous: gland that produces sweat.
16. Ulceration: open sore.
17. Urticarial: raised, itchy patches (hives or welts).

G. The Cardiovascular System:

1. Anemia: low red blood cells.
2. Angina pectoris: chest pain (due to lack of Oxygen in heart tissue).
3. Anticoagulant: drug to prevent blood from clotting.
4. Antihypertensive: drug to lower blood pressure.
5. Arrhythmia: irregular heartbeat.
6. Arteriosclerosis: hardening of the arteries.
7. Artery: blood vessels that carry blood away from the heart.
8. Atherosclerosis: fatty deposits in the blood vessels.
9. Cardiac: pertaining to the heart.
10. Coagulant (hemostatic): drug that aids clotting.
11. Contraction: tightening of muscle.
12. Coronary: pertaining to the heart vessels.
13. Hematinic: drug that stimulated production of red blood cells.
14. Hemoptysis: coughing up blood.
15. Hypertension: high blood pressure.
16. Hypotension: low blood pressure.
17. Varicose Veins: vessels in which blood has backed up causing them to be swollen.
18. Vasoconstrictor: drug that narrows vessel walls, raising B.P.
19. Vasodilator: drug that relaxes vessel walls and lowers B.P.
20. Vein: vessels that carry blood back to the heart.

H. Respiratory System:

1. Alveoli: tiny scars in the lungs, which contain capillary walls, which allow the exchange of oxygen and carbon-dioxide.
2. Antihistamine: drug that relieves allergy symptoms by reducing the effect of histamine.
3. Antitussive: drug given to relieve coughing.
4. Asthma: condition in in which bronchioles tighten due to allergy.
5. Decongestant: drug that relieves congestion in the respiratory system by drying up the mucous membranes.
6. Demulcent: drug that coats the respiratory tract and soothes it.
7. Expectorant: drug that thins mucous so that it can be coughed up.
8. IPPB: intermittent positive pressure breathing.

Medical Terminology by Function (cont'd)

9. Larynx: voice box.
10. Pulmonary: refers to the lungs.
11. Respiration: breathing.
12. Trachea: connects larynx to bronchi.

I. Sensory and Nervous System:

1. Anticonvulsant: drug used to control or prevent seizures.
2. Anxiolytic: this type of drug produces calmness without depressing the brain.
3. Cerebral: refers to brain.
4. Cerebrovascular accident: a stroke, bleeding or clot in the brain.
5. Cerumen: ear wax.
6. CNS: central nervous system, consists of brain and spinal cord.
7. Convulsion: a seizure in which there is uncontrolled muscle movement.
8. Depression: a feeling of hopelessness, which can result in inability to carry on daily activities.
9. Eardrum: membrane that transmits sound from outer to middle ear.
10. Hypnotic: drug given for sleep, it depresses CNS.
11. Hypoxia: reduced oxygen in the body tissues.
12. Lacrimal gland: one which produces tears.
13. Narcotics: a group of pain relieving drugs that can easily become addictive.
14. Neuron: a nerve cell.
15. Optic: refers to eyes or process of seeing.
16. Otic: refers to the ear or sense of hearing.
17. Psychosis: a psychological disease in which there is a loss of a person's touch with reality.
18. Sedative: a drug that calms the patient and slows brain activity.
19. Senses: ability of sight, smell, hearing, taste and touch.
20. Spinal cord: part of CNS.
21. Tremor: trembling.
22. Vertigo: dizziness.

J. Endocrine System:

1. Adrenal glands: sit on top of each kidney, produce epinephrine and corticosteroids.
2. Diabetes mellitus: a disease in which the body cannot burn sugar (use it) due to the lack of insulin.
3. Glycosuria: sugar in the urine.
4. Hormone. A substance secreted by a gland which regulates many body functions.
5. Hyperglycemia: high blood sugar.
6. Hypoglycemia: low blood sugar.
7. Insulin: a hormone produced by the pancreas, which regulates the metabolism of sugar in the body.

Medical Terminology by Function (cont'd)

8. Insulin shock: low blood sugar caused by too much insulin, the opposite of which id Diabetic coma.
9. Oral hypoglycemic: drugs used to stimulate the pancreas to produce more insulin. Insulin, itself, is obtained from animals and can be given by injection only.
10. Parathyroids: glands (4) which help to control the calcium level in the blood.
11. Pituitary: gland which produces many hormones, some of which stimulate other glands to produce their hormones.
12. Tetany: condition in which a low calcium in the blood results in severe muscle spasms.
13. Thyroid: gland located in the neck, which produces thyroxine (this controls body metabolism).

K. Muscular System and Skeletal System:
1. Arthritis: disease of the joints (gout, osteoarthritis, rheumatoid arthritis).
2. Bursa: small sacs that prevent bones and muscles from rubbing together.
3. Ligaments: cord like tissue that connect bones.
4. Skeletal muscles: those which aid body movement.
5. Tendons: heavy bands of tissue that connect muscle to bone.
6. Uric acid: one of the waste products of cell metabolism, in Gout, there is an excess of this acid.
7. It is: a suffix (ending of a word) which means "inflammation".

L. Reproductive System:
1. Uterus: organ of female where fetus remains during pregnancy.
2. Cervix: entrance to the uterus.
3. Estrogen: female hormone.
4. Menopause: normal end of menstruation.
5. Ovaries: female organs which produce ovum, these are fertilized by sperm to produce pregnancy.
6. Progesterone: female hormone.
7. Prostrate: gland of male that surround the urethra.
8. Testes: male sex glands.
9. Testosterone: male hormone.
10. Vagina: part of the female anatomy that links the uterus with the outside, canal through which a baby is delivered.

M. Urinary System:
1. Acidifier: drug to make the body more acid; opposite of alkalizer.
2. Anuria: no production of urine by the kidneys.
3. Bladder: muscular pouch for the storage of urine.
4. Cystitis: inflammation of bladder.
5. Dehydration: too little water in the body tissue.

Medical Terminology by Function (cont'd)

6. Diuretic: drug that increases urinary output.
7. Dysuria: painful urination.
8. Electrolytes: substances such as sodium, potassium and calcium, which are absorbed into the kidneys from the blood and are important in the regulation of fluid in the body.
9. Hematuria: blood in the urine.

Caused

10. Hyper-Hypocalcemia: high or low calcium in the blood.
11. Hyper-Hypokalemia: high or low potassium in the blood.
12. Hyper- Hyponatremia: high or low sodium in the blood.
13. Nephritis: inflammation of kidneys.
14. Pyelonephritis: kidney infection.
15. Pyuria: pus in urine.
16. Retention: inability to urinate.
17. Ureters: the tubes, one from kidney, that carry urine to the bladder.
18. Urethra: small tube that leads from the bladder to outside body.
19. Urination: the controlled release of urine from the body (voiding).
20. Urine: the liquid waste that is collected by the kidneys.

N. Gastrointestinal System:

1. Anal rectal ridge: ring of muscle that is located 3 to 4 inches inside anal opening. Rectal suppositories are inserted past it.
2. Antacid: drug used to neutralize stomach acid.
3. Anthelmintic: drug for ridding the body of parasites.
4. Antidiarrheal: drug that slows down intestinal motility.
5. Antiemetic: drug to relieve nausea and vomiting.
6. Anus: distal end of G.I. tract.
7. Bile: digestive juice that helps to digest fats. It is stored in the gallbladder after being produced by the liver.
8. Carminative: drug to aid in digestion.
9. Digestant: drug to aid in digestion.
10. Emesis: vomiting.
11. Esophagus: muscular tube leading from mouth to stomach.
12. Feces: solid waste products.
13. Gastric: refers to stomach.
14. Intestinal motility: movement of smooth muscles lining G.I. tract.
15. Jaundice: yellow coloring to skin.
16. Liver: very important organ, located in abdominal cavity which filters blood, stores and releases nutrients, biotransforms many substances, including drugs.

Medical Terminology by Function (cont'd)

17. Pancreas: organ that produces digestive enzymes, releases them into the duodenum, and secretes insulin into bloodstream.
18. Peristalsis: regular contractions of the muscular lining of G.I. tract, thus moving food and waste through the system.
19. Rectum: latter portion of the large intestines.
20. Saliva: digestive juice secreted in the mouth, which aids in food digestion by breaking down some sugars, coats food.
21. Tarry stool: black colored feces that may indicate bleeding.
22. Villi: finger-like projections in the lining of the intestine that absorbs nutrients.

O. Gerontology:
1. Geriatrics: study of diseases of old age.
2. Gerontology: the study of the process of aging and the problems this process presents.

UNIT XX – REFERENCES

Important Websites and Phone Numbers

Eight Rights of Medication Administration
http://www.nursingcenter.com/Blog/post/2011/05/27/8-rights-of-medication-administration.aspx

American Association of Poison Control Centers
1-800-222-1222

Centers for Disease Control (CDC) and Prevention – Infection Control
http://www.cdc.gov

CDC - Water, Sanitation, & Environmentally-related Hygiene
http://www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html

Center for Medicare and Medicaid Services (CMS)
For Federal Long Term Care Regulations Forms, see the following website:
http://www.cms.gov/Medicare/CMS-Forms/CMS-Forms/CMS-Forms-List.html

CMS - Information regarding Survey Protocols, etc. such as Standard Operating Manual (SOM), see the following website:
https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf

CMS - Information regarding Survey & Certification
http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/index.html

CMS - General contact information via the web @
http://www.cms.gov/ or by phone 1-800-MEDICARE.

CMS - Minimum Data Set (MDS) Manual:
http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/MDS30RAIManual.html

Drug References
www.drugs.com
www.epocrates-drugs.com

Health Insurance Portability and Accountability Act of 1996 (HIPAA)
www.hhs.gov/ocr/privacy/

U.S. Food and Drug Administration (FDA) Drug Legislation
www.fda.gov

APPENDICES

Appendices

Brand:

Generic:

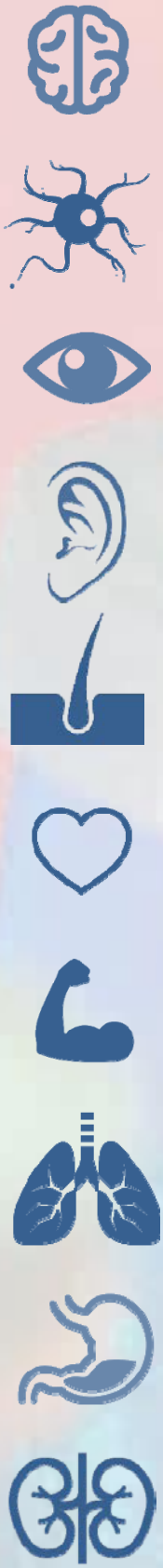
SIDE EFFECTS:

ROUTE:

CATEGORY(FDA):

PURPOSE:

SAFETY CONSIDERATIONS?



LEGEND

SCHEDULED

NON-LEGEND

WARNINGS? WARNINGS? WARNINGS?

Warning labels can cause confusion.

Please refer to the following websites for current medication listings for use in this course.

Drug references
www.drugs.com
www.epocrates-drugs.com

PowerPoint game instruction for *Jeopardy* (Activity #4)

The *Jeopardy* game is a PowerPoint presentation template that is converted into a game-style format intended for two teams.

To activate the game features that make sounds (such as the button sound effects on the lower right of the slides) the Instructor must operate the file in slide show mode.

Open the file. On the document's user interface ribbon (located at the top of the screen), select the slide show option and either launch from the beginning or from the current slide, depending on presentation needs in the moment.

As the Instructor and game show host, be sure to practice with this file to easily navigate the many dynamic features. Round one has a total of 71 slides that cover six F-tag categories. Some slides will function as graphic introductory slides (such as the *Daily Double or Final Jeopardy* slides) to make the game show fun and lively.

Please note the printout of the entire game presentation in the *Instructor Manual* section. Use the answer key for questions as you navigate with players. Use the printed copy to follow along with the on-screen game. If a team member calls out an answer, you will need to have the answer available to know whether to award the point or ask the opposing player for their answer. If you advance the slide, the answer immediately displays for players on the question in progress.

When you launch the game in slide show mode, the first title slide will display the game introduction slide (with the theme music) for *Jeopardy*. If left alone, this slide will display the game show title and play the theme song music for several seconds. The slide will automatically advance to the first question in Round one. Hit **enter** to advance to the next slide instead of waiting for all of the music to catch up.

Practice navigating back and forth through the question rounds in the event that a slide advances too far ahead or there is a need to back up to the previous slide. In other words, spend time trying this out **before** class day, so you are familiar with all of the game features.

See the slide/game board layout on the following page. In the lower right corner of all slides in round one, notice the circle with the red X in it. As Instructor/Game Host, click this icon if any answer is incorrect (based on the answer key you also have in hand). When an answer is incorrect, and the X is clicked, it will activate one of the three Xs in the upper right corner of the slide.

If the answer given by the team matches a response in the answer key (that you have in hand), select the matching panel so it will visually display on screen.

Click more sound effect buttons in the lower right corner of each slide (e.g., theme, timer, correct, wrong, boo and silence) depending on the appropriate response needed during the game.

Jeopardy Game Template

Introduction Slide

Questions and answers for the full *Jeopardy* game template are available in the Instructor Manual.

COMMON INFECTIOUS DISEASES
PRECAUTIONS FOR INFECTIOUS DISEASES IN THE LONG-TERM CARE FACILITY

The following is a list of the most common infection diseases that are likely to be found in long-term care facilities. Precautions recommended and the infection period duration have been derived from the current CDC guidelines and recommendations. For more information please got to the CDC website at http://www.cdc.gov/

Types of Precautions: A-Airborne, C-Contact, D-Droplet, S-Standard
When A, C, OR D are specified, also use S

APPENDIX A1

TYPE AND DURATION OF PRECAUTIONS RECOMMEND FOR SELECTED INFECTIONS AND CONDITIONS

Infection or Condition	Precaution							
	Type of Precaution	Private Room	Mask	Gown	Gloves	Infective Material	Duration	Comments
Abscess, draining minor	S	No	No	Yes, if soiling is likely	Yes	Pus	Duration of illness	Dressing adequately contains the pus
Abscess, draining major	C	Yes, if drainage is not contained	No	Yes	Yes	Pus	Duration of illness	Dressing does NOT contain the pus
Acquired Immunodeficiency Syndrome (AIDS)	S	Yes, if residents hygiene is poor	No	Yes, if soiling is likely	Yes, for touching infective material; when handling feces if GI bleeding is likely; if there are open wounds	Blood and body fluids	Duration of illness	Use caution when handling blood and blood soiled articles; avoid needle stick
Amebiases Dysentery	S	Yes, if resident's hygiene is poor	No	Yes, if soiling is likely	Yes, for touching infective material	Feces	Duration of illness	
Bronchitis, Adult	S	No	No	No	No	Respiratory Secretions		
Candidiasis, all forms	S	No	No	No	No			
Cellulitis	S	No	No	Yes, if soiling is likely	Yes, for touching infective material	Pus	Duration of illness	Dressing covers and adequately contains the pus

Infection or Condition	Precaution							
Cellulitis, Drainage	C	No	No	Yes, if soiling is likely	Yes, for touching infective material	Pus	Duration of illness	Dressing does not cover and or does not adequately contains the pus
Chickenpox (Varicella)	A, C	Yes	Yes	Yes	Yes	Respiratory secretions and lesions	Until all lesions are crusted	Susceptible people should stay out of the room
Chlamydia - Genital	S	No	No	No	Yes, for touching infective material	Genital discharge	Duration of illness	
Chlamydia - Resipiratory	S	No	No	No	Yes, for touching infective material	Respiratory Secretions	Duration of illness	
Chlamydia - Trachomatous Conjunctivitis	S	No	No	No	Yes, for touching infective material	Purulent exudate	Duration of illness	
Common Cold	S	No	No	No	No	Respiratory secretions	Duration of illness	
Conjunctivitis:								
Acute Bacterial	S							
Chlamydia	S							
Gonococcal	S							
Acute Viral (acute hemorrhagic)	C	No	No	No	Yes, for touching infective material	Eye secretions	Duration of illness	
Creutzfeldt-Jakob disease	S	No	No	No	Yes, for touching infective material	Blood, brain tissue and spinal fluid	Duration of illness	Use caution when handling blood, brain tissue, or spinal fluid
Decubitus ulcer (major, draining, infected)	C	Yes, if drainage is not contained	No	Yes, if soiling is likely	Yes, for touching infective material	Pus	Duration of illness	Dressing does NOT adequately contain the pus
Decubitus Ulcer (minor, draining, infected)	S	No	No	Yes, if soiling is likely	Yes, for touching Infective material	Pus	Duration of illness	Dressing covers and adequately contains the pus, or infected area is very small.

Infection or Condition	Precaution							
Diarrhea, acute	S	Yes, if resident's hygiene is poor	No	Yes, if soiling is likely	Yes, for touching infective material	Feces	Duration of illness	PLEASE NOTE: If C-Diff is suspected you must initiate precautions until C-Diff can be ruled out.
Diarrhea - Clostridium Difficile (C-Diff)	C	Yes, if not available may Cohort with resident who has C-diff	No	Yes, if soiling is likely	Yes, for touching infective material	Feces	Duration of illness	PLEASE NOTE: If C-Diff is suspected (lab test' ordered to r/o), you must initiate contact precautions immediately and continue until test results rule out or for duration of illness.
Diphtheria (cutaneous)	C	Yes, if not available may cohort	No	Yes, if soiling is likely	Yes, for touching infective material	Lesion secretions	Until 2 cultures from the skin lesions taken at least 24 hours apart after the cessation of antimicrobial therapy are negative for Corynebacterium Diphtheria	
Diphtheria (pharyngeal)	D	Yes, if not available may cohort	Yes	Yes, if soiling is likely	Yes, for touching infective material	Respiratory Secretions	Until 2 cultures from both nose and throat, taken at least 24 hours after the cessation of antimicrobial therapy are negative	
Enterocolitis	S	Yes, if resident's hygiene is poor	No	Yes, if soiling is likely	Yes, for touching infective material	Feces	Duration of Illness	For C-Diff see Diarrhea-C-Diff
Fever of Unknown Origin	S	No	No	No	No			
Gastroenteritis, all types Except C-Diff	S	Yes, if resident's hygiene is poor	No	Yes, if soiling is likely	Yes, for touching infective material	Feces	Duration of illness	

Infection or Condition	Precaution							
German Measles (Rubella)	D	Yes	Yes, for those close to the resident	Yes, for close contact with the resident	Yes, for touching infective material	Respiratory secretions	For 7 days after the onset of the rash	Pregnant women should have NO contact with resident
Hepatitis, Viral - Type A	S							
Hepatitis, Viral - Type A, Diapered or incontinent resident	C						One week after onset of symptoms	
Hepatitis, Viral - Type B	S							
Hepatitis, Viral - Type C	S							
Herpes Simplex, recurrent (skin, oral, genital)	S	No	No	No	Yes for touching infective material	Lesion secretions from infected site	Until all lesions are crusted	
Herpes Zoster (varicella-zoster) (Shingles): localized in immuno-compromised-disseminated	A, C	Yes, if airborne precautions	Yes	Yes	Yes, for touching infective material	Lesion secretions and possible respiratory secretions	Duration of illness	Exposed susceptible residents should be on isolation precautions beginning at 10 days after exposure and continuing until 21 days after last exposure
Herpes Zoster (varicella-zoster) (Shingles): localized in normal resident	S	Yes, if resident's hygiene is poor	No	No	Yes, for touching infective material	Lesion secretions	Until all lesions are crusted	Person susceptible to chickenpox should stay out of the room.
Influenza, adults	D	Yes, if available or may cohort	Yes, for those close to the resident	Yes, for close contact with the resident	Yes, for touching infective material	Respiratory secretions		If private room or cohorting is not an option keep a distance between the infected resident, roommate, and visitors of approx. 3 feet. Mask resident when transporting out of room.

Infection or Condition	Precaution							
Legionnaires' Disease	S	No	No	No	No	Respiratory secretions		Not transmitted person to person
Head Lice	C	No	No	Yes, when initial contact is made	Yes, when initial contact is made	Hairbrushes, caps, scarfs, coats	Until 24 hours after initiation of effective therapy	Residents should remain in room during the treatment period. Wash all clothing and bedding separately from other facility linen/laundry, washing at temperature of 160° or greater for 5-10 minutes. Disinfect combs / hairbrushes with medicated shampoo. Store non-washable items in a sealed plastic bag for 10-14 days.
Body Lice	S	No	No	Yes, when initial contact is made	Yes, when initial contact is made			Transmitted person to person through infested clothing; bag and wash cloths according to CDC guidance above
Pubic Lice	S	No	No					Transmitted person to person through sexual contact.

Infection or Condition	Precaution							
Measles (Rubeola)	A	Yes	Yes, for those close to the resident	No	No	Respiratory secretions	For 4 days after the start of the rash	Person susceptible to measles should stay out of the room.
Multiple Resistant organisms: MRSA; VRE; other bacteria resistant to penicillin								
*Colonized or Contained	S*	No	No	Yes, if soiling is likely	Yes, for touching infective material	Respiratory secretions, urine, and possibly feces*	Until antimicrobials culture is negative*	In outbreaks, cohorting of infected or colonized residents may be indicated if private rooms are not available
**Infected or Not Contained	C**	Yes, may cohort				Infected area, pus, secretions, and possible feces**	Until antimicrobials culture is negative, colonized, or contained**	
Pneumonia (bacteria)	S	No	No	No	No	Respiratory secretions		
Pneumonia (Haemophilus influenzae)	S	No	No	No	No	Respiratory secretions		
Pneumonia (S. aureus)	S	No	Yes	Yes, if soiling is likely	Yes, for touching infective material	Respiratory secretions	For 48 hours after start of therapy	
Pneumonia (viral)	S	No	No	No	No	Respiratory secretions		
Ringworm	S	No	No	No				
Scabies	C	Yes, if resident's hygiene is poor	No	Yes, wear long sleeve gowns for close contact	Yes, wear gloves pulled up over the wrist area of the gown's sleeve.	Skin, bed linens and clothing.	Until 24 hours after start of effective therapy	
Shcistosomiasis	S	No	No	No	No			
Staphylococcal dis. (minor)	S	No	No	Yes, if soiling is likely	Yes, for touching infective material	Pus	Duration of illness	Dressing adequately contains the pus

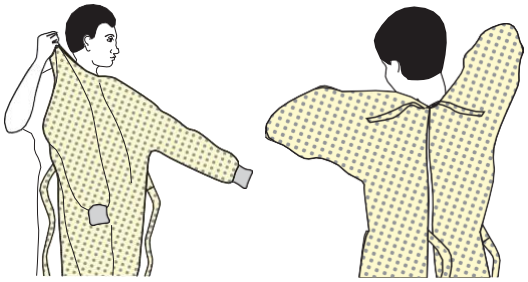
Infection or Condition	Precaution							
Staphylococcal dis. (skin wound, major)	C	Yes, if drainage is not contained	No	Yes, if soiling is likely	Yes, for touching infective material	Pus	Duration of illness	Dressing does not adequately contain the pus
Syphilis (latent w/o lesions)	No	No	No	No				
Tapeworm	S	No	No	No	No	Feces (maybe)		
Tetanus	S							
Trench Mouth (Vincent's angina)	S	No	No	No	No			

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist

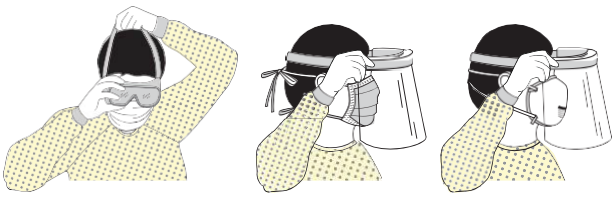


2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

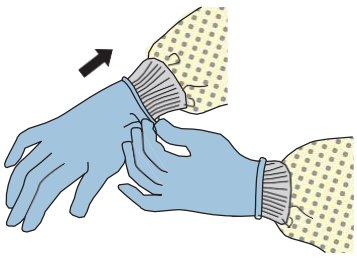
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

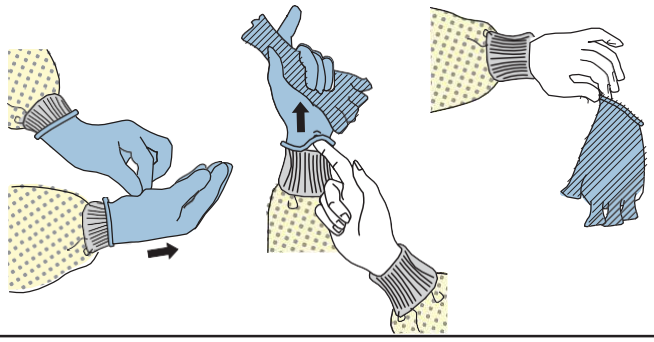
CDC
Centers for Disease Control and Prevention

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

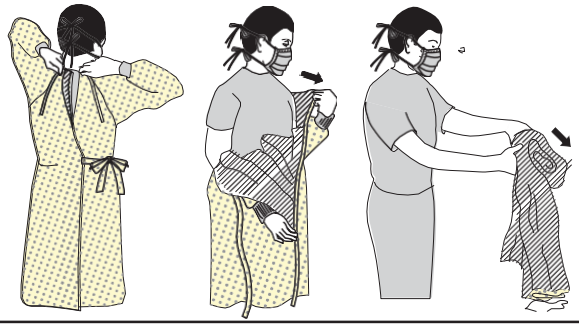


2. GOGGLES OR FACESHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

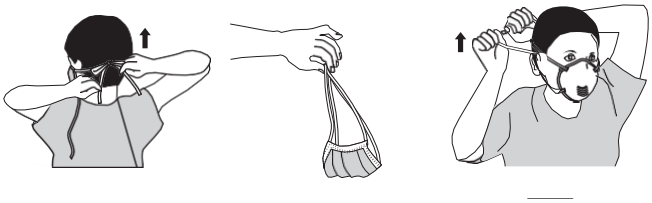
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

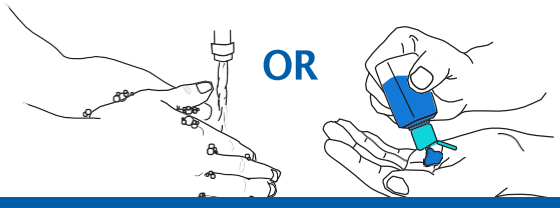


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



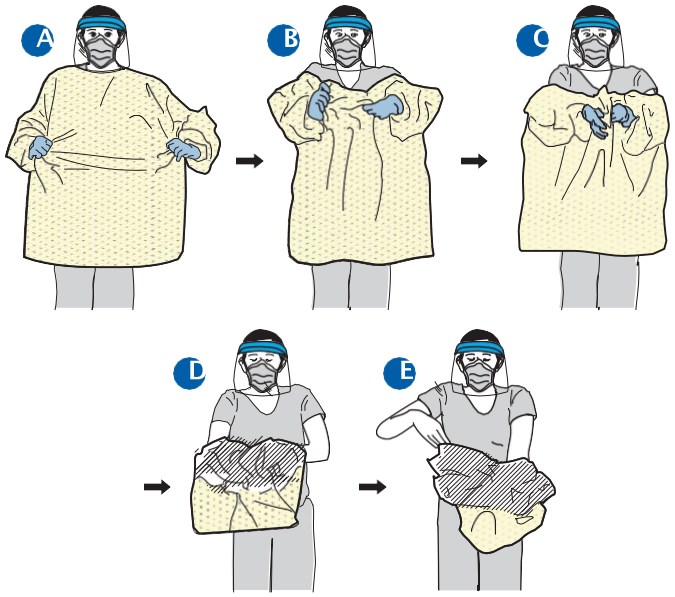
PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

HOWTO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWNAND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container

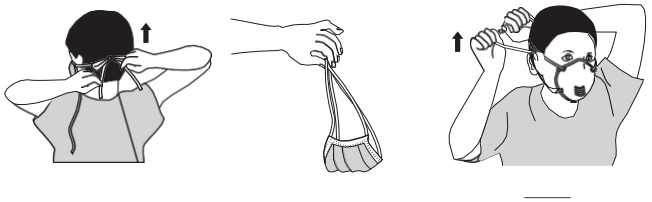


2. GOGGLES OR FACESHIELD

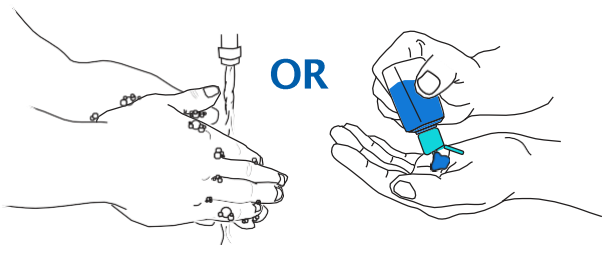
- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALLPPE

SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required; e.g., Standard and Contact, Droplet or Airborne Infection Isolation.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist

2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated

SECUENCIA PARA PONERSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

El tipo de PPE que se debe utilizar depende del nivel de precaución que sea necesario; por ejemplo, equipo Estándar y de Contacto o de Aislamiento de infecciones transportadas por gotas o por aire.

1. BATA

- Cubra con la bata todo el torso desde el cuello hasta las rodillas, los brazos hasta la muñeca y dóblela alrededor de la espalda
- Átesela por detrás a la altura del cuello y la cintura

2. MÁSCARA O RESPIRADOR

- Asegúrese los cordones o la banda elástica en la mitad de la cabeza y en el cuello
- Ajústese la banda flexible en el puente de la nariz
- Acomódesela en la cara y por debajo del mentón
- Verifique el ajuste del respirador

3. GAFAS PROTECTORAS O CARETAS

- Colóquesela sobre la cara y los ojos y ajústela

4. GUANTES

- Extienda los guantes para que cubran la parte del puño en la bata de aislamiento

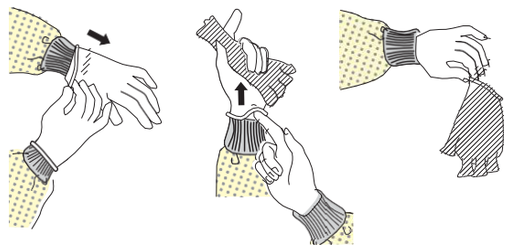
- Mantenga las manos alejadas de la cara
- Limite el contacto con superficies
- Cambie los guantes si se rompen o están demasiado contaminados

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glove
- Discard gloves in waste container

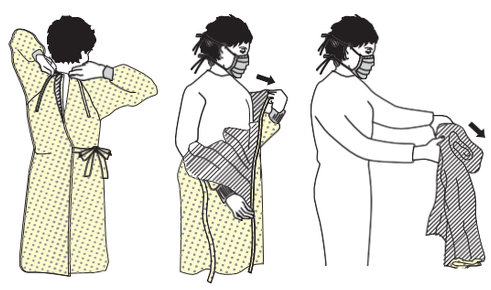


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container

3. GOWN

- Gown front and sleeves are contaminated!
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container

SECUENCIA PARA QUITARSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

Con la excepción del respirador, quítese el PPE en la entrada de la puerta o en la antesala. Quítese el respirador después de salir de la habitación del paciente y de cerrar la puerta.

1. GUANTES

- ¡El exterior de los guantes está contaminado!
- Agarre la parte exterior del guante con la mano opuesta en la que todavía tiene puesto el guante y quíteselo
- Sostenga el guante que se quitó con la mano enguantada
- Deslice los dedos de la mano sin guante por debajo del otro guante que no se ha quitado todavía a la altura de la muñeca
- Quítese el guante de manera que acabe cubriendo el primer guante
- Arroje los guantes en el recipiente de deshechos

2. GAFAS PROTECTORAS O CARETA

- ¡El exterior de las gafas protectoras o de la careta está contaminado!
- Para quitárselas, tómelas por la parte de la banda de la cabeza o de las piezas de las orejas
- Colóquelas en el recipiente designado para reprocesar materiales o de materiales de deshecho

3. BATA

- ¡La parte delantera de la bata y las mangas están contaminadas!
- Desate los cordones
- Tocando solamente el interior de la bata, pásela por encima del cuello y de los hombros
- Voltee la bata al revés
- Dóblela o enróllela y deséchela

4. MÁSCARA O RESPIRADOR

- La parte delantera de la máscara o respiradorestá contaminada — ¡NO LA TOQUE!
- Primero agarre la parte de abajo, luego los cordones o banda elástica de arriba y por último quítese la máscara o respirador
- Arrójela en el recipiente de deshechos

CUALQUIER EQUIPO DE PROTECCIÓN PERSONAL

APPENDIX I/Activity #9: Do not mar the MAR!

MEDICATION ADMINISTRATION RECORD (MAR #1)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11
Coumadin 5 mg												
Take 1 tablet by mouth;												
every other day. (02/11/17)												
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11
Lanoxin 0.125 mg												
Take 1 tablet by mouth daily												
Chk pulse before; hold if												
pulse < 60BPM (02/22/17)												
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11
Amoxicillin 250 mg												
Take 1 capsule by mouth;												
3 times daily for 10 days;												
(02/18/2017)												
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11
Lasix 40 mg; Take 1 tablet												
by mouth twice daily												
(02/11/17)												
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11

CHARTING FOR MONTH OF:
THROUGH:
PHYSICIAN:
PHYSICIAN PH:
ALT. PHYSICIAN:
ALT. PHYSICIAN PH:
MEDICAL RECORD

ALLERGIES:
REHAB POTENTIAL:
DIAGNOSIS:
ADMISSION DATE:
RESIDENT NAME:
DATE OF BIRTH:
UNIT/ROOM #:

APPENDIX J/Activity #10: This MAR is from MARS!

MEDICATION ADMINISTRATION RECORD (MAR #2)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12
Aricept; 300 mg ; take one tablet/daily	8am				TJ	TJ						CF	
take one tablet/daily	8pm	CF	CF	TJ	TJ	TJ	CF	CF	TJ	TJ	CF	CF	
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12
Lasix 40 mg.; 1 tablet every 8 hours	8am	CF	CF	TJ	TJ	TJ	CF	CF	TJ	TJ	CF	CF	
	8pm			TJ	TJ	TJ	CF	CF	TJ	TJ			
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12
Dulcolax; 100 mg; 1 tablet once daily	8pm	CF	CF	TJ	TJ	TJ	CF	CF	TJ	TJ	CF	CF	
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12
Bactrim (Sulfamethoxazole-trimethoprim)	8am	CF	CF	TJ	TJ	TJ	CF	CF	TJ	TJ	CF	CF	
80 mg; Take one tablet twice daily	3pm	CF	CF	TJ	TJ	TJ	CF	CF	TJ	TJ	CF	CF	
for UTI.													

CHARTING FOR MONTH: 2/1/15
THROUGH: 3/1/15
PHYSICIAN: Dr. Oscar Ramirez
PHYSICIAN PH: 512-222-2222
ALT. PHYSICIAN: Dr. Wendy Hall
ALT. PHYSICIAN PH: 512-333-3333
MEDICAL RECORD: 8001763-B

ALLERGIES: Sulfa
REHAB POTENTIAL: ROM
DIAGNOSIS: AD (late)
ADMISSION: 1/18/15
RESIDENT NAME: Ellie Thompson
DATE OF BIRTH: 3/28/1950
UNIT/ROOM #: 100/115-B

APPENDIX K/Activity #11: CARDIOVASCULAR SYSTEM

MEDICATION ADMINISTRATION RECORD (MAR #3)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Furosemide 40 mg	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 tablet twice daily (every														
8 hours)	8pm	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Lanoxin 0.125 mg	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 tablet by mouth daily														
Chk pulse before; hold if														
pulse < 60BPM (2/01/15)	Pulse	72	65	68	72	70	62	62	65	70	62	62		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Vicodin; take 1 tablet by mouth	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
once daily as needed for pain;														
500 mg; no more than ten days	8pm	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ		
(02/01/15)														
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Warfarin; 5 mg; take once daily	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
in the a.m. (labs every five days														
to monitor dosage)														
	Labs	CF												
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Nitrostat; .4mg; one tablet PRN;														
dissolve under tongue or against														
cheek for sudden Angina/chest	8pm				CF							TJ		
pain														
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Aldactone; 100 mg tablet;	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
take once a day in the a.m.														

CHARTING FOR MONTH OF: 02/01/15
THROUGH: 03/01/15
PHYSICIAN: Dr. Tom Harris
PHYSICIAN PH: 512-444-4444
ALT. PHYSICIAN: Dr. Eldon Farragut
ALT. PHYSICIAN PH: 512-555-5555
MEDICAL RECORD: 912366-F

ALLERGIES: None
REHAB POTENTIAL: PT for lumbar fracture
DIAGNOSIS: Mild dementia; CHD; lumbarfracture
ADMISSION DATE:1/1/15
RESIDENT NAME: Bill King
DATE OF BIRTH: 2/19/35
UNIT/ROOM #: 300/300-A

APPENDIX L/Activity #12: RESPIRATORY SYSTEM

MEDICATION ADMINISTRATION RECORD (MAR #4)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Oxygen continuous; 2 litres	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Daily for Hypoxia/COPD														
(min. of 15 hours)														
	8pm	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Montekulast; 10 mg	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 tablet by mouth twice daily;	8pm	CF		CF	CF			CF	CF		CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Albuterol; 200 mcg. every 4-6 hours;	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
	8pm	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ		
		70	70	68	65	65	68	68	70	68	70	70		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Prednisone; 30 mg daily for 5 days;	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
taper dose daily as indicated: Day 1-														
30 mg, Day 2-30 mg, Day 3- 20 mg,														
Day 4-10mg, Day 5-5mg														

CHARTING FOR MONTH OF: 02/01/15
THROUGH: 03/01/15
PHYSICIAN: Dr. Nell Compton
PHYSICIAN PH: 512-111-1111
ALT. PHYSICIAN: Dr. Susan Montgomery
ALT. PHYSICIAN PH: 512-555-5555
MEDICAL RECORD: 82822-B

ALLERGIES: None
REHAB POTENTIAL:
DIAGNOSIS: COPD/chronicAsthma
ADMISSION DATE:3/17/13
RESIDENT NAME: Louise Lewis
DATE OF BIRTH: 12/21/43
UNIT/ROOM #: 200/212-B

APPENDIX M/Activity #13: DIGESTIVE SYSTEM

MEDICATION ADMINISTRATION RECORD (MAR #5)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Vancomycin; 250 mg.	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 capsule twice daily for ten days;														
	8pm	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Flagyl; 250 mg.	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take two tablets once daily														
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Prilosec; 20 mg.	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take twice daily, PRN														
	8pm	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
ALIGN Probiotic;	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 capsule twice daily	8pm	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Extra fluids	8am	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF			
	8pm	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF			

CHARTING FOR MONTH OF: 02/01/15
THROUGH: 03/01/15
PHYSICIAN: Dr. Gray Cullen
PHYSICIAN PH: 512-777-7777
ALT. PHYSICIAN: Dr. Samantha Green
ALT. PHYSICIAN PH: 512-444-4444
MEDICAL RECORD: 21822-E

ALLERGIES: None
REHAB POTENTIAL:
DIAGNOSIS: Inflammatory Bowel Disease/C-Diff
ADMISSION DATE:10/11/11
RESIDENT NAME: Larry Summers
DATE OF BIRTH: 5/19/37
UNIT/ROOM #: 400/410-A

APPENDIX N/Activity #14: CENTRAL NERVOUS SYSTEM

MEDICATION ADMINISTRATION RECORD (MAR #6)

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Lexapro; 10 mg tablet	8am	CF		CF	CF						CF	CF		
Take 1 tabet once daily in the a.m.														
(same time per dosage)	8pm		TJ			TJ	TJ	CF	CF	TJ				
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Lasix; 40 mg tablets;	8am	CF	TJ	CF	CF	TJ	TJ	CF	CF	TJ	CF	CF		
Take 1 tablet 2x daily (every 12 hrs.).			CF	CF	TJ		CF	CF	TJ	CF	CF			
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Coumadin; 5 mg tablet; Take 1 tablet	8am	CF	TJ	CF	CF	TJ		CF	CF		CF	CF		
daily at the same time (a.m.).	2pm						TJ			TJ				
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13
Aricept; 5 mg tablet (dissolve)	8am	TJ				TJ								
Take 1 tablet at bedtime.	8pm		CF	CF	TJ		CF	CF	TJ	CF	CF			

CHARTING FOR MONTH OF: 02/01/15
THROUGH: 03/01/15
PHYSICIAN: Dr. Gilbert Sanchez
PHYSICIAN PH: 512-211-2111
ALT. PHYSICIAN: Dr. Elizabeth Greer
ALT. PHYSICIAN PH: 512-322-3222
MEDICAL RECORD: 11837-D

ALLERGIES: None
REHAB POTENTIAL:
DIAGNOSIS: CHD, Alzheimer's Disease
ADMISSION DATE:6/30/14
RESIDENT NAME: Dorothy Shaw
DATE OF BIRTH: 11/3/31
UNIT/ROOM #: 100/117-A