SALVATION ACADEMY

MEDICATION AIDE STUDY MATERIALS

FOR

REGISTERED MEDICATION AIDES

STUDENTS

COMMONWEALTH OF VIRGINIA

BY

BOARD OF NURSING

Adopted January 24, 2007

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MEDICATION AIDE TRAINING INSTRUCTOR'S MANUAL

TABLE OF CONTENTS

SUBJECT **PAGE**

INTRODUCTION

The Medication Aide Training Curriculum for Registration of Medication Aides has been approved by the Board of Nursing. The laws and regulations require that all medication aides working in Assisted Living Facilities be registered with the Board of Nursing by July 1, 2008 (extended to December 31, 2008, then to August 1, 2009).

This is a 68 hour curriculum. Sixty-eight (68) hours is the **minimum** number of hours required to train medication aides for registration with the Board of Nursing, to work in Assisted Living Facilities. It is up to the discretion of the instructor to determine if more hours are required to train the students in each individual class. Additional hours can be added to meet the needs of the students.

The **minimum** 68 hour requirement includes:

- 40 hours in the classroom, teaching
- 8 hours of diabetic-specific training
- 20 hours of clinical training:
    - No more than 10 students per instructor
    - Clinical experience must be in an assisted living facility.
    - Maximum number of simulation hours is 20% (4 hours)

The content of this curriculum is written in clear and simple language and reflects current recommended best practices.

The curriculum is divided into eight chapters:

CHAPTER 1 – LEGAL AND ETHICAL ISSUES – Provides information on laws and regulations governing medication management in Virginia Assisted Living Facilities. Legal and ethical issues include confidentiality, client rights, and issues regarding abuse and neglect.

CHAPTER 2 – PREPARING FOR SAFE ADMINISTRATION OF MEDICATION – A review of topics included in the pre-requisite training. Information on International Time and the Five Rights of Medication Administration may be new material for students.

CHAPTER 3 – INTRODUCTION TO PHARMACOLOGY – Provides elementary information on pharmacology. Topics include how drugs are classified, purposes and effects of drugs, medical terminology and abbreviations related to drug administrations, and how to use drug information resources.

CHAPTER 4 – ADMINISTRATION OF PREPARED INSTILLATIONS AND TREATMENTS – Describes procedures for administering medications by various routes, including inhalation therapy and the administration of epinephrine in emergency situations.

CHAPTER 5 – DOCUMENTATION – Provides information on the different types of medication orders. Explanation is provided on how to receive oral orders from health care providers, how to transcribe the orders onto the Medication Administration Record and on how to document medications administered, medication exclusions, and medication errors.

CHAPTER 6 – STORAGE AND DISPOSAL OF MEDICATIONS – Includes guidelines for storing and securing and disposing of medications, including controlled substances.

CHAPTER 7 – SPECIAL ISSUES IN MEDICATION ADMINISTRATION – Provides information on special issues related to the care of the elderly and of the cognitively impaired client. Included is basic information on the use of psychotropic drugs, the 'Beer's List' of medications, and how to avoid the use of chemical restraints. Issues related to over-the-counter medications and herbal preparations are also addressed.

CHAPTER 8 - INSULIN ADMINISTRATION – This eight hour module provides descriptions of the types of diabetes, complications related to diabetes, and the types of insulin. Instruction is provided on how to perform finger-stick for glucose monitoring and how to administer insulin by injection.

The use of this curriculum does not ensure eligibility for registration as a medication aide by the Virginia Board of Nursing unless use is by a Board-approved program provider.

ACKNOWLEDGEMENTS

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CHAPTER 1 LEGAL AND ETHICAL ISSUES

OBJECTIVES

1.1 Identify legal and ethical issues in medication management

1.2 Recognize the implication of client's rights regarding medications, treatment decisions, and confidentiality

1.3 Identify laws and regulations relating to administration of medication in Virginia assisted living facilities

1.4 Identify permitted practices and identify acts prohibited by Medication Aides in Virginia

1.5 Identify legal requirement to report client abuse, neglect or exploitation

PERFORMANCE OBJECTIVE

Upon completion of Chapter One, the student will be able to define terms and identify ethical and legal issues, laws and standards relating to administration of medications in Virginia Assisted Living Facilities (ALFs), and the implication of these standards for Medication Aides. Students will be able to demonstrate understanding of this chapter by completing a written test with 80% accuracy.

KEY TERMS

abuse	**ALF**	**APS**	**BON**
BOP	**CE**	**DSS**	**ethical standards**
Exploitation	**ISP**	**legal standards**	**liable**
neglect	**Resident's Bill of Rights**	**UAI**	

Information for this chapter comes directly from the Department of Social Services and the Board of Nursing Regulation that govern registered medication aides in assisted living facilities. *These documents need to be printed at the beginning of each course to be used with teaching to assure the most up-to-date and accurate information.*

Each student should be provided with a copy of the Board of Nursing regulations that will regulate their practice.

1.1 Identify Legal and Ethical Issues in Medication Administration and Implications for Medication Aides

INTRODUCTION: Medication Aides may be faced with making decisions about the consequences of an action or behavior. Some decisions involve the moral right or wrong of an action. Others involve the legality of the action. At times decisions may have both ethical and legal implications. Medication Aides should have the knowledge to distinguish between the two and make sound decisions about a particular action or behavior.

(Note: The terms "*resident*" and "*client*" may be used interchangeably throughout this chapter.)

TOPICAL OUTLINE

A. Ethical and legal standards

1. To guarantee that residents receive safe and competent care.
2. To protect the Medication Aide.

B. Distinguish between ethical standards and legal standards

1. **Ethical standards** are guides to moral behavior.
    a. Examples:
        - Life is valuable.
        - Every person deserves respect.
        - Every person has her/his own beliefs.
        - Personal information is private.
    b. The guiding principle of ethics in health care is:
        - If we are unable to do good, we should at least **do no harm**.
2. **Legal standards** are guides to legal behavior.

C. Legal issues of importance to Medication Aides. The Medication Aide:

1. Must work within her/his scope of practice.

2. Performs only those acts which she/he is trained to do.

3. Keeps skills and knowledge up-to-date.

4. Requests help before taking action in a questionable situation.

5. Always protects the safety and well being of the resident.

6. Performs her/his job according to facility policy.

D. Violation of ethical or legal standards

1. May result in:

   a. Loss of registration

   b. Loss of eligibility to work in assisted living facilities

   c. Disciplinary action by the facility and/or the Board of Nursing

1.2 Recognize the Implication of Clients' Rights Regarding Medications, Treatment Decisions, and Confidentiality

INTRODUCTION: Staff is required to know the Resident's Bill of Rights. The study of these rights is included in both nurse aide and direct care staff training programs. It is also required for new employee orientation in all long-term care facilities. This section should serve as a general review with an emphasis on those rights that relate specifically to medications, treatment decisions and confidentiality. It is important that Medication Aides know these particular rights and their implications for practice.

TOPICAL OUTLINE

A. Client rights regarding medications and treatment decisions

1 Right to be informed of rights, responsibilities, policies and rules.

2 Right to participate in planning personal medical treatment.

3 Right to refuse medical treatment.

4 Right to privacy during medical treatment including the administering of medications.

5 Right to take only medications prescribed by personal HCP.

6 Right to refuse to participate in research or experimentation.

7 Right to choose physicians and other health care providers.

8 The right to move around freely. (Free from chemical restraint).

B. Client rights regarding confidentiality

1 Right that only staff members providing care to a client may have access to the clients' medical records.

2. Right to approve or refuse to release personal records to an individual outside the facility (except as otherwise provided by law).

C. Implications for facility staff

1. Must make rights, responsibilities & rules known to the client.
2. Must not restrict any client rights.
3. Must train staff to implement client rights.
    a. Provide staff and client with a written statement of client rights and responsibilities.
    b. Encourage clients to exercise their rights.
    c. Discuss using a system for handling complaints.

1.3 Identify Laws and Regulations Relating to Administration of Medication in Virginia Assisted Living Facilities

INTRODUCTION: Persons who administer medications in Virginia are bound by the regulations and standards of different state agencies. The Drug Control Act of Virginia authorizes the administration of certain medications by unlicensed personnel. The Virginia Board of Nursing maintains the Medication Aide Registry. Those persons listed on the registry must comply with the regulations of the board. The Department of Social Services, Division of Licensing Programs, is the licensing body for Virginia Assisted Living Facilities and has specific standards governing medication management. There are also specific standards in the Virginia Board of Pharmacy regulations which apply to the practice of the Medication Aide.

TOPICAL OUTLINE

A. The Drug Control Act of Virginia (§54.1-3408)

1. Authorizes unlicensed persons to administer medication in **assisted living facilities (ALF's)**.
2. Requires the Board of Nursing to promulgate regulations governing Medication Aides.
3. Requires the Board of Nursing to maintain a registry of Medication Aides.
4. Allows unlicensed persons to administer only those drugs that would otherwise be self-administered, to residents in an assisted living facility licensed by the Department of Social Services.
5. Prohibits the transmission, (by telephone or facsimile), of oral orders for new prescription drugs to a pharmacy by unlicensed persons.

B. Statutes and Regulations of the Virginia Board of Nursing (18VAC90-60-10 et seq.)

1. Defines requirements to be registered as a Medication Aide.
2. Establish the competency evaluation.
3. Renewal or reinstatement of registration requirements.

4. Continuing education for renewal requirements

5. Reinstatement of certification requirements.

6. Training program requirements.

C. Regulations of the Virginia Department of Social Services (22 VAC 40-72-630 et seq.)

1. The medication management plan
2. Medication, diet and treatment orders
3. New orders for medications after hospital admission
4. Physician's orders
5. Physician's oral orders
6. Medication storage
7. Client self-administration
8. Administration of medication
9. Continuing education of Medication Aides
10. Adverse drug reactions
11. Documentation of medication administration
12. Disposal of medications
13. The use of PRN medications
14. The use of "stat boxes"
15. Drug regimen review
16. Oxygen Therapy

D. Regulations of the Virginia Board of Pharmacy (18VAC110-20-10 et seq.)

1. Pharmacy Services to Long-term Care Facilities
2. Requirements for a prescription
3. Transmission of a prescription
4. Medication storage
5. Disposal of medications
6. The use of "stat boxes"
7. Drug regimen review

1.4 Identify Permitted Practices and Identify Acts Prohibited by Medication Aides

INTRODUCTION: This objective provides a summary of the role and responsibilities of the Medication Aide. Medication Aides should be encouraged to review specific details of the facility job description for their position. It is important to note that the job description must comply with regulatory requirements of each agency reviewed in this chapter. Please print the most recent copy of the RMA Regulations and give a copy to each students.

TOPICAL OUTLINE

A. Practices Allowed

1. May administer medications in assisted living facilities licensed by the Department of Social Services.
2. May administer medications which the client would normally self-administer.
3. May administer insulin injections as ordered by prescriber and as would normally be self-administered by the client.
4. May administer EpiPens® and Glucagon as ordered by prescriber, in emergency situations only.

B. Acts Prohibited by the Board of Nursing

1. May not administer medications in a nursing home.
2. May not transmit oral orders for new prescription drugs to a pharmacy.
3. May not make an assessment of a client.
4. May not deviate from the medication regime ordered.
5. May not mix, dilute, or reconstitute two or more drug products (except insulin and glucagon).
6. May not administer intramuscular or sub cue injection medications. The only exceptions are insulin or other subcutaneous injections for the treatment of diabetes such as glucagon, and the use of the Epi- Pen.
7. May not administer intravenous medications. Other sub q injection for the treatment of diabetes. May not give medication by way of percutaneous endoscopic gastric (PEG) tubes.

C. Acts Prohibited by the Board of Pharmacy

1. Medication Aides may not transmit oral orders for new prescription drugs to the pharmacy.
2. Medication Aides may not remove drugs or administer drugs from an emergency or "stat" box provided by the pharmacy. Refer to Board of Pharmacy regulations. (no floor stock allowed)
3. Medication Aides may not repackage or label medications of any kind. If half a pill is used, the other half must be wasted per Board of Pharmacy regulations regarding the wasting of medications.

D. Prohibited by the Department of Social Services

1. May not administer medications in ALFs until registered with the Board of Nursing pursuant to regulations effective July 1, 2007.
2. Must meet all regulatory requirements within one year of the effective date of new regulations. Effective date in July 1, 2007, so must be compliant by August 1, 2009.

   (Amended from July 1, 2008.)

E. Other Prohibited Practices

1. Medication Aides may not give medications which have been poured by another person.
2. Medication Aides may not pour medication for another person to give.
3. Medication Aides may not pre-pour medications for anyone (self included).
4. Medication Aides may not label or change the label of a medication.
5. Medication Aides may not write prescriptions or order new medications.
6. Medication Aides may not administer medications to clients until all requirements for training and certification are met. (Must meet all regulatory requirements within one year of the effective date of new regulations).

Medication Aides are not trained to perform wound care or dressing changes, as this is considered a skilled treatment and not a medication.

1.5 Identify Legal Requirements to Report Client Abuse, Neglect or Exploitation

INTRODUCTION: Medication Aides are included among those persons designated as mandated reporters of abuse, neglect or exploitation/misappropriation of adults in the state of Virginia. In addition, abandonment can be a major issue with this population. Mandated reporters are required by law to report any witnessed or suspected client abuse, neglect or exploitation/misappropriation. This objective focuses on the rights of mandated reporters and the penalty for failure to report as defined in § 63.2-1606(A).

TOPICAL OUTLINE

A. Definitions:

1. **Abuse** - Willful infliction of physical pain, injury or mental anguish or unreasonable confinement.
2. **Neglect** - Failure to provide services to maintain physical and mental health and well-being.
3. **Exploitation/Misappropriation** – Illegal use of a client's resources for another's **profit or advantage.**
4. **Abandonment –** The term "patient abandonment" should be differentiated from the term "employment abandonment", which becomes a matter of the employer-employee relationship and not that of the Board of Nursing. It should be noted that from a regulatory perspective, in order for patient abandonment to occur, the nurse or CNA must have first accepted the patient assignment and established a nurse-patient relationship, then severed that nurse-patient relationship without giving reasonable notice to the appropriate person (supervisor, employer) so that arrangements can be made for continuation of nursing care by others.

B. Mandated reporting is a legal requirement in Virginia (§ 63.2-1606.A)

1. Who is mandated to report as defined by law?
    a. Any person licensed, certified or registered by health regulatory boards
        - Veterinary is exception

b. Any guardian or conservator of an adult.

c. Any person employed by or contracted with a public or private agency or facility, and working with adults in an administrative, supportive or direct care capacity.

d. Any person providing full, intermittent or occasional care to an adult for compensation, including but not limited to companion, chores, homemaker and personal care workers.

e. Any law-enforcement officer.

2. What specific facts are mandated to report?

   a. The age of the abused individual (60 years or more, or 18 years or more and incapacitated).

   b. The identity of the adult or location of the adult about whom the report is being made.

   c. The circumstances about the risk or suspected abuse, neglect and/or exploitation.

3. Mandated reports should be submitted or called in to:

   a. **Adult Protective Services** unit of the local Department of Social Services in which the adult resides or in which the abuse, neglect or exploitation occurred.

   b. If appropriate, to the law enforcement and the medical examiner.

      - **The 24 hour Virginia Department of Social Services Adult Abuse Hotline. 1 (888) 832-3858**

4. Other responsibilities of the person reporting:

   a. Report suspicion that an adult has died as a result of abuse or neglect.

   b. Report suspected sexual abuse.

   c. Report other criminal activity involving abuse or neglect that puts an adult in danger of death or harm.

5. Rights of the person reporting:

   a. Immunity from civil and criminal liability unless the reporter acted in bad faith or with a malicious purpose.

   b. Right to have identity kept confidential unless consent to reveal his/her identity is given or unless the court orders that the identity of the reporter be revealed.

   c. The right to hear from the investigating local Department of Social Services confirming that the report was investigated.

6. Penalty for failure to report:

    a. Civil money penalty of not more than $500 for the first failure and not less than $100 nor more than $1000 for subsequent failures.

    b. APS refers matters as necessary to the appropriate licensing, regulatory or legal authority for administrative action or criminal investigation.

TEACHING NOTES – Chapter 1 **Student Handout 1.1.A**

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

CHAPTER 1

INSTRUCTIONS: *Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and explain what the agency or subject is.*

LEARNING GOAL: To be able to define and spell words related to ethical and legal issues of medication administration on a written test.

Abuse - _____

_____

ALF - _____

_____

APS - _____

_____

BON- _____

_____

BOP - _____

_____

CE - _____

_____

DSS - _____

Ethical Standards - _____

_____

ISP - _____

_____

legal standards - _____

_____

Liable - _____

_____

Neglect - _____

_____

Resident's Rights - _____

_____

UAI - _____

Student Handout 1.1.B

ETHICAL AND LEGAL ISSUES

SCENARIOS

INSTRUCTIONS: *Read each of the scenarios and write what you consider as the best course of action. Share your answers in a group or class discussion.*

1. A client who lives in a small assisted living facility has been diagnosed with major depression. His HCP has prescribed an antidepressant. When the drug arrives from the pharmacy, the Medication Aide verifies the order and then offers it to the client telling him that the drug is for his depression. The client refuses the drug and states, "I don't believe in those kind of drugs." The Medication Aide observes that the client has a previous order which reads, "may crush medications". She crushes the medication and puts it in the client's dessert at lunchtime. What are the ethical and/or legal issues in this situation? Describe the best action for the Medication Aide to take in this situation.

2. You are working as a caregiver in an assisted living facility and observe the Medication Aide who is assisting a client with medication administration take two pills out of the medication cup before offering it to the client. She puts the pills in her pocket and then documents the medication as given to the client on the MAR. What is your best action in this situation? What are the ethical and/or legal issues in this situation?

3. You are working in a large assisted living facility which employs a nurse as manager of resident care. One of your residents complains constantly of hip pain and you have reported this, several times, to the nurse. When you return to work after a few days off, you observe that the resident's pain has increased and that there is still no order for pain medication. What is your best action in this situation? What are the ethical and/or legal issues in this situation?

Student Handout 1.2.A

RIGHTS AND RESPONSIBILITIES OF RESIDENTS OF ASSISTED LIVING FACILITIES

§ 63.2-1808. RIGHTS AND RESPONSIBILITIES OF RESIDENTS OF ASSISTED LIVING FACILITIES; CERTIFICATION OF LICENSURE.

A. Any resident of an assisted living facility has the rights and responsibilities enumerated in this section. The operator or administrator of an assisted living facility shall establish written policies and procedures to ensure that, at the minimum, each person who becomes a resident of the assisted living facility:

1. Is fully informed, prior to or at the time of admission and during the resident's stay, of his rights and of all rules and expectations governing the resident's conduct, responsibilities, and the terms of the admission agreement; evidence of this shall be the resident's written acknowledgment of having been so informed, which shall be filed in his record;

2. Is fully informed, prior to or at the time of admission and during the resident's stay, of services available in the facility and of any related charges; this shall be reflected by the resident's signature on a current resident's agreement retained in the resident's file;

3. Unless a committee or conservator has been appointed, is free to manage his personal finances and funds regardless of source; is entitled to access to personal account statements reflecting financial transactions made on his behalf by the facility; and is given at least a quarterly accounting of financial transactions made on his behalf when a written delegation of responsibility to manage his financial affairs is made to the facility for any period of time in conformance with state law;

4. Is afforded confidential treatment of his personal affairs and records and may approve or refuse their release to any individual outside the facility except as otherwise provided in law and except in case of his transfer to another care- giving facility;

5. Is transferred or discharged only when provided with a statement of reasons, or for nonpayment for his stay, and is given reasonable advance notice; upon notice of discharge or upon giving reasonable advance notice of his desire to move, shall be

afforded reasonable assistance to ensure an orderly transfer or discharge; such actions shall be documented in his record;

6. In the event a medical condition should arise while he is residing in the facility, is afforded the opportunity to participate in the planning of his program of care and medical treatment at the facility and the right to refuse treatment;

7. Is not required to perform services for the facility except as voluntarily contracted pursuant to a voluntary agreement for services that states the terms of consideration or remuneration and is documented in writing and retained in his record;

8. Is free to select health care services from reasonably available resources;

9. Is free to refuse to participate in human subject experimentation or to be party to research in which his identity may be ascertained;

10. Is free from mental, emotional, physical, sexual, and economic abuse or exploitation; is free from forced isolation, threats or other degrading or demeaning acts against him; and his known needs are not neglected or ignored by personnel of the facility;

11. Is treated with courtesy, respect, and consideration as a person of worth, sensitivity, and dignity;

12. Is encouraged, and informed of appropriate means as necessary, throughout the period of stay to exercise his rights as a resident and as a citizen; to this end, he is free to voice grievances and recommend changes in policies and services, free of coercion, discrimination, threats or reprisal;

13. Is permitted to retain and use his personal clothing and possessions as space permits unless to do so would infringe upon rights of other residents;

14. Is encouraged to function at his highest mental, emotional, physical and social potential;

15. Is free of physical or mechanical restraint except in the following situations and with appropriate safeguards:

    a. As necessary for the facility to respond to unmanageable behavior in an emergency situation, which threatens the immediate safety of the resident or others;

    b. As medically necessary, as authorized in writing by a physician, to provide physical support to a weakened resident;

16. Is free of prescription drugs except where medically necessary, specifically prescribed, and supervised by the attending physician, physician assistant, or nurse practitioner;

17. Is accorded respect for ordinary privacy in every aspect of daily living, including but not limited to the following:

    a. In the care of his personal needs except as assistance may be needed;

    b. In any medical examination or health-related consultations the resident may

have at the facility;

c. In communications, in writing or by telephone;

d. During visitations with other persons;

e. In the resident's room or portion thereof; residents shall be permitted to have guests or other residents in their rooms unless to do so would infringe upon the rights of other residents; staff may not enter a resident's room without making their presence known except in an emergency or in accordance with safety oversight requirements included in regulations of the Board;

f. In visits with his spouse; if both are residents of the facility they are permitted but not required to share a room unless otherwise provided in the residents' agreements;

18. Is permitted to meet with and participate in activities of social, religious, and community groups at his discretion unless medically contraindicated as documented by his physician, physician assistant, or nurse practitioner in his medical record; and

19. Is fully informed, as evidenced by the written acknowledgment of the resident or his legal representative, prior to or at the time of admission and during his stay, that he should exercise whatever due diligence he deems necessary with respect to information on any sex offenders registered pursuant to Chapter 9 (§ 9.1-900 et. seq.) of Title 9.1, including how to obtain such information. Upon request, the assisted living facility shall assist the resident, prospective resident, or the legal representative of the resident or prospective resident in accessing this information and provide the resident, prospective resident, or the legal representative of the resident or prospective resident with printed copies of the requested information.

B. If the resident is unable to fully understand and exercise the rights and responsibilities contained in this section, the facility shall require that a responsible individual, of the resident's choice when possible, designated in writing in the resident's record, be made aware of each item in this section and the decisions that affect the resident or relate to specific items in this section; a resident shall be assumed capable of understanding and exercising these rights unless a physician determines otherwise and documents the reasons for such determination in the resident's record.

C. The rights and responsibilities of residents shall be printed in at least 12-point type and posted conspicuously in a public place in all assisted living facilities. The facility shall also post the name and telephone number of the regional licensing supervisor of the Department, the Adult Protective Services' toll-free telephone number, as well as the toll-free telephone number for the Virginia Long-Term Care Ombudsman Program, any sub-state ombudsman program serving the area, and the toll-free number of the Virginia Office for Protection and Advocacy.

D. The facility shall make its policies and procedures for implementing this section available and accessible to residents, relatives, agencies, and the general public.

E. The provisions of this section shall not be construed to restrict or abridge any right that any resident has under law.

F. Each facility shall provide appropriate staff training to implement each resident's rights included in this section.

G. The Board shall adopt regulations as necessary to carry out the full intent of this section.

H. It shall be the responsibility of the Commissioner to ensure that the provisions of this section are observed and implemented by assisted living facilities as a condition to the issuance, renewal, or continuation of the license required by this article.

(1984, c. 677, § 63.1-182.1; 1989, c. 271; 1990, c. 458; 1992, c. 356; 1993, cc. 957, 993; 1997, c. 801; 2000, c. 177; 2002, cc. 45, 572, 747; 2004, c. 855; 2006, c. 396; 2007, cc. 120, 163.)

IN CASE OF QUESTIONS OR CONCERNS, YOU MAY CALL:

REGIONAL LICENSING ADMINISTRATOR,

VIRGINIA DEPARTMENT OF SOCIAL SERVICES:

_____

TELEPHONE NUMBER: _____

TOLL-FREE TELEPHONE NUMBER FOR ADULT PROTECTIVE SERVICES:

1-888-832-3858

(1-888-83ADULT)

TOLL-FREE TELEPHONE NUMBER FOR VIRGINIA LONG-TERM CARE OMBUDSMAN PROGRAM:

HTTP://WWW.VDA.VIRGINIA.GOV/OMBUDSMAN.ASP

1-800-552-3402

LOCAL/SUB-STATE OMBUDSMAN PROGRAM: _____

TELEPHONE NUMBER: _____

TOLL-FREE TELEPHONE NUMBER FOR THE VIRGINIA OFFICE FOR PROTECTION AND ADVOCACY:

1-800-552-3962

Student Handout 1.2.B

SITUATIONS REGARDING RESIDENT RIGHTS

Instructions*: Read each scenario, discuss and answer the questions.*

1. Mr. Mack is a resident in an assisted living facility (ALF). He is a responsible person, capable of making decisions and executing his rights. The doctor, who Mr. Mack chose, suggests bed rest as part of treatment of a back injury, but Mr. Mack wants to remain active. Mr. Mack and his doctor discuss this and a decision is made to prescribe a medication to relax the muscles. The Medication Aide assists Mr. Mack with the prescribed dosage of medication in the privacy of the client's room.

Which Resident Rights are involved in this scenario?____
Were any rights violated or upheld?_____Explain your answer_____

---

2. Mrs. German has a diagnosis of Alzheimer's disease. She wanders constantly and tries to leave the facility every evening around dinnertime. The Medication Aide gives Mrs. German the drug Ativan® which is ordered for "extreme agitation as manifested by kicking or spitting".

Which Resident Rights are involved in this scenario?

Were any rights violated or upheld?_____Explain your answer_____

---

3. Jack Axton is a young resident with a diagnosis of mental retardation due to Down's Syndrome. On Tuesday morning he refused all of his medication and screamed at the Medication Aide to "Get out of my room!" The Medication Aide crushes all of his medication and puts it in his applesauce which is on his breakfast tray.

Which Resident Rights are involved in this scenario?____
Were any rights violated or upheld?_____Explain your answer_____

---

4. Henrietta Harris is a Medication Aide who is administering morning medications in an ALF. After

reading the Medication Administration Record (MAR), she takes the drug into the client's room and leaves the MAR open on the medication cart.

How many rights are involved in this scenario?_____

Were any rights violated or respected?_____ Explain your answer_____

Student Handout 1.3.A

CHAPTER 1 - LEGAL AND ETHICAL ISSUES

NOTE-TAKING OUTLINE –REGULATIONS

I. The Drug Control Act of Virginia

1. Authorizes unlicensed persons to administer medication in _____

_____ _____

2. Requires the Board of Nursing to_____governing Medication Aides.
3. Requires the Board of Nursing to_____
4. Allows unlicensed persons to administer only those drugs that would _____

_____

5. Prohibits the transmission of _____orders for new prescription drugs to a pharmacy, by unlicensed persons.

II. Regulations of the Virginia Board of Nursing

A. Requirements to be registered as a Medication Aide.

1._____

2._____

a._____

b_____ 3._____

4._____

5._____

a._____

_____

b._____

B. Failure to take or pass the competency evaluation within one year.

C. Renewal or reinstatement of registration.

1._____

2._____

3._____

4._____

5._____

D. Continuing education for renewal.

1._____

_____

2._____

_____

3._____

_____

4. _____

_____

E. Reinstatement of certification.

1._____

2._____

a._____

b._____

c._____

d._____

F. Training program requirements.

1._____

2. _____

3. _____

_____

4. _____

_____

III. Regulations of the Virginia Department of Social Services

A. The Facility Medication Management Plan

1._____

2._____

3._____

B. Medication, diet and treatment orders

1._____

2._____

3._____

C. Medication orders after hospital admission

1._____

2._____

D. Physician's orders

1._____

a._____

b._____

c._____

d._____

e._____

f._____

2._____

E. Physician's oral orders

1._____

2._____

F. Medication storage

1. _____

    a. _____

    b. _____

    c. _____

    d. _____

    e. _____

G. Client self-administration

1.
2.

H. Administration of medication

1.
2.
3.
4.
5.
6.
7.

I. Continuing education of Medication Aides

1.
   a.
   b.

J. Adverse drug reactions

1.
   a.
   b.
   c.

K. Documentation of medication administration

1.
   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.
   i.
   j.

L. Disposal of medication

1. _____

M. The use of PRN (as needed) medication

1. _____

    a. _____

    b. _____

    c. _____

        1. _____

        2. _____

        3. _____

        4 _____

2. _____

N. The use of "stat boxes"

1. _____

2. _____

O. The drug regimen review

1. _____

P. Oxygen Therapy

1. _____

    a. _____

    b. _____

    c. _____

IV. Regulations of the Virginia Board of Pharmacy

A. Pharmacy services to long-term care

1. _____

   a. _____

   b. _____

Note: _____

B. Transmission of a prescription order

1 _____

   a. _____

      1. _____

      2. _____

      3. _____

C. Medication storage

_____

_____

D. Disposal of medications

_____

_____

E. The use of "stat boxes"

_____

_____

F. Drug regimen review

_____

_____

Student Handout 1.4.A

EXAMPLE

JOB DESCRIPTION: Medication Aide

I. Responsible for oversight and direction by_____(Facility)_____
Responsible for direct supervision by_____(Supervisor)_____

II. QUALIFICATIONS

A. Current, unencumbered registration issued by the Virginia Board of Nursing.

B. Certification of completion of Virginia Board of Nursing approved nurse aide training program or the forty-hour Direct Care Staff Training approved by the Virginia Department of Social Services.

C. Willing and able to provide kind, compassionate care to____(facility name) residents at all times.

D. Able to read and write English to participate in development of service plans.

E. Able to read, transcribe and document medication orders.

F. Ability to use telephone, facsimile machine and computer to communicate with Health Care Provider (HCP), pharmacy and others as needed and as allowed.

III. RESPONSIBILITIES

A. Administer or assist the client with self-administration of medications in accordance with accepted practices presented in the *Virginia Board of Nursing Medication Aide Curriculum.*

B. Document in the Medication Administration Record all medications administered.

C. Administer subcutaneous insulin injections as ordered by HCP.

D. Observe clients for effects of medications and report observations to HCP.

E. Count and assure inventory accuracy of Schedule II drugs as designated by facility policy.

F. Use Standard Precautions at all times when administering medications.

G. Dispose of contaminated equipment as directed by facility policy to comply with OSHA standards.

H. Participate in developing the *Individualized Service Plan* as required by policy.

I. Report for duty at the assigned day and time.

CHAPTER 2 PREPARING FOR SAFE ADMINISTRATION OF MEDICATIONS

OBJECTIVES

2.1 Identify principles of maintaining aseptic conditions.

2.2 Recognize emergencies and other health-threatening conditions and respond accordingly.

2.3 Identify basic concepts of communication with the cognitively impaired client.

2.4 Measure and record vital signs.

2.5 Demonstrate understanding of the use of the International (Military) Time.

2.6 Identify the Five "Rights" of Medication Administration.

PERFORMANCE OBJECTIVES

Upon completion of Chapter Two, student will demonstrate an understanding of the principles of selected topics to prepare for safe administration of medications by completing a written quiz with a minimum score of 80%.

RETURN DEMONSTRATIONS

Perform proper hand washing under the instructor's supervision.
Measure and record oral temperature.
Measure and record an apical pulse.
Measure and record respirations.
Measure and record blood pressure using a sphygmomanometer (BP cuff).

KEY TERMS

Alzheimer's disease

Anxiety

Aphasia

Aseptic

Biohazardous waste

Blood-borne pathogen

Cognitive impairment

Communicable disease

Communication barrier

Contraindicate

Cueing

CVA

Delirium

Dementia

Depression

Directing

Disinfect

Disoriented

hypothermia

ISP

Pathogen

Perseveration

Redirecting

Standard Precautions

2.1 Identify Principles of Maintaining Aseptic Conditions

INTRODUCTION: A Virginia Board of Nursing prerequisite for becoming a Medication Aide is successful completion of an approved nurse aide program or the forty-hour direct care staff training provided by the Department of Social Services. Therefore, students should have a background in each of the objectives in this chapter and the information should serve as a review. This review is presented with a focus on issues related to medication administration.

TOPICAL OUTLINE

A. The Occupational Safety and Health Administration.

1. Known as **OSHA,** is a government agency responsible for the safety of workers.
2. Has set standards for equipment use when working in facilities.
3. **Standard Precautions** is one of the OSHA safety guidelines.
    a. **Pathogens** are organisms which cause disease.
    b. **Standard Precautions** are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These practices are designed to both protect HCP and prevent HCP from spreading infections among patients. Standard Precautions include:
        1) hand hygiene,
        2) use of personal protective equipment (e.g., gloves, gowns, masks),
        3) safe injection practices,
        4) safe handling of potentially contaminated equipment or surfaces in the patient environment, and
        5) respiratory hygiene/cough etiquette. (http://www.cdc.gov/HAI/settings/outpatient/outpatient-care-gl-

standared-precautions.html)

(Include a handout for students that describes standard precautions)

Standard precautions reduce the chance of contracting disease caused by **blood-borne pathogens,** which are microorganisms that are found in human blood and cause disease. Blood-borne pathogens are transmitted either through **direct contact** with blood or **indirect contact** with something such as needles, blood glucose meters, or other surfaces that blood is on. The three most common blood-borne pathogens are hepatitis B virus, hepatitis C virus, and HIV (human immunodeficiency virus).

Links:

US Department of Labor OSHA Healthcare Wide Hazards (Lack of) Universal Precautions

http://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html

VDH Standard & Transmission-based Precautions

http://www.vdh.virginia.gov/epidemiology/surveillance/hai/documents/pdf/StandardTransmissionBasedPrecautionsSign.pdf

4. Residents in assisted living facilities can get an infection from blood-borne pathogens by sharing contaminated needles, sharing contaminated finger-stick devices, or contact with blood from an infected person.

   You can get an infection from blood-borne pathogens from accidental puncture wounds from contaminated **sharps**, devices used to puncture the skin such as needles or finger-stick devices or used to shave a resident, or contact with blood from an infected person.

B. Procedure for Standard Precautions

1. Always wear gloves when in contact with body fluids, or when a possibility of contact with body fluids exist, such as:

   - Blood
   - Vaginal secretions
   - Feces
   - Urine
   - Open skin areas
   - Vomit
   - Sputum
   - Semen
   - Tears

2. Perform appropriate hand hygiene before and after all procedures. When hands are visibly contaminated, wash the hands with soap and water and pat dry. If not visibly contaminated, an alcohol-based hand-rub may be used.

3. If skin is contaminated with blood or body fluid, wash immediately with soap and water. Rinse and pat dry.

4. If assisting a client with insulin injections or blood glucose monitoring, place used needles and lancets into a **rigid** sharps container.

Never reuse, recap, bend or break needles or lancets.

5. Discard body waste directly into the toilet. Discard waste containing blood into plastic bags, making sure no leaks occur.

6. Discard used gloves into plastic bags for disposal in designated containers.

7. Spills of blood, or body fluid visibly stained with blood, should be cleaned with chlorine bleach or a spill kit and left for several minutes, in accordance with the facilities exposure control plan. Wearing gloves, remove bleach treated spill with disposable wipes. Place in plastic bag. Wash area with detergent and water.

C. Personal Protective Equipment (PPE)

1. Included in Standard Precautions.

2. **PPE** means **Personal Protective Equipment** (body protection) to be worn when there is danger of contact with blood or body fluids.

3. Danger is not routine/frequent in assisted living but it is important that staff be aware of the requirements for when PPE should be worn and that staff know where the equipment is stored and how it is used.

4. PPE includes:

   a. Masks

   b. Gloves

   c. Gowns

   d. Goggles

D. Employee precautions

1. All employees must have access to protective gloves. For those who are allergic to latex, the employer must provide another type of protective gloves. (vinyl, powder free, hypoallengenic)

2. Should a needle stick occur, follow facility policy to protect employee's & client's health. An incident report must be completed. In accordance with OSHA regulations, the employee has the right to receive an evaluation and follow-up to assess the need for appropriate post exposure prophylaxis, in addition to other recommended precautions, depending on the situation.

   Links:

   OSHA Law & Regulations

http://www.osha.gov/law-regs.html

US Department of Labor OSHA Healthcare Wide Hazards (Lack of) Universal Precautions

http://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html

Virginia Department of Health's Hand Hygiene FAQs

http://www.vdh.virginia.gov/epidemiology/surveillance/hai/documents/pdf/HandHygieneFactSheet.pdf

3. All employees who could reasonably be expected to have contact with blood and body fluids should receive the hepatitis B vaccine series according to OSHA regulations. The vaccine must be provided by the employer at no charge to the employee. This vaccine is the BEST PROTECTION against Hepatitis B.

   The vaccine series is typically 3 doses and there is no risk of contracting hepatitis B from the vaccine. You should be offered the vaccine by your employer within 10 days of assignment to a job where blood or other bodily fluid exposure may occur. One to two months after receiving the vaccination series, you should also be tested to ensure that the series has worked.

   Additional vaccines are recommended, but are not required to be provided by the employer.

   Working in the health care industry also puts you at greater risk for other illnesses. The CDC's Advisory Committee on Immunization Practices (ACIP) is responsible for creating immunization recommendations and has special recommendations just for health care personnel. Make sure that you receive all of these recommended immunizations which can be found at the following website: http://www.cdc.gov/vaccines/spec-grps/hcw.htm

4. Open wounds or breaks in the skin should be covered with a protective dressing.

E. Cleaning and disinfecting storage areas

1. **Aseptic** means free from disease-causing organisms.

2. It is important to use proper cleaning and disinfecting procedures to maintain **aseptic** conditions which means free from pathogens.

3. **Cleaning** removes germs, dirt, and other impurities from surfaces or objects using soap or detergent and water to physically remove germs from surfaces. This does not mean that germs are killed, but rather, by removing them, the amount of germs on a surface are decreased, lowing the risk of spreading infection.

4. **Disinfecting** kills germs on surfaces or objects by using chemicals that actually kill the germs. Disinfection does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the

risk of spreading infection.

4. Materials, products and supplies used to clean and disinfect storage area, cart, etc. includes:

- Lysol
- Bleach solution (1/4 cup per gallon of water)
- Alcohol
- EPA approved industrial Solution(s)

5. Steps to follow in cleaning and disinfecting storage area, cart, etc. This is important to prevent the spread of disease from surfaces or equipment in the storage area to yourself or patients. Always use approved cleaners and follow label directions on cleaning products and disinfectants.

    a. All surfaces, equipment, and other objects should be routinely cleaned and disinfected.

    b. Proper PPE should ALWAYS be worn when processing dirty equipment

    c. Follow your facility's procedures.

F. Disposing of infectious waste according to Virginia Law

1. **Infectious waste** is any waste capable of producing an infectious disease in humans or any waste **contaminated** by an organism capable of producing disease in humans.

2. **Items likely to be found at the facility which are considered infectious waste**

    a. Blood and blood products may be found on:

        - Catheters
        - Enema tips
        - Vials for taking blood (be VERY careful if glass should break).

    b. Needles and syringes and blood-testing lancing devices.

    c. Bedding-related wastes such as disposal pads.

    d. Residue or contaminated water or debris resulting from the cleanup or spill of infectious waste.

G. How infectious waste is packaged and labeled for disposal

1. Infectious wastes should be contained in red, leak-proof plastic bags.

2. Bags are labeled, sealed, and disposed of according to facility procedure.

3. Needles and syringes **must** be placed in special rigid containers that are leak-proof and puncture-resistant and disposed of according to Virginia law.

4. Do NOT use glass or plastic beverage containers to dispose of needles and syringes.

I. Special considerations for Medication Aides

1. Do not come to work when ill, especially with symptoms of fever, vomiting, diarrhea, cough, sore throat, jaundice (yellow eyes or skin), or other flu-like symptoms. For open skin areas or draining wounds, ensure they are covered and do not perform tasks that could put others at risk.

2. Ensure that you are up to date on all recommended and required immunizations.

3. Residents of ALFs are a vulnerable population and at a higher risk for infection.

4. Symptoms that can put others at risk of becoming infected are:

    - common cold symptoms
    - diarrhea
    - fever
    - flu
    - jaundice (yellow eyes or skin)
    - open skin areas
    - productive cough or sputum
    - sore throat
    - vomiting

2.2 Recognize Emergencies and Other Health-Threatening Conditions and Respond Accordingly

INTRODUCTION: Observation of the client is an important step in the cycle of medication administration. Health Care Providers often depend on the observations of direct care staff when evaluating their clients. They also depend on Medication Aides to observe clients for both desired and undesired effects of medication. To insure safe care, the Medication Aide must be taught how to **observe and report changes** in the patient physically and/or mentally. She/he must know **what** to report, to **whom** it should be reported, and **when** and **how** to report observations.

TOPICAL OUTLINE

A. Types of health-threatening conditions which should be reported

1. Life Threatening Emergencies
2. Non-Emergency, but health-threatening, conditions
3. Other significant changes in physical condition or behavior

B. Causes for emergencies

1. Injuries
2. Illnesses
3. Complications related to illness or injury
4. Unwanted effects of medication

C. Common emergency conditions

1. Excessive, uncontrollable bleeding (CP not relieved by prn NTG if needed)
2. Accidents involving severe injury
3. Failure or obstruction of the respiratory system
4. Uncontrollable behavior which is a danger to the client or others

5. Loss of consciousness unrelated to predictable seizure activity

D. Appropriate responses to emergencies

1. When more than one staff member is involved:

   a. Call emergency service—**911**.

   b. Check designated emergency number(s).

   c. Notify staff member as designated by facility policy.

d. Designated staff member must take charge and give directions.

e. Collect client's medical record for HCP.

f. Return to client to assist as needed.

2. When only one staff member is involved.

a. Call emergency service—**911.**

b. Provide assistance to client until help arrives.

c. Collect client's medical records for HCP.

E. Appropriate follow-up to emergencies

1. When emergency is under control, inform medical supervisor about the emergency condition.

2. Follow oral report with a written report.

F. Examples of non-emergency, but health-threatening conditions

1. Fever not reduced by normal procedures.

2. Atypical episodes of angry or aggressive behavior.

3. Diarrhea not affected by approved OTC medications.

4. Rash that lasts for several days or appears to get worse.

5. Persistent sore throat.

6. Severe seizure for client with history of mild seizures.

7. Increase in seizure activity.

8. Atypical, withdrawn behavior.

9. Confusion in clients who are not normally confused.

10. Lack of coordination.

G. Appropriate responses to non-emergency but health-threatening conditions

1. Report condition as soon as possible after it is observed.

2. Report condition to HCP.

3. Follow oral report with written report.

4. Continue to observe client for further changes.

H. Other significant changes in client's physical condition or behavior

1. Changes in sleeping patterns.

2. Colds, low fevers, mild diarrhea.

3. Unexplained minor bruises.

4. Slight rash.

I. Appropriate responses to significant changes

1. Report the change as soon as possible after it is observed.

2. Write a description of observation using a facility form.

3. Submit to designated staff member.

4. Continue to observe client.

2.3 Identify Basic Principles of Communicating with the Cognitively Impaired Client

INTRODUCTION: Many clients living in assisted living facilities are cognitively impaired. The impairment may be a temporary condition or it may be the result of permanent damage to an area of the brain. While there are general guidelines that apply in all types of communication, there are special skills required for certain kinds of cognitive impairment. Often a client's willingness to take medication is determined by the approach or attitude of the person offering it.

TOPICAL OUTLINE

A. Basic communication skills

1. Communication happens when there is:
    a. a message
    b. a sender
    c. a receiver
2. If any one of these is missing, communication fails.
3. How to be a good listener
    a. Face the client and maintain good eye contact.
    b. Give the client your full attention. While the patient is talking, listen, do not spend the time thinking about what you are going to say or do next.
    c. Consider ideas of the client.
    d. Use signs and body language to indicate that you are listening.
    e. Do NOT assume that the client cannot understand and therefore it is not necessary to make the effort to communicate! ***This is one of the leading causes of aggressive behavior in the cognitively impaired client.***

B. Communication barriers

1. **Caregiver barriers**

    a. Failure to listen (not receiving the client's message).

    b. Doing something else while client is trying to communicate.

    c. Assuming that the client has nothing of value to say because of cognitive impairment.

2. **Cognitive impairment**

   a. Cognitive impairment is the inability to think, to reason, and/or to remember.

   b. This inability is severe enough to interfere with the ability to function.

   c. It may be temporary or permanent, depending on the cause.

3. **Causes of cognitive impairment - The three "D's"**

   a. **Delirium**

      - A temporary state of confusion.
      - Caused by disease, substances or medications.
      - Subsides when cause is removed.

   b. **Depression**

      - A prolonged, sad mood state.
      - May be caused by chemical imbalance in the brain.
      - May be triggered by situation or event.
      - Generally subsides or is alleviated with treatment.

   c. **Dementia**-impairment resulting from brain cell destruction caused by:

      - Multiple infarct ("mini" strokes)
      - Injury
      - Alzheimer's disease: a neurodegenerative disease
      - Usually not reversible

4. Other causes of cognitive impairment

   a. **Physical conditions**

      - CVA – cerebral vascular accident (brain stroke)
      - Brain injury/closed head injuries

b. **Mental illness**

- Bi-polar disorder
- Obsessive-compulsive disorder
- Schizophrenia

c. **Mental Retardation**

- Down's syndrome

- Birth trauma
- Injury

d. **Substance abuse**

- Alcohol
- Prescription drugs
- Illegal drugs

C. Communicating with the confused and/or disoriented client

1. Do the following:
   a. Identify yourself to the client when you greet him.
   b. Maintain eye contact.
   c. Speak slowly, softly, simply.
   d. Use touch if you are sure that it does not upset the client.
   e. Repeat as needed.
   f. Break tasks into simple steps.
   g. Announce when you are leaving the room, twice.
2. Follow the plan of action regarding communication techniques that are effective for each client. This may be called the **ISP** (Individualized Service Plan) or, in some facilities, the "Action Plan".
3. Remember that what works for one client may not work for another, be flexible.

D. Communicating with the client with Alzheimer's and other types of dementia

1. Behaviors associated with disease such as Alzheimer' include:
   a. Agitation – restless or excited behavior.
   b. Anxiety – apprehension, worry, uneasiness. Often characterized by fear.
   c. Catastrophic reactions – an abrupt outburst related to a stimulus or trigger.

d. Clinging – holding onto others.

e. Combativeness – attacking others in some way.

f. Inappropriate sexual behavior – disrobing, touching others or themselves inappropriately.

g. Delusions / hallucinations – believing things that are not true / seeing things that are not there.

h. preservation- continuance of activity after stimulus is removed.

2. Communication techniques which minimize behavior problems:

   a. Know your client!! (Likes, dislikes, fears, etc.)

   b. Speak with the "3 S's" – slowly, softly, simply.

   c. Be sure the client is looking at you when you are speaking.

   d. Avoid asking questions.

   e. Limit choices.

   f. Don't demand or order.

   g. Mirror the desired behavior for the client or use pictures.

   h. Cueing – giving the client a verbal or physical message to act (such as moving the hand, with fork, to the mouth to signal and beginning eating.

   i. Gentle touch is often effective (after you know it doesn't upset the client).

   j. Don't try to reason with the confused client. Go along with the client (this is called validation).

E. Communicating with the mentally ill client

1. Do the following:

   a. Identify yourself to the client when you greet him.

   b. Respect the client's space.

   c. Speak in your normal tone of voice.

   d. Keep the message clear and direct (avoid metaphors, sarcasm, etc.).

   e. Touch should be use with caution or not at all.

2. Follow the plan of action regarding communication techniques for the individual client.

F. Communication with the aphasic client

1. **Aphasia** is the inability to spea**k**. Try to:

a. Stand where client can see you.

b. Look at the client the entire time.

c. DO NOT SHOUT (clients who cannot speak are not necessarily hearing-impaired and shouting may cause aggressive behavior).

e. Speak clearly and enunciate carefully.

f. Do not rush the client.

g. Use writing pads, chalk boards or a communication board.

G. Managing behavior problems

1. The best way to manage difficult behavior is to prevent it by following sound behavior management principles.
2. Knowing the client is a good way to avoid difficult behavior. Consistency of caregivers is important in this group of patients.
3. To effectively manage challenging behavior we must:
    a. Identify the behavior and the cause using the **ABC's** of behavior management:
        - **Antecedent** – what happens before the behavior?
        - **Behavior** – what IS the behavior? (identify accurately)
        - **Consequence** – what happens as a result of the behavior?
4. Tools for managing behavior
    a. **Directing** and **redirecting**
        1. When the client is not doing what we want to do we **DIRECT** them using such actions as cueing or mirroring.
        2. When the client is doing something inappropriate or of danger to self or others, we **REDIRECT** them to another action.
    b. Ignore the behavior when appropriate.
    c. Increase your tolerance for the behavior, especially with the dementia client.

H. Actions for managing the angry client

1. Agitation
    a. Listen closely and try to determine what triggered the behavior.
    b. Watch the client's body language for signs of escalating anger such as:
        - loss of eye contact

- repetitive movement, wringing of the hands, clenched fists
- increase in motor activity, such as frequent changes in position or pacing.
- change in tone of voice, repetitive sounds, crying, complaining.

c. Remain calm. Think before you speak.

d. Leave the client alone if appropriate and allow him to calm down.

2. Physical aggression

a. Avoid actions and issues that cause the client to become combative.

b. Call for assistance if the client loses control.

c. Back off when it is appropriate and allow the client time to settle down.

d. Keep yourself and others at a safe distance. Protect yourself and the patient.

e. Stay calm. Don't threaten. NEVER HIT BACK!

f. When anger passes, talk with the client to try to understand and comfort.

2.4 Measure and Record Vital Signs

INTRODUCTION : Medication administration will require the Medication Aide to measure the vital signs of clients who are taking particular drugs. This instructions should be a review since measuring vital signs is included in both the nurse aide training and the Direct Care Staff training curricula. However, each student should demonstrate competency in measuring and recording vital signs, especially pulse and blood pressure. Devices for measuring vital signs vary. Some facilities use manual blood pressure cuffs, other use electronic devices. It is important that students understand what measurements are within normal range and when to report the measurements. Emphasis should be placed on the importance of monitoring pulse and blood pressure when certain drugs are administered.

PERFORMANCE OBJECTIVE

Given the equipment for measuring vital signs, measure and record temperature, pulse, respirations and blood pressure. Procedures must be performed under supervision. Blood pressure readings must be within +/- 2mm of mercury of a simultaneous reading by the instructor.

TOPICAL OUTLINE

A. When to measure vital signs

1 When ordered by HCP.

2. If required by facility policy and procedure on a routine basis.

3. When monitoring the client's response to certain drugs.

4. When the client shows signs of physical distress.

B. Determining baseline or "normal" vital signs for the individual client

1. Baseline temperature range

2. Baseline pulse rate

3. Baseline respiration (breathing) rate

4. Baseline or acceptable blood pressure rate

C. Procedure for measuring and recording vital signs

1. Review step-by step procedure for measuring vital signs

   a. Temperature

      ■ oral 97.6 – 99.6

- rectal — A degree higher
- axillary — A degree lower
- ear — same as oral, less accurate than rectal

Most literature supports the belief that many (not all) older adults (85 and younger) tend to run "low normal" temperatures.

Older adults often have a diminished ability to regulate body temperature. They are at a higher risk for hypothermia, so need to include caution at both ends of the spectrum. If a facility is all geriatric, with a large percentage over 75 years old, they should have facility specific policies on when to begin to monitor.

b. Pulse

- normal range is 60 to 90 beats per minute
- measure and record:
  - rate – number of beats/minute
  - rhythm - regular or irregular
  - quality – soft or bounding

c. Respirations

- normal range is 12 to 20 breaths per minute
- measure and record:
  - rate – one full rise and one full fall of the chest
  - rhythm – regular or irregular
  - quality – normal or labored

d. Blood pressure

- measurement of the pressure exerted against the walls of the arteries as the blood moves through the body

- most literature defines normal range as 110/60 to 130/80 (may vary per individual)

2. Review procedure for recording the measurements

   a. Use correct abbreviations.

   b. Follow facility documentation procedures.

3. Assisting the client to decide to administer medication

a. Report measurements of vital signs to client.

b. Contact appropriate HCP or designated staff member, regarding abnormal measurements.

c. Follow facility procedure for assisting client to administer medication.

d. Document the measurements in the client's record. Document who was notified of abnormal readings and what action was taken.

e. Report abnormal readings.

Causes of Inaccurate Blood Pressure Readings
1. The cuff is too small or too large.
2. The cuff is not wrapped correctly.
3. Incorrect arm positioning.
4. Not using the same arm for all readings.
5. Not having the gauge at eye level.
6. Deflating the cuff too slowly.
7. Not waiting a sufficient amount of time between readings (repeating the process too quickly to recheck original reading)

2.5 Demonstrate Understanding of the Use of the International (Military) Time

INTRODUCTION : The method of representing time varies with different organizations or facilities. Many work settings use International Time to distinguish between AM and PM time. We sometimes refer to this a "Military Time" because the Armed Forces use this method to indicate time. Because there is little chance of misreading the hour, it is the safest measure of time when it comes to medical procedures and medication administration.

PERFORMANCE OBJECTIVE

Given examples of Standard Time, indicate the correct International Time with 100% accuracy.

TOPICAL OUTLINE

A. Define International Time

1. International time is counted from the first hour of the day, (number 1), to the last hour of the day, (number 24).

B. Reading International Time

Tip: After the noon hour, add 12 to the ordinary time number.

1:am = 0100	9:am = 0900		5:pm = 5:pm + 12 = 1700
2:am = 0200	10:am = 1000		6:pm = 6:pm + 12 = 1800
3:am = 0300	11:am = 1100		7:pm = 7:pm + 12 = 1900
4:am = 0400	12:pm = 1200	Noon	8:pm = 8:pm + 12 = 2000

5:am = 0500	1:pm = 1:pm + 12 = 1300	9:pm = 9:pm + 12 = 2100
6:am = 0600	2:pm = 2:pm + 12 = 1400	10:pm = 10:pm + 12 = 2200
7:am = 0700	3:pm = 3:pm + 12 = 1500	11:pm = 11:pm + 12 = 2300
8:am = 0800	4:pm = 4:pm + 12 = 1600	12:mn = 12:mn + 12 = 2400

2.6 Identify the Five Rights of Medication Administration

INTRODUCTION : The rules for giving medications are universal. We call these rules the "Five Rights" of Medication Administration. These rules apply to every medicine, every client and every HCP at all times. Failure to follow the "Five Rights" could have serious, even fatal consequence. This objective is perhaps the most important one in this curriculum, a point which should be emphasized frequently.

PERFORMANCE OBJECTIVE

On a written quiz, demonstrate an understanding of the five rights of medication administration with 100 % accuracy.

TOPICAL OUTLINE

A. The Five Rights

1. Right Client
2. Right Drug
3. Right Dose
4. Right Route
5. Right Time

B. The importance of observing the Five Rights each time a medication is administered

1. To achieve therapeutic goal
2. To prevent harm to the client
3. To avoid ethical and/or legal complications

C. Procedures for ensuring the rights

1. Know the client
2. Check and re-check HCP orders
3. Measure and count carefully
4. Follow specific administration instructions

5. Adhere to time schedule for the facility

6. Use the Medication Administration Record (MAR) correctly

7. When in doubt about any of the 5-Rights....**DO NOT give the drug!!**

D. Documentation

1. Documentation is often referred to as the '6^{th} Right' and will be discussed in *Chapter 5.*

TEACHING ACTIVITIES - Chapter 2

Introduction

D Review each of the chapter objectives with the students. Use the brief *Introduction* notes to provide background for each objective.

D Explain that students must earn a grade of at least 80% on the **Chapter 2** test as well as perform return demonstrations for selected objectives.

D Advise the students that chapter tests may include subjective and objective questions (explain the difference). Remind them that when you make a particularly important point, that you might make a comment such as, "Make a special note about this", or "You might see it on a test", or "Remember that I said this".

Presentation & Discussion

D Present all material contained in *Topical Outline* for each objective. Elaborate and use examples as appropriate for the group or client population.

D Try to limit lecture time to no more than 15-20 minutes for each objective.

D Allocate a period of time for discussion as needed.

Objective 2.1 Identify principles of maintaining aseptic conditions

D Refer students to **Student Handout 2.1.A**, *Learning the Language of Medication Administration,* vocabulary set. Instruct the students to define each of the terms on the handout using the glossary. The instructor may instruct students to complete this activity before lecture on the topical outline in preparation for the class or after the lecture as a learning reinforcement tool.

D Demonstrate proper hand washing technique. Refer students to **Student Handout 2.1.B,** *Hand-washing Skills Checklist*. In pairs, instruct the students to demonstrate proper hand washing technique and document competency on the checklist. (This should be a review of previous learned skills).

Objective 2.2 Recognize emergencies and other health-threatening conditions and respond accordingly

D Refer students to **Student Handout 2.2.A** *Recognizing Emergencies and Other Health-threatening*

Conditions. Either individually, or in groups, instruct the students to read the situations and number the actions in the order that they might perform them.

Objective 2.3 Identify basic concepts of communication with the cognitively impaired client

D Refer students to **Student Handout 2.3.A** *Learning the Language of Medication Administration: Administering Medication to the Cognitively Impaired Client*.

D Refer students to **Student Handout 2.3.B** *10 Tips for Achieving the 5 Rights: Administering Medication to the Cognitively Impaired Client.* Review each of the points and elaborate, using examples for the specific client population.

Objective 2.4 Measure and record vital signs

D Demonstrate how to take vital signs. Students should demonstrate the ability to measure and record blood pressure. This is best done using a dual stethoscope, thus allowing the instructor to validate the student's reading. Reading should be within +/- 2mm mercury in a simultaneous reading. (This should be a review of previously learned skills).

Objective 2.5 Demonstrate Use of the Use of International Time

D Refer students to the **Student Handout 2.5.A,** *Demonstrate Use of International Time* Instruct them to add the correct International Time in the space provided.

Objective 2.6 Identify the Five Rights of Medication Administration

D Review the *Five Rights of Medication Administration*

D Review *Methods to Ensure the Five Rights*

D Ask the question, "What is the most important thing to remember about medication administration?" They should answer, "The 5-Rights of Medication Administration". (Have them repeat each of the rights. Do this at the beginning and end of every class.)

D Suggestion: Make a colorful poster listing the 5-Rights of Medication Administration. Post this in a location that is visible to the students for the entire length of the class.

Evaluation:

Complete a written test on the Chapter 2 objectives with a minimum passing score of 80%.

Student Handout 2.1.A

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

OBJECTIVE 2.1 – MAINTAINING ASEPTIC CONDITIONS

Instructions: *Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and provide the definition.*

Learning Goal: To be able to define and spell words related to maintaining aseptic conditions issues relating to medication administration on a written test.

aseptic - _____

_____

bio-hazardous waste - _____

_____

blood-borne pathogen - _____

_____

communicable disease - _____

_____

contaminate - _____

_____

disinfect - _____

_____

microorganism - _____

OSHA - _____

_____

pathogen - _____

PPE - _____

_____

Standard Precautions - _____

_____

Student Handout 2.1.B

Handwashing Skills Checklist

Student Observed_____ Date_____

Observer_____ Rating_____

D Remove rings and bracelets except for plain wedding bands.

D Use soap and warm, running water.

D Lather hands and arms above the wrist with soap.

D Wash vigorously for at least 20 seconds. (Silently sing "Happy Birthday" slowly to time yourself).

D Wash the back of your hands, the wrists and between your fingers.

D Wash under nails (use a brush or orange stick if needed).

D Rinse hands under very warm, running water.

D Do not turn the water off until you dry your hands.

D Dry hands and wrists with a clean, disposable paper towel.

D Turn off running water with a paper towel, *not* with bare hands.

D Keep the paper towel to use to open the bathroom door (do not touch the knob with your clean hands)

Note: Hand sanitizer is a useful product but it should NEVER replace hand washing.

When to Wash Your Hands	
BEFORE	**AFTER**
• Administering medication	• Administering medication
• Before putting on gloves	• After removing gloves
• Before providing direct client care	• After direct client care
• Before eating	• After using the toilet
• Before working your shift	• After cleaning equipment or spills
	• After working your shift

Student Handout 2.2.A

RECOGNIZING EMERGENCIES & OTHER HEALTH-THREATENING CONDITIONS

Directions*: Identify the action you would take in each situation and place a number in each box which indicates in what order you would take the action.*

1. Mr. Jones, an 86 year old resident comes to you clutching his chest. He complains that he is having severe pain in the center of his chest which is going down his left arm. He is very pale and sweaty and somewhat short of breath. He appears to be frightened. List the order in which you would take each of the following actions:

    □ Write a report

    □ Notify the doctor

    □ Call 911 immediately

    □ Notify the supervisor

2. Tom Travino is a resident in the facility where you work. When you bring his medication to his room, you find him on the floor. He tells you that he fell on his way to the bathroom. He is unable to get up and states he has a lot of pain in his right hip. You notice that his leg is in a very unusual position. List the order in which you would take each of the following actions:

    □ Write a report

    □ Notify the doctor

    □ Call 911 immediately

    □ Notify the supervisor

3. Mrs. Brown has complained of having chills and fever off and on for a week. Her doctor was called on the second day and ordered an antibiotic. Mrs. Brown has been taking the antibiotic as ordered for three days. She is still having chills and fever. List the order in which you would take each of the following actions:

    □ Write a report

    □ Notify the doctor

    □ Call 911 immediately

    □ Notify the supervisor

4. During the six months that Sally Turner has been a resident in the facility, she has usually been friendly and cooperative when you bring her medication. However, twice this week she acted very angry and threw the medication on the floor. Today she screams and throws her book when you enter the room with her medication. You should:

- □ Write a report
- □ Notify the doctor
- □ Call 911 immediately
- □ Notify the supervisor

Student Handout 2.3.A

CHAPTER 2 -- LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

OBJECTIVE 2.3 – CARING FOR THE COGNITIVELY IMPAIRED CLIENT

Instructions: *Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and provide the definition.*

Learning Goal: To be able to define and spell words on a written test related to care of the cognitively impaired client when administering medication.

Alzheimer's Disease - _____

_____

Anxiety - _____

_____

Aphasia - _____

_____

Cognitive impairment - _____

_____

Communication barrier - _____

_____

Confusion - _____

_____

Contraindication-_____

Cueing - _____

CVA - _____

Delirium - _____

Student Handout 2.3.A page 2

Dementia - _____

_____

Depression - _____

_____

Directing - _____

_____

Disoriented - _____

_____

Derseveration - _____

_____

Redirecting - _____

_____

Validation - _____

_____

Student Handout 2.3.B

10 TIPS FOR ACHIEVING THE 5 RIGHTS:
ADMINISTERING MEDICATION TO THE COGNITIVELY IMPAIRED CLIENT

INTRODUCTION: Accurate, safe medication administration means giving the *right drug* to the *right client* in the *right dose* by the *right route* and at the *right time*, and documenting correctly. Achieving these goals can be a challenge with the cognitively impaired client. Because they have difficulty with thinking, reasoning and remembering, these clients may, at times, be resistant, suspicious, or even aggressive. These problems may be compounded if the client has difficulty chewing or swallowing. Caregivers must fine-tune skills to meet these unique challenges. The following 10 tips will help caregivers to achieve the **five rights** of medication administration:

1. **Respect**. A diagnosis of cognitive impairment is no different than any other diagnosis when it comes to respect. Knock before entering the client's room. A cheery "good morning" and a pleasant "please" and "thank you" may be the deciding factors as to whether the client chooses to take the medication or not. Regardless of the client's response, show respect in every aspect of your behavior.

2. **Explain.** But keep it simple. Remember that the client has the right to be informed and to be involved in his/her treatment. Some clients may understand single words only. Mirroring is a good technique to use to indicate what you want the client to do. The simple action of placing an empty medication cup to your lips might be sufficient to get the client to do the same.

3. **Encourage Compliance**. Clients often refuse to take medications. Encourage, but be gentle. A non-confrontational approach and a gentle manner go a long way when it comes to persuasion. Be persistent. Clients who refuse medications one minute will often accept the next. Remember, the client ultimately has the right to refuse. Force is *never* acceptable.

4. **Make Eye Contact.** We speak volumes with our eyes. Cognitively impaired clients will often have difficulty with verbal communication. Making eye contact when speaking helps the resident understand what you are saying. In words and actions, communicate to the client that: "I want you to take this medication because I care about you".

5. **Adequate fluids**. Offer fluids before giving the medication. A drink of juice or some pleasant-tasting beverage not only moistens the mouth, but evokes positive feelings as well. This will aid swallowing and help to prevent the medication from sticking inside

the cheek or to the tongue. Don't forget to give plenty of fluids after the medication has been swallowed, also. The general rule is 8 oz unless fluid restriction is ordered.

6. **Crush medications.** Crushing medications may be done with physician orders. Some medications should not be crushed, even with an order. When in doubt, consult a pharmacist. Remember the physician and the client or responsible party must approve mixing medications into food. The goal must always be to help the resident medications, not to "trick" them into taking the medications.

7. **Be patient.** Rushing not only agitates. It can also cause choking and it can contribute to making medication errors.

8. **Observe & Report.** Be aware of medication effects. The length of time that a client takes a drug may alter the effectiveness of the drug, or have unwanted effects. Psychoactive drugs, those that affect the brain, can have long-term negative effects in the elderly. Report your observations promptly to the health care provider.

9. **Document.** Record the date and time of every medication that you administer. If a drug is not given, then record the reason why. Record the reason for administering, and effectiveness of all PRN (as needed) drugs.

10. **Communicate.** Open communication with clients, family and HCP is a must.

Good medication administration procedures combined with individualized care-giving strategy equals ***mission accomplished!***

Christine A. Stacy, MS, RN, BC

Reprinted from National Gerontological Nurses Association. 2000 *Horizons*

Student Handout 2.5.A

Objective 2.5 Demonstrate Use of International/Military Time

Directions: *Write the correct International Time in the space provided.*

Standard Time	International Time	Standard Time	International Time
1:am =	_____	1:pm =	_____
2:am =	_____	2:pm =	_____
3:am =	_____	3:pm =	_____
4:am =	_____	4:pm =	_____
5:am =	_____	5:pm =	_____
6:am =	_____	6:pm =	_____
7:am =	_____	7:pm =	_____
8:am =	_____	8:pm =	_____
9:am =	_____	9:pm =	_____
10:am =	_____	10:pm =	_____
11:am =	_____	11:pm =	_____
12:pm =		12:mn =	

CHAPTER 3 PHARMACOLOGY BASICS

OBJECTIVES

3.1 Define key pharmacology terms, medical terminology and abbreviations associated with medication administration.

3.2 Explain how drugs are classified.

3.3 Identify factors that affect drug action.

3.4 Facilitate the client's awareness of the purpose and effects of medications.

3.5 Demonstrate how to use drug information sources.

3.6 Identify drug labeling requirements in Virginia.

PERFORMANCE OBJECTIVE

Upon completion of this chapter, the student will demonstrate an understanding of basic pharmacology for Medication Aides by completing a written test with a minimum score of 80%.

KEY TERMS

Absorption
Administration
Route ADR
Biotechnology
Chemical name
Contraindication
Controlled Substance DEA
Distribution Dosage Excretion FDA
Generic

I
n
d
i
c
a
t
i
o
n

M
e
t
a
b
o
l
i
s
m
O
v
e
r
-
t
h
e
-
c
o
u

nter Pharmacology
Physical dependence
Poly-pharmacy
Precautions
Prescription drug
Psychological dependence
Synthetic drug therapeutic
Range Toxicity
Trade name

3.1 Define Key Pharmacology Terms, Medical Terminology and Abbreviations Associated with Medication Administration

INTRODUCTION: An understanding of basic pharmacology will enable the Medication Aide to communicate effectively with pharmacists, physicians, and other health care providers. The terms and definitions in this objective will provide the foundation for an understanding of pharmacology that the Medication Aide will build on in practice.

Abbreviations are a shorthand form used to write medication orders. They are a quick way for the HCP to summarize information. Medical abbreviations are standardized and it is important that the Medication Aide know them and to know that it is unacceptable, possibly dangerous, to make up abbreviations. While the pharmacist will not use abbreviations on the medication label, they are often seen on the HCP prescription.

TOPICAL OUTLINE

A. Key pharmacology terms

1. Agency definitions & abbreviations

   a. **DEA - Drug Enforcement Administration** is the federal agency which regulates and enforces laws on drugs in Schedules I-V; determines on a federal level which Schedule classification is most appropriate for drugs.

   b. **FDA - Food and Drug Administration** is the federal agency which determines when a manufacturer can market its drug based on safety and efficacy data; determines if a generic drug is therapeutically equivalent to a brand name drug.

2. **Pharmacy definitions**

   a. ADR

   b. chemical name

   c. contraindication

   d. controlled substance

e. generic name

f. indication

3. **Terms related to body systems**

a. absorption

b. distribution

c. metabolism

d. excretion

g. over-the-counter

h. precaution

i. prescription drug

j. toxicity

k. trade name

B. Abbreviations associated with medication forms.

a. tab. – tablet
b. cap. – capsule
c. sol. – solution
d. syr. – syrup
e. oint. – ointment
f. crm. – cream
g. supp. – suppository
h. inh. – inhaler

C. Routes of administration and associated abbreviations and meanings

ROUTE OF	MEANING	ABBREVIATIO
Buccal	Inside the cheek	buc.
Eye	Right eye	od
	Left eye	os
	Both eyes	ou
Oral	By mouth	p.o.
Per rectum	By rectum	pr., rec.
Subcutaneous	Under the skin	subcu., SQ.
Sublingual	Under the tongue	subling., SL.
Topical	On the skin	top.
Vaginal	By vagina	vag.

D. Measurements and associated abbreviations

MEASURE	ABBREVIATION	MEASURE	ABBREVIATION
Centimeter	cm	Milliliter	mL, ml
Cubic Centimeter	cc	Ounce	oz
Drops	gtt	Pound	lb
Gram	gm	Tablespoon	Tbs
Milligram	mg	Teaspoon	tsp
Fluid ounce	fl. oz.	Units	u
Spray	sp.	Milliequivalent	mEq
Deciliter	dl	Microgram	mcg

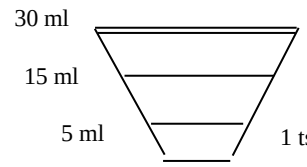
MEASUREMENT EQUIVALENTS

1 cc = 1 ml

1 tsp = 5 ml

3 tsp = 1 Tbsp

1 oz = 30 ml



E. Times of administration and associated abbreviations

MEANING	ABBREVIATION
Before meals	ac
After meals	pc
Morning	am
Afternoon	pm
Ad lib	as much as needed
As necessary	prn
Hour of sleep	hs
Stat	immediately
Every	q
Every other day	qod
Every morning	qam
Once daily	qd
Two times daily	bid
Three times daily	tid
Four times daily	qid
Every hour of sleep	qhs
Hour	h, hr
Every hour	qh
Every two hours	q2h
Every three hours	q3h
Every four hours	q4h

F. Medical terms and associated abbreviations

MEANING	ABBREVIATION	MEANING	ABBREVIATION
By means of	per	No Know Drug Allergies	NKDA
Complaints of	c/o	No known Allergies	NKA
Label	sig.	Less than	<
Nothing by mouth	npo	Greater than	>
Vital signs	TPR/BP	Increase	↑
With	c	Decrease	↓
Without	s		

3.2 Identify How Drugs Are Classified

INTRODUCTION: Drugs are classified in different ways. Two of these ways are by the body system which the drug affects and by the therapeutic action of the drug. The therapeutic action of the drug involves the process of treating, relieving, or obtaining results through the action of the medication on the body. The goal of this objective is for the student to identify how drugs are classified. Examples are provided under each class. A student who commits to learning about different drugs every day will, over time, gain a deeper understanding of drugs and how they affect the body.

TOPICAL OUTLINE

A. Drug sources

1. Natural sources

   a. Plants. *Examples:*

      - digitalis - derived from the foxglove flower
      - morphine - derived from the poppy plant
      - aspirin - derived from willow bark

   b. Animal. *Examples*:

      - insulin – derived from pancreas of pigs and cattle
      - heparin – derived from the intestinal lining of pigs and cattle

   c. Minerals. *Examples*:

      - dietary supplements (iron, iodine, calcium)
      - Epsom salts – magnesium sulfate
      - milk of magnesia – magnesium hydrochloride

2. Chemical sources

   a. Chemical (synthetic- created in a laboratory; how many drugs are made today). *Examples*:

      - Bactrim® - sulfamethoxazole and trimethoprim
      - Prozac® - fluoxetine

   b. Biotechnology. *Examples*:

      - Humulin®- a synthetic insulin (not from human pancreas)

B. Drug names

1. Generic name – the official name of the active ingredient used by all manufacturers.
    a. Non-proprietary – means no one manufacturer can own the name.

    Example:

    - ciprofloxacin is the generic name for Cipro®

2. Trade name – also called the brand, or product name.
    a. Proprietary – means the name may be used by a specific manufacturer.
    b. Indicated by the symbol: ®

    Examples:

    - Amoxil® is the registered trade name for amoxicillin
    - Tylenol® is the registered trade name for acetaminophen

C. How drugs are classified

1. By the body system affected by the drug:
    a. Cardiovascular system drugs
        1. Used to treat conditions of the heart or to prevent heart attack.
        2. Potential side effects:
            - dizziness
            - headaches
            - weakness
            - decreased heart rate
            - nausea
            - orthostatic hypotension (dizzy upon rising from sitting

position)

3. Can cause toxicity (poisoning) in the body:

Signs of toxicity:

- loss of appetite
- nausea & vomiting
- irregular heartbeat or very slow rate
- irritability

- confusion

Examples :

- Lanoxin® (digoxin)
- Corgard® (amiodarone)

Observe & Report: Take the client's pulse for one full minute before giving digoxin. If the pulse is below 60, (or rate specified by HCP), do not give the medication. Notify the HCP immediately. Observe for signs of toxicity (see above). Notify the HCP or supervisor of any signs of toxicity or of unusually low pulse rate or heart 'flutters'.

b. Respiratory system drugs

1. Used to treat asthma or other breathing problems such as asthma.
2. Available for administration in different forms:
   - inhalers
   - tablets
   - in dry powder diskus
   - nebulizer treatments
3. Potential side effects
   - throat irritation and cough
   - nervousness

Examples:

- Ventolin® (albuterol)
- Advair Diskus® (fluticasone/salmeterol)

- Singulair® (montelukast)

Observe & Report: To maximize the benefit of the drug, always observe whether the client is using good technique when using an inhaler, diskus or nebulizer. Poor technique frequently causes the drug to hit the back of the throat instead of reaching the lungs. *(See Chapter 4).* It may be necessary to remind the client frequently of how to use good technique.

Storage tip: Be sure to store any drugs which arrive in a foil packaging in this package until time to administer the drug. An example would be drugs for nebulizers. These are light-sensitive and will degrade if not stored properly.

c. Gastrointestinal system drugs

1. Used to treat stomach and intestinal conditions.

2. Potential side effects

- nausea
- constipation
- diarrhea

*Examples of **antacids***:

- Maalox ® (aluminum hydroxide, magnesium hydroxide, simethicone)
- Prilosec® (omeprazole),
- Pepcid® (famotidine) or
- Zantac® (ranitidine)

*Example of **laxatives***:

- Miralax® (polyethylene glycol 3350)

*Example of **stool softeners***:

- Colace® (docusate sodium)

Observe & Report: Report to the supervisor or the HCP if you observe a client needing an unusual amount of antacids such as Tums®, Rolaids®, Maalox®, etc. There may be a more serious, undiagnosed, condition than simply indigestion.

Antacids frequently interfere with other drugs and may need to be given 2 hours apart from other drugs. The pharmacy may place a label on the drug instructing to separate the drug administration from other drug(s). When in doubt, refer to a drug reference or ask the pharmacist.

Constipation is a common problem in the elderly. Often, administering stool softeners and laxatives requires the client to drink large amounts of liquid. Encourage the client to exercise, as appropriate, and to drink the recommended amount of liquid because, if they don't these drugs may worsen the problem. In

addition, it is important to maintain physical activity to avoid constipation and maintain regularity.

Report to the supervisor or HCP if the prescribed stool softeners or laxatives do not alleviate the constipation within the prescribed time that the medication should act. Chronic constipation can lead to a serious condition called fecal impaction. Impaction can cause bleeding, hemorrhoids, and stress to the heart. One complication of fecal impaction is the possibility of bowel perforation, a dangerous event which can lead to infection of the abdominal cavity, and possibly death, if not treated.

d. Endocrine system drugs

1. Hormones control and regulate normal body functions.
2. When glands produce too little or too much they can produce life-threatening disorders such as diabetes.
3. Potential side effects:
   - anxiety
   - excitability
   - irritability
   - sweating
   - headache

   Examples:
   - Synthroid ® (levothyroxine) &
   - Humulin® (insulin)

Observe & Report: These drugs may impact the client's behavior.

Report any **unusual behavior**. The dose may need to be adjusted.

Report unusual **weight loss or gain**. The dose may need to be adjusted.

These drugs frequently require routine blood work to ensure that the client is receiving the correct dosage. Missing a dose may affect these blood levels.

(See Chapter 8, Objective 8.3 for signs and symptoms of hyperglycemia and hypoglycemia.).

Encourage the client to take these drugs as prescribed.

2. By the action of the drug in the body:

a. Anti-coagulants

1. Used to treat or prevent thrombosis (blood clotting)

2. Potential side effects :

- bleeding
- nausea
- itching
- abdominal cramping

Examples :

- Coumadin® (warfarin sodium)

Observe & Report: Watch for signs of excessive bleeding or unusual bruising. Check stools and urine for blood.
Be aware that this drug can cause the urine to have a red-orange discoloration.

Client should avoid prn use of aspirin in combination with anticoagulants unless prescribed by HCP as aspirin has mild anticoagulant effects.

b. Anti-hypertensives

1. Used to lower blood pressure. Lowering BP reduces risk of heart attack or stroke

2. Potential side effects

- orthostatic hypotension (esp. when rising quickly from sitting or lying position).
- dizziness

- nausea
- decreased heart rate

Examples:

- Lopressor® (metoprolol)
- Prinivil® (lisinopril)
- Calan® (verapamil HCL)

- HCTZ (hydrochlorothiazide)

Observe & Report: Report the clients non-adherence to the drug regimen. Explain to the client that he should take the medicine, even if he feels better. Antihypertensives help control (they do not cure) high blood pressure. OTC medications should be avoided (especially cough, cold, and allergy medications which contain a decongestant) unless ordered by the HCP.

c. Anti-hyperlipidemics

1. Used to lower cholesterol; lowering cholesterol reduces risk of heart attack or stroke
2. Potential side effects
   - flatulence (gas)
   - diarrhea
   - headache
   - muscle aches

   Examples:
   - Lipitor® (atorvastatin calcium)
   - Mevacor® (lovastatin)
   - Tricor® (fenofibrate)

Observe & Report: Report any side effects, especially muscle aches or cramps. There is a small chance that these drugs can damage muscle tissue which may be irreversible. Notify physician or supervisor immediately if a client who is taking these medications complains of muscle aches.

d. Antibiotics

1. Used to treat bacterial infections

- Important not to miss doses
- Administer on time and the entire course
- Not effective against viral infections such as the common cold or flu

5. Potential side–effects

- allergic reactions:
  - itching,
  - rash,
  - difficulty breathing,
  - wheezing, etc.
- anaphylaxis
- diarrhea
- photosensitivity (light)
- nausea

Examples:

- Bactrim DS® (sulfamethoxazole & trimethoprim)
- Zithromax® (azithromycin)
- Levaquin® (levofloxacin)

Observe & Report: This class of drugs poses a higher risk for **severe allergic reaction**. Report any signs of allergic reaction (itching, rash, difficulty breathing). The drug may need to be changed or discontinued. Encourage the client to complete the entire course of the antibiotic, even if he feels better. A relapse is possible if the full course is not taken. It is also possible that the infecting organism may become resistant to the antibiotic causing the drug to become ineffective against the illness.

If the client has had a fever, this usually subsides in a day or two after starting the antibiotic. If the client 'spikes' a fever in the middle of the course of taking the antibiotic, report immediately to the HCP.

e. Anti-convulsants

1. Used to treat seizures. May also be used to treat certain types of pain.

2. Increasingly used for bipolar disorder and behavioral management in dementia.

3. Important NOT to miss doses.

4. Potential side effects
    - slurred speech
    - decreased coordination
    - headaches
    - insomnia
    - muscle twitching

    Examples:

    - Dilantin® (phenytoin sodium)
    - Neurontin® (gabapentin)
    - Depakote® (divalproex sodium)

Observe & Report: These drugs have a narrow ***therapeutic range*** which means that it takes just the right amount of the drug to create the desired therapeutic effect. A variation from the right amount of the drug will **fail** to protect the client from seizures. Seizures can be harmful, even life-threatening. Notify the HCP or contact emergency services if a client experiences seizures. If the level of the drug in the blood is too high, the client may experience toxicity.

f. Hypnotics

1. A drug used to induce sleep
2. Generally intended for short-term use (these drugs may be addictive)
3. Potential side effects
    - agitation
    - confusion

- nightmares
- nausea
- rash

Examples

- Ambien ® (zolpidem tartrate)
- Sonata ® (zaleplon)

- Lunesta® (eszopiclone)

Observe & Report: Report excessive drowsiness or dizziness during waking hours. This may indicate a need for dosage adjustment.

These drugs may increase the risk for fall. Report any changes in the way the client walks. Implement careful fall prevention measures.

Note: *Diphenhydramine (Benadryl, Tylenol PM) should not be used to induce sleep in the older adult.*

g. Anti-anxiety drugs

1. Used to reduce anxiety, stress or agitation
2. Potential side effects:
   - drowsiness
   - dizziness
   - increased risk of falls

   Examples:
   - Ativan® (lorazepam)
   - Xanax® (alprazolam)

Observe & Report: Report to the supervisor or the HCP any excessive drowsiness or dizziness. This may indicate a need for the dosage to be adjusted.

Report any changes in the way client walks.

h. Anti-depressants

1. Used to treat depression

2. Also used to treat pain in some clients

3. Potential side effects:

- drowsiness
- fatigue
- confusion
- constipation

- increases risk of falls

Examples:

- Zoloft® (sertraline)
- Wellbutrin® (buproprion)
- Prozac® (fluoxetine)

Observe & Report : Report excessive drowsiness or dizziness. This may indicate a need for dosage adjustment. Report any changes in the way the client walks. Doses should not be missed. These drugs should not be discontinued abruptly. They are frequently tapered on and tapered off over a few weeks or as prescribed. Note changes in the dosage accurately on the MAR.

i. Antimanic agents

1. Used to treat
   - bipolar disorders

     (previously called manic-depressive disorders)
2. Potential side effects
   - fine tremors in the hands
   - general discomfort
   - mild thirst
   - frequent urination
   - mild nausea (usually transient)

   Examples:
   - Lithium

- anti-convulsants

Observe & Report : Report complaints of abdominal pain or any changes in the way the client walks. Report involuntary jerking movement of the eyes. Report slurred speech or difficulty swallowing. Report any complaints of "ringing in the ears".

j. Anti-psychotic agents (also called neuroleptics)

1. Used to treat

- acute and chronic schizophrenia
- psychoses (caused by biochemical changes in the brain)
- the manic phase of bipolar disorder
- psychotic disorders

2. Potential side effects

- blurred vision
- constipation
- convulsive seizure
- dizziness
- drowsiness
- dryness of the mouth
- orthostatic hypotension
- movement disorders

Examples:

- Haldol® (haloperidol)
- Zyprexa® (olanzapine)
- Risperdal® (risperidone)

Observe & Report : Report any abnormal body movements such jerking of the neck, tongue thrusting, or rigidity in the hands and feet.

Note: Psychotropic drugs are used to reduce and control symptoms of mental or emotional illness. The four classes of psychotropic medications are anti-anxiety drugs, antidepressants, anti-manic agents, and anti-psychotic agents.

See Chapter 7, Objective 7.2 for additional training on psychotropic drugs.

3. Classification by disease that the drug is intended to treat

a. Osteoporosis drugs

1. Used to prevent and/or treat osteoporosis

2. Commonly administered to the elderly

3. Potential side effects:

- nausea
- constipation

Examples

- Fosamax® (alendronate sodium)
- Miacalcin® (calcitonin-salmon)
- Actonel® (risedronate)
- Tums®, Caltrate®, Citracal®

Observe & Report: Some of these drugs must be given first thing in the morning, upon arising. The client must take some of these drugs with a full glass of water (8oz.), while sitting up, and then cannot drink, eat, or lie down for 30 minutes. It is very important to follow these instructions. Missing the dose or not having the client remain upright may result in the drug not achieving the desired effect and can potentially harm the esophagus. These drugs are more effective if the client is also taking a calcium supplement and Vitamin D. The combination of 2 or more drugs to treat a disorder is called poly-pharmacy, example taking calcium + Vitamin D for osteoporosis.

b. Pain medications

1. Used to treat moderate and severe pain or a combination of both.

2. Many used to treat moderate to severe pain are Schedule II to V drugs which require special record keeping. (Discussed in detail in Chapter 6)

3. Many used to treat mild pain are sold over-the-counter.

4. Potential side effects

   - allergic reactions

- upset stomach
- gastric ulcers
- drowsiness
- constipation

Examples:

- Lortab® (hydrocodone/acetaminophen)
- Percocet® (oxycodone/acetaminophen)
- Roxanol® (morphine)
- Ultram® (tramadol)
- Advil® (ibuprofen)
- Tylenol® (acetaminophen)- sold as over-the-counter drug
- Tylenol with codeine –dispensed pursuant to a prescription
- Pradoxa

Note: *The elderly do have some issues with NSAIDs (Non-steroidal anti-inflammatory drugs- Motrin, Advil, etc) such as hypertension, gastrointestinal toxicity, etc, but they are still frequently used for pain.*

Include handout "Awareness of Bleeding Risks."

Observe & Report: Clients who are taking acetaminophen (Tylenol®), should not exceed 4,000mg in 24 hours. Some drugs are combination products which include acetaminophen such as Vicodin® and Lortab® and must be taken into consideration when totaling the milligrams consumed. Report observations of excess dosing. Report any complaints of constipation, itching, blurred vision, nausea or signs of blood in the stool. Report any "yellowing" of the skin and of the whites of the eyes, which could be a sign of liver problems. Also report any

signs of decreased urine output.

WARNING: Exceeding 4,000 mg of acetaminophen per day may result in liver damage.

Note: It is important to know that acetaminophen is in some of the prescription pain medications such as Percocet, Lortab, etc. Therefore, it must be included in the calculations of the daily dose of acetaminophen.

c. Dementia medications

1. Drugs which slow the progression of memory loss

2. Potential side effects

- headache
- nausea & vomiting (especially during dose titration)
- dizziness
- fatigue
- itching
- depression
- Most common side effect is nausea and vomiting.

Examples:

- Namenda® (memantine)
- Reminyl® (galantamine)
- Aricept® (donepezil hydrochloride)
- Exelon® (rivastigmine tartrate)

Observe & Report: It is important that all doses be given as prescribed. Missed doses can alter the therapeutic effect and defeat the purpose of taking the medication.

4. **Dispensing classifications**

a. **Prescription drugs** designated as:

1. Schedule II-V

   - Have a high potential for abuse, especially Schedule II drugs
   - Require special storage and reporting procedures/documentation
   - Cannot be dispensed without a prescriber's prescription.

   Schedule II examples:

   - Percocet®

- morphine
- Oxycontin®

2. Schedule VI in Virginia

- Have the least potential for addiction and abuse
- Cannot be dispensed without a prescriber's prescription

Schedule VI examples:

- antibiotics such as Penicillin® and Keflex®;
- blood pressure lowering drugs such as Atenolol®;
- cholesterol lowering drugs such as Lipitor® & Mevacor®

Note: Schedule I drugs are not legal prescription drugs. This designation is for illicit, street drugs such as heroin, LSD, "Ecstasy", etc.

b. **Over-the-counter drugs including herbal medications**

1. Must have MD order to administer
2. Can be purchased without a prescription
3. Should not be viewed as less important or less potent than a prescription drug
4. Can cause harm, produce unwanted effects and drug interactions just like prescription drugs

3.3 Identify Factors That Affect Drug Action

INTRODUCTION: The body has many complex, integrated systems. If one system is injured or not functioning, all systems are affected. Medication is a substance that changes how one or more of the body systems work. This objective identifies how drugs are processed in the body and which internal and external factors affect that process.

TOPICAL OUTLINE

A. Absorption – First step

1. When a drug is introduced in the body through the gastrointestinal tract, skin, lungs.
2. The speed of absorption influences how quickly the drug acts.
3. The rate of absorption is affected by multiple factors.

B. Distribution – Second step

1. When the drug is moving into body fluids and tissues.
2. Some drugs penetrate certain tissues better than others and therefore are more effective on some parts of the body compared to others.

C. Metabolism – Third step

1. When the body is trying to rid itself of the drug it often needs to break it down before it can be eliminated.
2. Sometimes changed to a less potent form.
3. Affected by many factors including age and the existence of some chronic health conditions.

   Example: An elderly adult cannot metabolize many drugs as quickly as the young. If the drug is metabolized slower, it means that the drug will stay in the

body longer and can have a longer effect. Toxicity or a build-up of a drug can result if the body cannot metabolize the drug at an appropriate rate. *(More on this in Objective 7.1)*

D. Excretion – Final step

1. Most metabolized drugs, after filtering through the kidneys, are excreted in the urine. Age associated reduction in renal function is the most common reason for dose adjustment in the elderly. Kidney function declines with increasing age, so

medications that depend on the kidney to get out of the body, may show toxicity if the dose is not adjusted appropriately.

2. Some drugs are excreted in feces or through expired air.

E Factors that affect drug action

1. Physical factors

a. Age

1. Liver and kidney function may decrease with age and alter the body's ability to metabolize and excrete drugs.

2. The very young and very old require age appropriate dosages.

b. Weight

1. Average adult dosage is calculated to produce a certain effect in persons between the ages of 15-65 weighing approximately 150 pounds..

2. Unusually large or small persons require different doses.

c. Gender

1. Women may react differently to certain drugs than men.

2. All drugs should be administered with extreme caution in pregnant women.

d. Disease states

1. Disease may impair organs necessary for metabolism and excretion.

2. Clients who must take a drug over a long period of time may develop a tolerance which requires increasing dosage.

Example: severe cancer pain may require stronger dosage of narcotic pain medication to achieve a therapeutic effect.

e. Genetic factors

1. Each person's individual makeup causes slight differences in basic processes like metabolism and excretion which affects drug action.

2. Some are more sensitive to a drug because they lack naturally occurring enzymes to metabolize the drug.

2. Psychosocial factors

a. Diet

1. Combining certain drugs with certain foods can alter the drug's effects.

   Example: effects of tetracycline are decreased when taken with milk products.

b. Exercise

1. Increases muscle mass and circulation which may alter absorption.

2. Strengthens the heart and improves circulation which may improve distribution or elimination of drugs.

c. Mental state

1. Could affect the success or failure of a drug because of failure to comply with the prescribe drug regimen.

2. Might produce a placebo effect. (A placebo effect is when relief comes from the perception of the patient thinking that the drug provided relief. For example, a patient might be convinced that a certain pill provides pain relief. In reality, it might be a sugar pill, but the patient "thinks" the pill brought relief.)

d. Past history of response to drugs

1. Many drugs have a time factor and should not be taken within a certain number of days or weeks from when another drug was discontinued.

2. One drug may speed, slow, or negate the action of another.

3. Over time a cumulative effect could cause toxicity.

3. Drug administration factors

a. Dosage form

1. Drugs can come in more than one form.

   Example: aspirin can be taken orally, rectally or topically. The steps in the process of absorption, distribution and metabolize may

be altered when the dosage form is changed.

b. Route of administration

1. Drugs are absorbed, distributed and metabolized differently when given by different routes.

Example: an intravenous dose would act quicker than an intramuscular or oral dose of the same drug.

c. Time of administration

1. Some drugs must be administered at certain times to get the desired

2. Therapeutic effect.

Example: antacids taken before meals to prevent indigestion.

3. Some drugs must be administered at certain times to prevent unwanted

4. Side effects that the drug might cause.

Example: Fosamax® given in the morning in an upright position to prevent acid reflux.

3.4 Facilitate Client's Awareness of the Purposes and Effects of Medications

INTRODUCTION: It is important for the Medication Aide to respond appropriately to the client when he/she has questions about a medication. The purpose of this objective is to provide general information on the purposes and effects of medications which can be used to assist the clients to better understand their medications.

TOPICAL OUTLINE

A. Communicating with the client regarding purpose and effects of medication

1. The client has a right to know what medication he/she is taking and why.
2. The behavior, attitude and approach of the Medication Aide has an impact on the clients' attitude and behavior regarding medication compliance.
3. The Medication Aide should use every opportunity to help the client understand the purpose and effects of their medications.

B. Purpose of medication

1. Prevent illness (e.g.- vaccines)
2. Eliminate illness (e.g.- antibiotics)
3. Control disease (e.g.- insulin)
4. Relieve symptoms related to illness (e.g. - cough suppressant, aspirin)
5. Alter behavior (e.g. - tranquilizers, mood elevators)

C. Effects of medication

1. Desired (therapeutic) effect

   a. Drug acts in the manner for which it was prescribed

   b. Always observe closely when a client starts taking a new drug.

2. Undesired effect

a. Side effect – an unwanted action that does no harm to the body but may limit the usefulness of the drug

1. Usually not therapeutically desirable

2. Can occasionally be useful, (e.g.– sedative effects of a drugmay help with sleep)

3. Initial side effects may subside over time

b. Drug interaction is the effect which results from taking two or more drugs at the same time. Types of interactions:

1. One drug increases the effect of another (potentiate)

2. One drug decreases the effect of another (antagonist)

3. Two drugs combine to produce a new, different, unwanted effect.

c. *Examples* of most common unwanted effects:

- Rashes
- Blurred vision
- Diarrhea
- Confusion
- Vomiting
- Irritability
- Fainting
- Agitation
- Lightheadedness
- Lethargy
- Falling

Note: Unwanted effects in the elderly may be mistaken for normal aging or worsening of chronic disease. Therefore, must note what is normal for that individual patient.

3. No effect

a. If the client has no response, notify HCP.

b. Continuing the drug places unnecessary stress on the kidneys and liver.

c. Also represents unnecessary cost and no benefit for the condition being treated.

D. Drug dependency

1. Physical Dependency – one or more of the body's functions becomes dependent on the presence of a drug. Without it, the body does experience withdrawal symptoms.

2. Psychological Dependency – a mental or emotional craving for the effects produced by a substance. Without it, the body does not experience withdrawal symptoms.

E. Drug Allergies

1. Hypersensitivity - the body's immune system mistakes the medication for a harmful substance.

2. Symptoms of allergic reactions:

a. Usually appear within the first few doses

b. Sometimes delayed and may occur over the course of the person's life

c. Observe for:

- Hives or rash
- Nausea and/or vomiting
- Itching
- Swelling, especially around the eyes

3. Anaphylaxis

a. Anaphylaxis is a severe allergic reaction, usually to a substance to which a person has become sensitized. Symptoms include:

- Difficulty breathing
- Difficulty swallowing
- Facial or tongue swelling

b. Treatment:

- **emergency intervention – 911**
- May be treated with an injection of epinephrine. (See EpiPen® administration)

Observe & Report: Record known allergies in **bold letters** on the Medication Administration Record (MAR).

Always provide any history of allergies to pharmacist and other health care providers as appropriate. Notify physician immediately when signs of a drug allergy are observed.

3.5 Identify How To Use Drug Information Sources

INTRODUCTION: When a client requests information about medication education, the Medication Aide is responsible for assisting him. A pharmacist or the client's HCP are the best choices of licensed health care professionals to consult. Facilities are required to make reference materials available to persons who administer medications. It is important that Medication Aides know how to use these references.

TOPICAL OUTLINE

A. Common drug reference sources

1. Physician's Desk Reference (PDR) -- commonly used in HCP's offices.
2. United Stated Pharmacopeia Dispensing Information (USPDI) -- commonly used by pharmacists
3. Nurses Drug Handbook -- commonly used by nurses
4. The Pill Book -- popular with the lay person

B. Using drug reference books

1. Information found in drug reference books:
    a. description – what the drug is made of.
    b. action – how the drug works.
    c. indications – what conditions the drug is used for.
    d. interactions – undesirable effects produced when drugs are taken with food or other drugs or disease states.
    e. contraindications – conditions under which the drug should not be used.
    f. precautions – specific warnings to consider when administering drugs to patients with specific conditions or diseases.

g. adverse reactions – unintended and undesirable effects.

h. dosage and administration – correct dose for each possible route of administration.

i. how supplied – how the drug is packaged and stored.

Note: The internet is an excellent source of information but remind students to be CAREFUL to choose reputable sources. Consult a pharmacist for drug-related questions and/or questions about other appropriate sources of information.

2. When there is a question about a medication

a. The cardinal rule of medication is that when there is any doubt about the drug do NOT give the drug

b. **Remember: WHEN IN DOUBT, DON'T!!**

c. It is important to resolve an issue as timely as is possible.

3.6 Identify Drug-Labeling Requirements

INTRODUCTION: Prescription drugs are prepared and labeled by a pharmacist licensed by the Virginia Board of Pharmacy. Federal and state regulations provide guidelines to the pharmacist as to how to dispense the medication. Medication Aides must be able to read and assist the client to accurately interpret the drug label.

TOPICAL OUTLINE

A. In Virginia, all drugs labeled and dispensed by a pharmacist will generally contain:

1. The label generally contains:

    a. Pharmacy name, address, telephone number, and DEA number

    b. Prescription number and name of the physician

    c. Clients' name and the date the prescription was filled

    d. Directions for taking the medication

    e. Name of the drug, the strength and count of the medication.

    f. Number of times the drug may be re-ordered without a new prescription.

EXAMPLE:

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY

112. W. Clay Street Richmond, VA 23298
DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 379485 01/01/07

JOHN FREEMAN

TAKE ONE (1) TABLET BY MOUTH EVERY DAY.

Dr. Mark Rigsby

TABS. LEVOTHYROXINE 0.125 MG # 30 REFILL: 1

2. Information which may appear on the label:

    a. If the drug has a short expiration date (time beyond which it should not be taken), this will appear somewhere on the pharmacy label.

    b. Stickers will be placed on the label to give special instructions about the use of the drug.

Student Handout 3.1.A.

CHAPTER 3 - PHARMACOLOGY BASICS

NOTE-TAKING OUTLINE

Objective3.1: Define key pharmacology terms, and abbreviations.

A. Key pharmacology terms

1. Agency definitions & abbreviations

   a. DEA _____

   b. FDA _____

2. Pharmacy terms, definitions & abbreviations

   a. ADR _____

   _____

   b. chemical name _____

   c. contraindication _____

   d. controlled substance _____

   _____

   e. generic name _____

   f. indication _____

   g. over-the-counter _____

h. pharmacology

i. polypharmacy

j. precautions

k. prescription drug

l. therapeutic range

m. toxicity

n. trade name

3. Terms and definitions related to body systems

a. absorption_____

b. distribution_____

c. metabolism_____

d. excretion_____

B. Abbreviations associated with medication forms.

a. tab. – tablet
b. cap. – capsule
c. sol. – solution
d. syr. – syrup
e. oint. – ointment
f. crm. – cream
g. supp. – suppository
h. inh. – inhaler

C. Routes of administration and associated abbreviations

1. Abbreviation and meanings associated with routes of administration

ROUTE	MEANING	ABBREVIATION
Buccal	Inside the cheek	buc.
Eye	Right eye Left	od
	eye Both eyes	os
Oral	By mouth	p.o.
Per rectum	By rectum	pr., rec.
Subcutaneous	Under the skin	subcu., SQ
Sublingual	Under the tongue	subling., SL.
Topical	On the skin	top.
Vaginal	By vagina	vag.

D. Measurements and associated abbreviations

MEASURE	ABBREVIATION	MEASURE	ABBREVIATION
Centimeter Cubic	cm	Milliliter	mL, ml
Centimeter Drops	cc	Ounce	oz
Gram	gtt	Pound	lb
Milligram	gm	Tablespoon	Tbs
Fluid ounce	mg	Teaspoon	tsp u
Spray	fl. oz.	Units	mEq
Deciliter	dl	Microgram	mcg

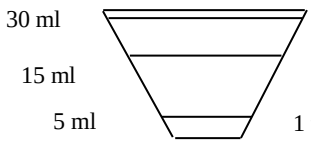
MEASUREMENT EQUIVALENTS

1 cc = 1 ml

1 tsp = 5 ml

3 tsp = 1 Tbsp

1 oz = 30 ml



2 Tbsp = 1 oz

1 Tbsp = 1/2 oz

1 tsp

E. Times of administration and associated abbreviations

MEASURE	ABBREVIATION
Before meals	ac
After meals	pc
Morning	am
Afternoon	pm
Ad lib	as much as needed
As necessary	prn
Hour of sleep	hs
Stat	immediately
Every	q
Once daily	qd
Two times daily	bid
Three times daily	tid
Four times daily	qid
Every hour of sleep	qhs
Hour	h, hr
Every hour	qh
Every two hours	q2h
Every three hours	q3h
Every four hours	q4h

F. Medical terms and associated abbreviations

MEANING	ABBREVIATION		
■ By means of	per	■ No Know Drug Allergies	NKDA
■ Complaints of	c/o	■ Less than	<
■ Label	sig.	■ Greater than	>
■ Nothing by mouth	npo	■ Increase	↑
■ Vital signs	TPR/BP	■ Decrease	↓
■ With	$\overline{c}$		
■ Without	$\overline{s}$		
■ No known allergies	NKA		

Student Handout 3.2.A.

Objective3.2: Identify how drugs are classified

A.Drug sources

1. Natural sources

   a_____Examples:_____

   b._____Examples_____

   c._____Examples_____

2. Chemical sources

   a._____Examples_____

   b._____Examples_____

B. Drug names

1. Generic name _____

   a._____

2. Trade name _

   a._____

   b._____

C. How drugs are classified

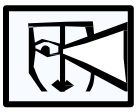
1. By body system affected by the drug:

   a. *Cardiovascular drugs*_____

      1. Uses:_____

      2. Potential side effects_____

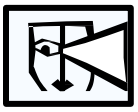
3. Signs of toxicity _____
4. Examples _____



Observe & Report_____

b. ***Respiratory system drugs***_____

1. Uses:_____
2. Potential side effects_____
3. Examples_____

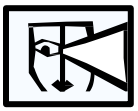


Observe & Report_____

c. ***Gastrointestinal system drugs***

1. Uses:
2. Potential side effects

3. Examples



Observe & Report_____

_____

_____

_____

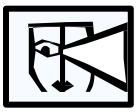
_____

d. ***Endocrine system drugs***

1. Uses:_____
2. Function of hormones:_____
3. Potential side effects_____

_____

4. Examples_____



Observe & Report_____

_____

_____

_____

_____

_____

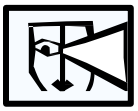
2. By the action of the drug in the body.

a. ***Anti-coagulants***

1. Uses:_____
2. Potential side effects_____

_____

3. Examples



Observe & Report

_____

_____

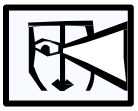
b. Anti-hypertensives

1. Uses: _____
2. Potential side effects _____

_____

_____

3. Examples _____



Observe & Report _____

_____

_____

_____

_____

c. Anti-hyperlipidemics

1. Uses: _____
2. Potential side effects _____

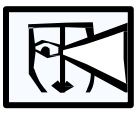
_____

_____

_____

_____

3. Examples_____



Observe & Report_____

_____

_____

_____

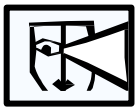
d. Antibiotics

1. Uses:_____
2. Potential side effects_____

_____

_____

3. Examples_____



Observe & Report_____

_____

_____

_____

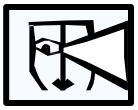
e. Anti-convulsants

1. Uses:_____
2. Potential side effects_____

_____

_____

3. Examples_____



Observe & Report_____

_____

_____

_____

_____

f. Hypnotics

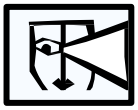
1. Uses:_____
2. Potential side effects_____

_____

_____

3. Examples_____

Observe & Report_____



_____

_____

_____

_____

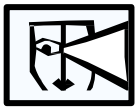
.

g. Antianxiety drugs

1. Uses:_____

2. Potential side effects_____

3. Examples_____



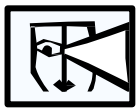
Observe & Report_____

h. Antidepressants

1. Uses:_____

2. Potential side effects_____

3. Examples_____



Observe & Report_____

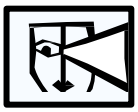
i. Antimanic agents

1. Uses:_____

2. Potential side effects_____

3. Examples

Observe & Report



_____

_____

j. Antipsychotic agents

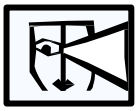
1. Uses:_____
2. Potential side effects_____

_____

_____

3. Examples_____

Observe & Report_____



_____

_____

_____

_____

3. Classification by disease that the drug is intended to treat

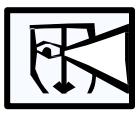
a. *Osteoporosis drugs*

1. Uses:_____
2. Potential side effects_____

_____

3. Examples_____

Observe & Report_____



b. ***Pain medications***

1. Uses:
2. Potential side effects

3. Examples

Observe & Report

WARNING!

c. ***Dementia medications***

1. Uses:
2. Potential side effects

3. Examples

Observe & Report

4. Dispensing classification

1. <u>Prescription drugs</u> designated as:

a.

-

- _____
- _____
- _____

Examples :_____

b. _____

- _____
- _____
- _____

Examples :_____

Note_____

2. **Over-the-counter drugs**

- _____
- _____
- _____
- _____

Student Handout 3.3.A.

3.3 Identify Factors That Affect Drug Action

A. Absorption – First step

1. _____

_____

2. _____
3. _____

B. Distribution – Second step

1. _____

2. _____

Example:_____ _____

_____

_____

C. Metabolism – Third step

1. _____

_____

2. _____
3. _____

Example:_____

_____

_____

D. Excretion – Final step

1. _____

_____

2. _____

E. Factors that affect drug action

1. Physical factors

   1. _____ 4. _____

   2. _____ 5. _____

   3. _____

2. Psychosocial factors

   1. _____ 3. _____

   2. _____ 4. _____

3. Drug administration factors

   1. _____ 3. _____

   2. _____

Student Handout 3.4.A.

3.4 Facilitate Client's Awareness Of The Purposes And Effects Of Medications

A. Communicating with the client regarding purpose and effects of medication

1. _____
2. _____

_____

3. _____

_____

B. Purpose of medication

1. _____ Example: _____
2. _____ Example: _____
3. _____ Example: _____
4. _____ Example: _____
5. _____ Example: _____

C. Effects of medication

1. _____

    a. _____

    b. _____

2. _____

    a. _____

        - _____
        - _____
        - _____

Student Handout 3.4.A.

- _____

b. _____

- _____
- _____
- _____

c. _____

- _____ _____
- _____ _____
- _____ _____
- _____ _____
- _____ _____

3. _____

D. Drug dependency

1. _____
2. _____

E Drug Allergies

1. _____
2. _____

a. _____

b. _____

c. _____

- _____ _____
- _____ _____

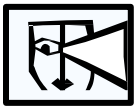
3. _____

a. _____

b. Symptoms:

- _____
- _____

c. _____



Observe & Report: _____

_____

_____

Student Handout 3.5.A.

3.5 Identify How To Use Drug Information Sources

A. Common drug reference sources

1. _____ - commonly used in HCPs' offices.
2. _____ - commonly used by pharmacists.
3. _____ - commonly used by nurses.
4. _____ - popular with the lay person.

B. Using drug reference books

1. Information found in drug reference books:
   a. *description* – _____.
   b. *action* – _____.
   c. *indications* – _____.
   d. *interactions* – _____
      _____.
   e. *contraindications* – _____.
   f. *precautions* – _____
      _____.
   g. *adverse reactions* – _____.
   h. *dosage and administration* – _____
      _____.
   i. *how supplied* – _____.

Note: The internet is an excellent source of information but remind students to

be CAREFUL to choose reputable sources. Consult a pharmacist for drug-related questions and/or questions about other appropriate sources of information.

2. When there is a question about a medication

   a. The cardinal rule of medication is that when there is any doubt about the drug do NOT give the drug

   b. Remember: **WHEN IN DOUBT, DON'T!!**

Student Handout 3.6.A.

3.6 Identify Drug-Labeling Requirements

A. In Virginia, all drugs labeled and dispensed by a pharmacist generally contain:

1. _____

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

Example:

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 379485 01/01/07

JOHN FREEMAN

TAKE ONE (1) TABLET BY MOUTH EVERY DAY.

Dr. Mark Rigsby

TABS. LEVOTHYROXINE 0.125 MG # 30 REFILL: 1

2. Items which may be on the label:

   a. _____

_____

b. _____

_____

Student Handout 3.6.B

Drug Information Sheet

Drug trade name_____ Generic name_____

Description_____

_____

_____

Action_____

_____

Indications_____

Dosage and administration_____

Drug forms_____

Interactions_____

_____

_____

Contraindications_____

_____

_____

Precautions_____

For use by the elderly_____

_____

For use by children_____

_____

Other precautions_____

_____

Drugs which may not be given in combination:_____

_____

Adverse reactions_____

How supplied_____

Student Handout 3.6.C.

Drug Label Exercise

Instructions: *Read the labels and identify missing information which is required by Virginia law.*

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01/01/07

ESTELLE CLAKSON

TAKE ONE (1) TABLET BY MOUTH EVERY MORNING

DR. HERBERT RAE

TABS: DIGOXIN 0.125 MG # 30 REFILL

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

DEA # AV 8967451

KEEP OUT OF REACH OF CHILDREN

RX 379486 01/01/07

ADAM LEAR

TAKE ONE (1) TABLET BY MOUTH THREE TIMES DAILY

DR. ANDREW HUBART

TABS: PHENYTOIN SODIUM 100MG # 90 REFILL 3

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

(804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 372482 01/01/07

ESTELLE CLARKSON

TAKE ONE (1) TABLET IMMEDIATELY BEFORE BEDTIME

DR HERBERT RAE

TABS: AMBIEN 5 MG REFILL: 6

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
Richmond, VA 23298

DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 3749484 01/01/07

ADAM LEAR

TAKE ONE (1) TABLET BY MOUTH THREE TIMES DAILY

DR. ANDREW HUBART

TABLETS: ATIVAN 0.5 MG # 90

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298
DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 371363

JEANETTE SAGRAVES
INJECT 15 UNITS SUBCUTANEOUSLY AT 6:AM AND 4:PM DAILY

DR. VADA HALL
INJ: NOVOLIN-R REFILL: 12

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298
DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX371364 01/01/07

JEANETTE SAGRAVES

TAKE ONE TABLET BY MOUTH DAILY AT BEDTIME

DR. VADA HALL
TABLETS: ARICEPT #30 REFILL: 3

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

CHAPTER 3 REVIEW

Vocabulary

1. absorption _____

2. addiction _____

3. administer _____

4. administration route _____

5. ADR _____

6. chemical name _____

_____

7. contraindication _____

_____

8. controlled substances _____

_____

9. distribution _____

_____

_____

10. dosage _____

Chapter 3 Review, pg 1

11. excretion _____

_____

_____

12. expiration date _____

_____

13. frequency _____

_____

14. generic _____

_____

Chapter 3 Review, pg 2

15. indications _____

_____

16. metabolism _____

_____

_____

17. OTC _____

18. pharmacology _____

_____

19. physical dependence _____

_____

20. poly-pharmacy _____

_____

21. precautions _____

_____

22. psychological dependence _____

_____

_____

23. prescription drug _____

_____

_____

24. self-administration _____

_____

_____

25. toxicity _____

_____

_____

26. trade name_____

Matching

27. antihypertensives	_____treats bacterial infections
28. anticoagulants	_____treats depression
29. antibiotic	_____induces sleep
30. gastrointestinal drug	_____lowers cholesterol
31. endocrine system drugs	_____lowers blood pressure
32. antihyperlipedemic	_____prevents blood clot formation
33. anticonvulsant	_____treats stomach and/or intestinal conditions
34. hypnotic	_____reduces anxiety
35. Antianxiety drug	_____treats seizure disorders
36. antidepressant	_____control disease and regulate body function

Short-Answer Questions

37. Which drug information source would be most useful to the Medication Aide?

_____

38. What are the four actions which a drug undergoes in the human body.

1._____2.___

3._____

4._____

39. Name 5 physical factors that affect drug action in the body.

1._____ 4._____

2_____ 5._____

3._____

40. Name 3 effects which a drug might have on a person.

1._____2._____3._____.

3.6.B. Instructor Answer Key

Drug Labeling Exercise

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DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 378485 01/01/07

ESTELLE CLAKSON

TAKE ONE (1) TABLET BY MOUTH EVERY MORNING

DR. HERBERT RAE

TABS: DIGOXIN 0.125 MG # 30 REFILL: 6

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 379486 01/01/07

ADAM LEAR

TAKE ONE (1) TABLET BY MOUTH THREE TIMES DAILY

DR. ANDREW HUBART

TABS: PHENYTOIN SODIUM 100MG # 90 REFILL 3

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 372482 01/01/07

ESTELLE CLARKSON

TAKE ONE (1) TABLET BY MOUTH IMMEDIATELY BEFORE BEDTIME

DR HERBERT RAE

TABS: AMBIEN 5 MG # 30 REFILL: 6

SCHOOL OF PHARMACY
VIRGINIA COMMONWEALTH UNIVERSITY
112. W. Clay Street Richmond, VA 23298

DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 3749484 01/01/07

ADAM LEAR

TAKE ONE (1) TABLET BY MOUTH THREE TIMES DAILY

DR. ANDREW HUBART

TABLETS: ATIVAN 0.5 MG # 90 REFILL: 1

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112. W. Clay Street Richmond, VA 23298
DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX 371363 01/01/07

JEANETTE SAGRAVES
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SCHOOL OF PHARMACY
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112. W. Clay Street Richmond, VA 23298
DEA # AV 8967451 (804) 555-1234

KEEP OUT OF REACH OF CHILDREN

RX371364 01/01/07

JEANETTE SAGRAVES

TAKE ONE (1) TABLET BY MOUTH DAILY AT BEDTIME
DR. VADA HALL
TABLETS: ARICEPT 10 MG #30 REFILL: 3

CHAPTER 4 ADMINISTRATION OF PREPARED INSTILLATIONS AND TREATMENTS

OBJECTIVES

40.1 Identify basic guidelines for administering medications

40.2 Administer or assist the client with self-administration of oral medications

40.3 Administer or assist the client with self-administration of eye drops and ointments

40.4 Administer or assist the client with self-administration of ear drops

40.5 Administer or assist the client with self-administration of nasal drops and sprays

40.6 Administer or assist the client with self-administration of topical preparations

40.7 Administer or assist the client with self-administration of vaginal products

40.8 Administer or assist the client with self-administration of rectal products

40.9 Administer or assist the client with self-administration of soaks and sitz baths

40.10 Administer or assist the client with self-administration of oral hygiene products

40.11 Administer or assist the client with self-administration of transdermal patches

40.12 Administer or assist the client with self-administration of inhalation therapy products

40.13 Administer or assist the client with self-administration of nebulizer treatment

40.14 Administer or assist the client with self-administration of EpiPens®

PERFORMANCE OBJECTIVE

Student will demonstrate understanding of administering medications by way of different routes. Performance must be according to the skills competency checklist.

Upon completion of this chapter, student will demonstrate understanding of the content by completing a written quiz with 80% accuracy.

KEY TERMS

anaphylaxis	**inhalation**	**nebulizer**	**suppository**
enema	**nasal**	**ophthalmic**	
handheld inhaler	**nostril**	**otic**	

4.1 Identify Basic Guidelines for Administering Medications

INTRODUCTION: Regardless of the form of medication or the route by which it is administered, certain medication administration guidelines apply. The Medication Aide must learn and adhere to these guidelines at all times. Policies and procedures, storage, pharmacy vendors and facility guidelines will vary but the best practices of medication administration should always be applied.

TOPICAL OUTLINE

A. Basic guidelines for administering all medications

1. Know why the client is receiving the medication
2. Know the medication delivery system
   a. vials
   b. blister pack
   c. unit dose
   d. multi-dose
3. Verify each medication order
   a. Written physician's order
   b. Medication administration record (MAR)
4. Know the types of medication orders
   a. Routine order
   b. PRN
   c. Single dose
   d. Stat
5. Give only those medications ordered by an authorized prescriber
6. Read the pharmacist's label (3 times). NEVER give by color-coding only!
7. Never give a medication if there is any question about the order.

8. Never give a drug if its normal appearance has been altered in any way.

9. Always check for ALLERGIES.

10. Take vital signs when indicated.

11. Check the expiration date on the medication label.

12. Practice aseptic technique. Wash hands before and after administering a medication. Wear gloves when coming into contact with blood, any liquid secretions or mucous membranes.

13. When administering oral medications, stay with the client until you are certain that the medication has been safely swallowed.

14. Document appropriately in the Medication Administration Record (MAR)

B. Preparing for a medication pass ("med-pass")

1. Put the Medication Administration Record (MAR) on the cart

2. Stock the cart:

a. Medication cart or cabinet
b. Paper soufflé cups
c. Small plastic measuring cups
d. Drinking cups & straws
e. Plastic spoons
f. Tablet crusher
g. Magnifying glass
h. Disposable gloves
i. Paper towels & tissues
j. Hand disinfectant pump
k. Portable trash container (lined)
l Blood pressure cuff / stethoscope
m. Alcohol preps
n. Pen & paper
o. Medication handbook / reference per DSS regulations

Note: Not all facilities use medication carts. The supplies listed should be made available to the Medication Aide regardless of how the medications are stored or which 'style' of administration system is used.

3. Fresh food supplies

a. Pitchers of fresh (not iced) water and assorted juices.

b. Fresh containers of applesauce and/or pudding.

c. Other specially required foods (sugar-free, etc). Cover &date

Note: Use refrigerated items quickly and dispose of unused portions after each med-pass.

REMEMBER: WHEN IN DOUBT....DON'T!!

4.2 Administer or Assist the Client With Self-Administration of Oral Medications

PERFORMANCE OBJECTIVE

Assist with administration or administer oral medications in accordance with the HCP's orders. Performance must be documented as acceptable according to the skills competency checklist.

TOPICAL OUTLINE

A. Procedure to administer or assist the client to administer oral medications

1. Perform appropriate hand hygiene.
2. Identify the Right client and provide for client privacy.
    a. Identify the person to whom the medication is being given.
    b. If the client is not wearing an armband, there should be a recent picture in the client's MAR so identification can be verified.

Note: It is not unusual for the cognitively impaired client to answer to another name or to give the wrong name. If there is no picture, confirm identification with another staff member.

3. Read the MAR and compare with the HCP orders.
4. Get the medication container from the cart/cabinet and read the label to verify the:
    - ***Right Client***
    - ***Right Drug***
    - ***Right Dose***

- ***Right Route***
- ***Right Time***

5. Check the expiration date on the medication label.
6. Compare the label with the instructions on the MAR. Read three times.
7. Pour the verified medication into the appropriate container.

8. Place your initials in the appropriate box on the MAR (see special documentation requirements for PRN drugs in Chapter 5 and client refusal of medication in Chapter 6.)
9. If the medication is a Schedule II-V drugs, follow special documentation procedures.
10. Give the drug(s) to the client immediately with the recommended amount of fluids.
11. Stay with the client until he/she has swallowed the medication (check mouth PRN).
12. If the Medication Aide must leave out of visual range of the med cart to administer the medication, close the MAR and lock the cart or cabinet.
13. After administering, wash hands thoroughly with each resident.
14. Return to the cart/cabinet and proceed in the same manner to the next client.
15. Medications must be administered within a two-hour window unless otherwise specified.
16. When all medications are administered, dispose of unused foods or liquids, re-stock the cart with supplies, and clean and lock the cart or cabinet.
17. Observe client for any unpleasant or harmful effects from the medication and report observation to physician immediately.
18. Document in nursing notes or on MAR per facility policy.

B. General guidelines for administering <u>oral solid</u> medication:

1. If the client is receiving several medications at one med-pass put them all in one cup and allow the client to take them at the pace he/she wishes.

Note: If the client is frail or has difficulty swallowing, administer each pill separately to prevent choking.

2. It is best to take pills with a full glass of water but always check the HCP orders.

Note: Clients with a diagnosis of heart failure may be on a restricted fluid intake so it is very important to check the client's diet order for fluid restriction.

3. If the client has trouble swallowing a pill, check with the HCP for other available forms of the medication. If no other form is available try the following:
    a. Have client drink some water to moisten the mouth.
    b. Removing dentures may help with swallowing.
    c. Don't rush the client
    d. Give pills one at a time and follow with a drink of water.
4. DO NOT CRUSH or dissolve a tablet, caplet, capsule or other form of solid medication without an order.

ALERT: If pharmacy label states "DO NOT CRUSH," then do not crush. In the event of discrepancies regarding crushing medication(s), clarify with the physician and/or the pharmacist.

5. A physician's order that states "May crush all meds" does not give permission to crush medications which are not meant to be crushed. DO NOT CRUSH:
    a. enteric coated drugs
    b. drugs which are administered by dissolving in the cheek (buccal)
    c. drugs meant to dissolve under the tongue (sublingual)
    d. sustained release drugs on list: DR, XR, CR, EC, ER, LA, SA, etc.
6. When giving a solid medication and a liquid medication at the same time, give the solid medication first and the liquid second. Do NOT mix the solid medication with the liquid medication.
7. Do not mix medication with food or liquids such a juice or milk without requesting permission of the physician and obtaining a written order to do so.
8. If the client states that he/she has never taken the medication before or if the client

questions the accuracy of a drug order, call the physician BEFORE administering the medication.

9. Administer solid oral medications only when you are sure that the Five Rights are being carried out.

10. Stay with the client until the medicine is swallowed. (Check the mouth if uncertain).

C. General guidelines for administering oral liquid medication

1. Unless instructed NOT to do so, shake the bottle well before pouring the medication
2. After removing the cap from the bottle, place it upside down on counter or table.
3. Use specially marked cups when pouring and measuring liquids. Do not use eating utensils such as soup or dessert spoons to measure medication.
4. Place the measuring cup at eye level when pouring and measuring. (It is best to sit the cup on a level surface at eye level).
5. When pouring the medication, hold the bottle so that the label is covered with your hand, then wipe the top of the bottle after pouring to keep the label from becoming soiled or illegible.
6. If too much medication is poured into the medicine cup, throw the extra amount away. Do not pour the extra amount back into the bottle.
7. If giving two liquid medications at one time and one of the liquids is a cough syrup, give the cough syrup last. The cough syrup is intended to coat and soothe the throat.

DO NOT MIX two liquid medications together.

8. Caution: When NOT to give medication:
   a. If any of the following are missing:
      - HCP order
      - Medication Administration Record (MAR)
      - Pharmacy label or illegible label
   b. If the client exhibits significant change in physical or mental status.

c. If there is a question or any doubt about the five rights.

REMEMBER: WHEN IN DOUBT....DON'T!!

4.3 Administer or Assist the Client With Self-Administration of Eye Drops and Ointments

PERFORMANCE OBJECTIVE

Assist with administration or administer eye drops in accordance with the HCP orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. **Procedure for safe administration of eye drops.**

1. Provide for client privacy.
2. Verify medication order for accuracy on the MAR.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Use a clean tissue or sterile cotton pad to wipe the eyelid from inside to outside of eyelid, if crusting or drainage is present.
    a. A separate tissue for each eye.
    b. Non medicated drops first, then medicated drops.
6. Position resident lying on his back or, if sitting, with head tilted back.
7. Shake medication bottle well, if required.
8. Remove cap from bottle and place on a clean, dry surface.
9. When bottle has a separate dropper, draw required amount of solution into dropper, holding dropper upright. If self-contained unit, invert bottle.
10. Use a gauze pad, gently pull down lower eyelid forming a ‘pouch’.
11. Instruct client to look up.

12. Instill prescribed number of drops inside lower lid close to the outer corner of eye (or squeeze strip of ointment 1/3 inch into pouch). Wait 1 minute between drops of the same medication and 5 minutes between 2 different kinds of drops, unless otherwise indicated. Instruct the client to close eye slowly to allow for even distribution over surface of the eye.

13. Instruct client to avoid blinking, to keep eye closed for 1-2 minutes, and remain seated until vision is clear.

14. Apply gentle pressure to the inside corner of the eye with the index finger if medication is for glaucoma or inflammation, or advise client to do so.
15. Do not touch tip of container to any surface.
16. Replace cap and check for tight closure.
17. When two or more different eye drops must be administered at the same time, allow a least a five-minute period between each medication.
18. Properly dispose of gloves and perform appropriate hand hygiene.
19. Document administration on MAR.

4.4 Administer or Assist the Client With Self-Administration of Ear Drops

PERFORMANCE OBJECTIVE

Assist with administration or administer eye drops in accordance with the HCP orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. **Purpose of otic medications**

1. Medications administered into the ear.
2. Used to treat ear infections, inflammation, and pain or to soften wax.

B. **Procedure for administering ear drops**

1. Provide for client privacy.
2. Verify medication order for accuracy with the MAR.
3. Perform appropriate hand hygiene.
4. Put on gloves if ears are infected or bleeding.
5. Make sure the medication is at room temperature.
6. Position the client on his side with the unaffected ear facing downward and the affected ear facing upward. Remove any hearing aids in place secondary to moisture in the ear canal which may ruin the device.
7. Use tissue or gauze pad to wipe any secretions or drainage on the outside of the ear. Do not use a cotton swab or other sharp object.
8. When in container that includes dropper, remove cap from bottle and places upside down on a clean, dry surface.

9. If using a separate dropper, check dropper for cracks.

10. For an adult, straighten the ear canal by gently pulling the ear up and outward. For a child, pulls the ear back and down.

11. Drop the prescribed amount of medication onto the outer part of the ear canal and gently rotate to move medication into the ear canal.

12. Remove extra medication with cotton ball.

13. Instruct the client to maintain position for 5 minutes to prevent medication from rolling back out of the ear.

14. If included in instructions, place cotton ball in client's ear.
15. Replace cap and check for tight closure.
16. Properly dispose of gloves and perform appropriate hand hygiene.
17. Document correctly in MAR.

Note: It is recommended that if ear drops are used to soften the cerumen in the patient's ears, the drops be used at night before bed and the instructions on the package be followed. This allows the ear canal time to dry and prevents moisture from affecting a patient's hearing aid. If the ear drops are used during the day, the liquid may seep into the hearing aid, causing damage. If the patient has an ear infection and is using ear drops prescribed by a doctor, it is recommended that the patient follow the instructions of the medical doctor who may also recommend the patient not wear the hearing aid during this time.

4.5 Administer or Assist the Client With Self-Administration of Nasal Drops and Sprays

PERFORMANCE OBJECTIVE

Assist with administration or administer nasal drops and sprays in accordance with the HCP's orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Nasal medication

1. Used to treat sinus infection, symptoms of seasonal allergies, pain or congestion due to colds.
2. Usually these medications are best if they are administered by the client, especially the nasal sprays as they require hand/breathing coordination.

B. Procedures for administering nasal drops or sprays:

Nasal drops

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Make sure the medication is at room temperature.
6. Instruct client to gently blow nose.
7. Instruct client to sit or lie down and tilt **head back**.
8. Drop prescribed number of drops into clients' nose.

9. Instruct client to remain in position for a few minutes.

10. Replace cap.

11. Properly dispose of gloves and perform appropriate hand hygiene.

12. Document accurately on the MAR.

Nasal Sprays:

1. Follow steps 1 through 6 above.
2. Instruct client to hold head upright and slightly tilt **head forward.**
3. Instruct client to use finger to close nostril not receiving medication and to breathe in through his nose and out through the mouth.
4. Insert the spray nozzle no more than ¼ inch into nostril with tip pointed to the back outer side of the nose.
5. Spray firmly & quickly.
6. Remove spray bottle and instruct client to tilt head back for several seconds to aid penetration of the drug.
7. Instruct client to avoid blowing nose for 15 minutes
8. Follow steps 10-12 above.

4.6 Administer or Assist the Client with Self-Administration of Topical Preparations

PERFORMANCE OBJECTIVE

Assist with administration or administer topical preparations in accordance with the HCP's orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Administer creams, lotions, and ointments

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Apply thin film of cream, lotion, or ointment to affected area using gloved finger or cotton gauze.
6. Replace container top immediately.
7. Properly dispose of gloves and perform appropriate hand hygiene.
8. Documents correctly in MAR.

Medication Aides are not trained to perform wound care or dressing changes, as this is considered a skilled treatment not a medication.

4.7 Administer or Assist the Client With Self-Administration of Vaginal Products

PERFORMANCE OBJECTIVE

Assist with administration or administer vaginal products in accordance with the HCP's orders. Performance must be documented as acceptable on the skills competency checklist.

TOPICAL OUTLINE

A. Purpose of vaginal medications

1. Vaginal medications are administered directly into the vagina.
2. Administered to treat infection, relieve itching, control vaginal dryness, for symptoms of menopause, or for birth control.

B. Procedure for administering vaginal medications

Vaginal suppositories

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene..
4. Put on gloves.
5. Encourage the client to urinate and/or move her bowels, if possible, before administering suppositories or cream.
6. Position the client on her back with knees flexed and legs drawn toward chest.
7. Lubricate the tip of the suppository with a water-soluble gel. (Do not use petroleum gel).
8. Spread the labia and insert the suppository gently forward about 2 inches. **Do NOT force.**

10. Instruct the client to remain lying down for one half an hour after inserting the medication. This allows the medication to begin to dissolve and work in the body.

11. Properly dispose of gloves and perform appropriate hand hygiene.

12. Document correctly in MAR.

Vaginal creams

1. Follow steps 1-6 above
2. If the applicator is not pre-filled, follow the directions on the package to fill the applicator.
3. Lubricate the tip of the applicator with a water-soluble gel. (Do not use petroleum gel).
4. Spread the labia and insert the applicator gently forward about 2 inches. **Do NOT force.**
5. Instruct the client to remain lying down for one half hour after inserting the medication. This allows the medication to begin to dissolve and work in the body.
6. Discard the applicator if it is disposable. If not, wash thoroughly in warm soapy water. Allow to air dry on a clean, dry, paper towel.
7. Properly dispose of gloves and perform appropriate hand hygiene.
8. Document correctly in the MAR.

4.8 Administer or Assist the Client With Self-Administration of Rectal Products

PERFORMANCE OBJECTIVE

Assist with administration or administer rectal products in accordance with the HCP's orders. Performance must be documented as acceptable on the skills competency checklist.

TOPICAL OUTLINE

A. Rectal medications

1. These medications are administered directly into the rectum.
2. They are used to treat illnesses and conditions, such as seizures, fever, nausea & vomiting, pain, and constipation.
3. Can be in the form of creams, gels, suppositories and enemas.

B. Procedure for administering rectal medications

Suppositories:

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Instruct the client to urinate or move bowels, if possible.
6. Position the client on the left side with the right leg flexed at the knee.
7. Remove the suppository wrapper.
8. Moisten the suppository with water.
9. Insert into the rectum (approximately to the second knuckle, approximately 2

inches).

10. Properly dispose of gloves and perform appropriate hand hygiene.

11. Document correctly in the MAR.

External creams

1. Follow steps 1-6 (Procedure for administering suppositories).
2. Bathe and dry rectal area.
3. Apply small amount of cream or ointment and rub in gently.
4. Properly dispose of gloves and perform appropriate hand hygiene.
5. Documents correctly in the MAR.

Internal creams, ointments

1. Follow steps 1-6 (Procedure for administering suppositories).
2. Attach the plastic applicator tube to the tube of cream or ointment.
3. Insert applicator tip into the rectum and gently squeeze tube to deliver medication.
4. Remove applicator tip from tube and wash with hot, soapy water. Let air dry on clean, dry, paper towel.
5. Replace cap on the tube.
6. Properly dispose of gloves and perform appropriate hand hygiene.
7. Document correctly in the MAR.

Enemas

1. Follow steps 1-6 (Procedure for administering suppositories.
2. Insert enema tip into rectum.
3. Allow all fluid to run into the rectum.
4. See HCP's order or package directions for instructions for specific enema products.

5. Properly dispose of gloves and perform appropriate hand hygiene.

6. Documents correctly in the MAR.

NOTE: The administration of enemas requires additional knowledge, skills, and clinical practice that are not addressed in this curriculum. Instructors should emphasize this and warn students to **NEVER FORCE** rectal products, especially applicators for creams and enemas, as there is a danger of bowel perforation.

4.9 Administer or Assist the Client With Self-Administration of Soaks and Sitz Baths

PERFORMANCE OBJECTIVE

Assist with administration or administer soaks and sitz baths in accordance with the HCP's orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Assisting with soaks

1. Purposes:
   a. To relieve pain
   b. To cleanse
   c. To speed healing
2. Pharmaceutical solutions may be ordered.

B. Procedure for assisting with soaks

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Prepare the soaking solution and check the water temperature with a thermometer or on your wrist. Water temperature should be between 105° to 110°F. Have the client check water temperature and adjust if necessary.
6. If adding a pharmaceutical solution, follow instructions on the solution label.
7. Immerse the body part in the solution. Pad the edge of the basin with a towel if

needed.

8. Check the water temperature every 5 minutes and add hot water as needed to maintain temperature.

9. Check the reaction of the body part being soaked at least every 5 minutes and remove if skin reddens, or if the client complains of pain or numbness.

10. Soak for the prescribed time (usually no more than 20 minutes).

11. Remove the body part and dry thoroughly with a clean towel. NOTE: This is particularly important when soaking the feet of a diabetic client.
12. Dispose of soaking solution. (Follow facility policy).
13. Properly dispose of gloves and perform appropriate hand hygiene.
14. Document procedure using facility guidelines.

C. Assisting with sitz baths.

1. Purposes:
   a. To relieve pain (often for hemorrhoid-related pain).
   b. To cleanse
   c. To speed healing
2. Pharmaceutical solutions may be ordered.

D. Procedure for assisting with sitz baths.

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Prepare the soaking solution and check the water temperature with a thermometer or on your wrist. Water temperature should be between 105° to 110°F. Have the client check water temperature and adjust if necessary.
6. If adding a pharmaceutical solution, follow instructions on the solution label.
7. Position client comfortably in the bath on the toilet / sitzbath chair.
   STAY WITH THE CLIENT if the client is frail or cognitively impaired.
8. Have the client remain in the bath for the prescribed period of time (usually no more than 20 minutes).
9. Help the client from the bath, dry skin or provide a towel and assist with dressing.

10. Dispose of bath.

11. Properly dispose of gloves and perform appropriate hand hygiene.

12. Document procedure according to facility policy.

Note: The client may have a disposable sitz bath which fits on the toilet seat. These are usually attached to a rubber bag containing warm water. If so, follow the

instructions for use on the disposable product label. If not disposable, clean according to facility policy.

4.10 Administer or Assist the Client with Self-Administration of Oral Hygiene Products

PERFORMANCE OBJECTIVE

Assist with administration or administer oral hygiene products in accordance with the HCP orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Guidelines for good oral care

1. Care of the mouth, teeth, gums and/or dentures performed at least twice daily
2. Best to provide after each meal.
3. Lack of oral care can result in serious problems such as gum disease.
4. An unhealthy mouth results in a decreased appetite and weight loss.
5. Poor oral hygiene resulting in an unhealthy mouth has been linked to a decreased life span.

B. Oral hygiene products

1. These are products used to:
   a. cleanse the mouth and teeth
   b. rid the mouth of germs and prevent oral disease
2. Commonly used oral hygiene products are:
   a. mouthwash
   b. tooth paste
   c. dental floss

d. denture cleaning products.

C. How to use oral hygiene products

1. Provide for client privacy & explain procedure.

2. Read package labels and refer to HCP orders for amounts and frequency.

3. Perform appropriate hand hygiene.

4. Put on gloves.

5. Follow procedures for providing oral care (brushing, flossing, denture cleaning) as learned in your required basic care course.
6. Properly dispose of gloves and perform appropriate hand hygiene.

4.11 Administer or Assist the Client with Self-Administration of Inhalation Therapy Products

PERFORMANCE OBJECTIVE

Assist with administration or administer inhalation therapy products in accordance with the HCP orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Assisting with inhalation products

1. Medications used to treat diseases of the respiratory tract may be administered by way of inhalation, into the lungs, through the mouth or nose.
2. Two most commonly used inhalers:
    a. Handheld (metered dose)
    b. Nebulizer Machine
3. Metered dose (handheld) inhalers are most common. They are small, portable, and require no special equipment to administer.
4. For powder inhalation delivery systems (such as with Advair), contact the pharmacist or manufacturer for instructions as a special administration technique may be needed.
5. Nebulizer Treatments:
    a. Are used when a large amount of medication needs to be delivered to the lungs.
    b. Come in a liquid form and is measured into a nebulizer machine.
    c. The mist is heated or cooled and delivered through a face mask or mouth-piece.

B. Procedures for administering or assisting with administration of inhalation products.

Handheld inhalers (metered dose):

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves if there is body fluid contact.

5. Warm the canister to hand temperature and shake contents.
6. Remove the cap and hold the inhaler upright.
7. If using the inhaler for the first time or after a prolonged period of time, test it by spraying into the air before spraying into the mouth.
8. Have the client take a drink of water to moisten the mouth.
9. Position the inhaler with mouth piece between the lips and pursed to make a seal around the mouth piece.
10. Instruct the client to breathe out prior to making a seal and inhaling.
11. Instruct the client to breathe in slowly over 3 to 5 seconds as he (or you) press down on the inhaler, and spacer device, if ordered by HCP.
12. Instruct the client to hold his/her breath for 10 seconds, to allow the medication to penetrate deeply into the lungs, then slowly exhale through the nose.
13. If additional puffs are ordered, wait at least one minute then repeat steps 9-12.
14. Rinse mouth after steroid inhaler,to avoid thrush (candidalyeast) infection. If the patient is on multiple inhalers, consult with the pharmacist/HCP for the order of proper administration.
15. Wipe inhaler with clean, dry cloth/tissue after each use.
16. Replace inhaler cap and store per facility policy.
17. Properly dispose of gloves and perform appropriate hand hygiene.
18. Document administration according to facility policy.

Note: Metered dose inhalers should be cleaned at least weekly by removing the metal canister, rinsing the holding device under warm running water and allow to air dry, thoroughly.

Note: Read instructions that come with the inhaler to assure procedure is followed correctly. For powder inhalation delivery systems (such as with Advair), contact the

pharmacist or drug company for instructions as a special administration technique may be needed.

Note: If the patient is on multiple inhalers, consult with the pharmacist/HCP for the order of proper administration.

4. 12 Administer or Assist the Client with Self-Administration of Medications by Nebulizer Treatment

PERFORMANCE OBJECTIVE

Demonstrate understanding of administering prepared instillations by way of nebulizer treatment by assisting a client to follow the manufacturers' instructions in the use and cleaning of the client's nebulizer machine.

TOPICAL OUTLINE

A. Purpose of nebulizer treatments

1. To administer medication for respiratory disease in the form of a mist.
2. A nebulizer machine converts liquid into a mist

B. Procedure for inhalation therapy using a nebulizer.

1. Read manufacturer's instructions for the client's nebulizer machine.
2. Provide for client privacy & explain procedure.
3. Verify medication order for accuracy with the MAR and read label 3 times.
4. Perform appropriate hand hygiene.
5. Put on gloves.
6. Open the vial containing the medicine and squeeze the contents into the nebulizer cup or measure the appropriate amount of drug and place it in the nebulizer cup.
7. Connect the nebulizer to the mouth piece or mask.
8. Connect the nebulizer to the compressor.
9. Position the client upright. Instruct the client to place the mouthpiece in his/her mouth (or place mask over client's mouth).

10. Turn on the compressor.

11. Instruct the client to breathe calmly, deeply and as evenly as possible until no mist is formed in the nebulizer chamber (about 5-15 minutes). Ask the client to hold each breath a second or two before breathing out.

12. Advise the client to brush his/her teeth and rinse well with an oral rinse after the administration of the medication

13. When the treatment is complete, clean the equipment following manufacturers' instructions.

14. Properly dispose of gloves and perform appropriate hand hygiene.

15. Document administration according to facility policy.

Note: The principle of administering medication by pulmonary inhalation is the same, regardless of how it is administered.

When assisting with nebulizer treatments, the Medication Aide must know how to use the nebulizer machine and the chamber into which the medication is poured, *before* giving the medication.

If unsure as to how they work, the Medication Aide should seek assistance from the supervisor, pharmacist, or the HCP before attempting to operate the machine.

The machines usually have concise instructions for use and cleaning. It is recommended that these instructions be place in a plastic sleeve or notebook and kept with the machine.

4.13 Administer or Assist the Client with Self-Administration of Transdermal Patches

PERFORMANCE OBJECTIVE

Assist with administration or administer transdermal patches in accordance with the HCP orders. Performance must be documented as acceptable on the skills competency form.

TOPICAL OUTLINE

A. Uses of transdermal patches

1. Used to provide slow release of medication.
2. Designed to release medication over a specific period of time (e.g., 12 hours, 24 hours or one week).
3. Applied to different parts of the body, depending on the drug.

B. Procedure for administering transdermal medications

1. Provide for client privacy & explain procedure.
2. Verify medication order for accuracy with the MAR and read label 3 times.
3. Perform appropriate hand hygiene.
4. Put on gloves.
5. Remove any/all previous patches of the same medication.
6. Discard any used patch (prior to applying the new patch) by folding it in half with the adhesive sides touching. Do not place in sharps container; discard per facility policy, state and federal guidelines. (For proper disposal, reference FDA, ONDCP, EPA and/or DEA.)
7. Prepare the skin -- should be a clean, dry and hairless (not shaved) part of the body.

8. Remove the new patch from its outer package, being careful not to tear or cut the patch.

9. Write date, time and initials on patch before applying to skin.

10. Peel off the protective backing to expose the adhesive layer.

11. Apply the patch firmly to the skin. Apply firm pressure with the palm or heel of the hand until patch is securely in place (about 10 seconds).

12. Properly dispose of gloves and perform appropriate hand hygiene.

13. Document correctly in the MAR (including site on MAR).

14. Check site placement of transdermal patch every shift and document placement on MAR if the patch is placed for longer than one 8 hour period. (ie, Duragesic patch is changed every 72 hours).

C. Special considerations for the administration of transdermal medications

1. The client should be instructed to keep the patch dry unless instructed by the HCP that the patch may get wet.

2. Avoid applying patches to hairy parts of the body.

3. Unless instructed to do otherwise, apply the patch at the same time every day.

4. Inspect the skin for redness, blistering or a rash or other signs of allergic reaction.

5. If the patch becomes dislodged, attempt to reapply. If unable to do so, notify HCP for instructions. If the client is not wearing the patch, he/she is not receiving the medication and this may affect overall health.

D. Application sites for transdermal medication

1. Nitroglycerin patches are usually applied to the chest.

2. Estradiol or hormone patches are usually applied to the buttocks or abdomen.

3. Application sites **should be rotated** to prevent skin irritation. Generally the same site should not be used for a week. The site should be documented on the MAR according to facility policy.

4.14 Administer or Assist the Client with Self-Administration of an EpiPen®

PERFORMANCE OBJECTIVE

Demonstrate the use of the EpiPen® by using a manufacturer's EpiPen® (blank), designed for classroom instruction. Performance must be documented as acceptable on the skills competency checklist.

TOPICAL OUTLINE

A. The EpiPen®

1. A unit dose syringe that is pre-filled with the medication, epinephrine. It allows for self-administration of epinephrine in the event of an allergy emergency.
2. Available by prescription only. Expiration dates should be checked routinely.

B. When to use

1. Used as ordered by the HCP in the event of a severe allergic reaction (such as bee-sting or severe food allergy).
2. Send with resident each outing in case of emergency.

C. Procedure for administering the EpiPen®

1. Unscrew the yellow or green cap off of the **EpiPen® or the EpiPen® Jr.** carrying case and remove the **EpiPen®** from its storage tube.
2. Grasp the pen with the black tip pointing downward.
3. Form fist around the unit (black tip down).
4. With your other hand, pull off the gray safety release.
5. Hold black tip near client's outer thigh.

6. Swing and jab firmly into outer thigh until it clicks so that unit is perpendicular (at a 90° angle) to the thigh. (Note: Auto-injector is designed to work through clothing.)

7. Hold firmly against the thigh for approximately 10 seconds. (The injection is now complete. The window on the auto-injector will show red.)

8. Remove the unit from the thigh and massage injection area for 10 seconds.

9. **Call 911** and seek immediate medical attention.

10. Carefully place the used auto-injector needle-end first, into the storage tube of the carrying case that provides built-in needle protection after use. Then screw the cap of the storage tube back on completely, and take it with the client to the hospital emergency room.

D. Special instructions for use of the EpiPen®

1. Never put your thumb, fingers or hand over the black tip.
2. Do not remove the gray safety release until ready to use.
3. Do not use if solution is discolored or red flag appears in the clear window.
4. Do not place patient insert or any other foreign objects in carriers with the auto-injector as this may prevent you from removing the auto-injector for use.

Note: Most of the liquid (about 90%) stays in the auto-injector and cannot be reused. However, the client has received the correct dose of the medication if the red flag appears in the window.

Never put your thumb, fingers or hand over the black tip. Accidental injection into hands or feet may result in loss of blood flow to these areas. If this happens, go immediately to the nearest emergency room.

E. Care and storage of the EpiPen®

1. Keep the EpiPen® available and ready for use at all times.
2. Store in a dark place at room temperature.
3. Do NOT refrigerate.
4. Note the expiration date on the unit. Always have at least one unexpired unit on hand.

Note: It is important to make note of the date and reorder the pen before that date.

TEACHING ACTIVITIES - Chapter 4

Introduction

- Review the chapter objectives with the students.
- Refer students to the appropriate handouts.
- Explain that students must earn a grade of at least 80% on the **Chapter 4** test.
- Explain that in addition to a written test, the student will perform return demonstrations of administration of medication by selected routes. Initially, this may be performed under simulated circumstances in the skills lab.

Presentation & Discussion

- Present all material contained in *Topical Outline* for each objective. Use examples as appropriate for the group or client population.
- Instruction on the routes of administration is best done by demonstration during lecture.
- Allocate a period of time for discussion as needed.

Objective 4.1 – 4.2

- Provide student with **Student Handout 4.1.A** *Learning the Language of Medication Administration.* Instruct the students to complete this vocabulary exercise, using the glossary.
- Provide students with **Student Handout 4.1.B** *Chapter 4 Note-taking Outline*. This covers the first two objectives only.
- Suggestion: Uses **Student Handouts 4.1.C and 4.1.D** as visual reinforces by either giving to the students or by using as an overhead or PowerPoint projection.

Objective 4.3 – 4.14

- Provide students with one or both of the following:
    - Copies of the *Topical Outline* for objectives 4.3-4.14
    - Copies of the *Skills Competency Checklists* for Objectives 4.2-4.14

D Demonstrate proper procedure for each route of administration.

D Have each student perform a return demonstration on each route of administration.

Application

D Complete the *Skills Competency Checklists* for Objectives 4.2 through 4.14 on each student for each route of administration.

Evaluation

D Student must complete the Chapter 4 written test with a minimum passing score of 80%.

Suggested Resources

- Dey Pharmaceuticals (Manufactures EpiPen®) Instructions provided:

  http://www.epipen.com

- Institute for Safe Medication Practice (excellent general administration information).

  http://www.ismp.org/Newsletters/consumer/consumerAlerts.asp

- Nebulizer therapies. Instructions provided:

  http://www.webmd.com/asthma/guide/home-nebulizer-therapy

Student Handout 4.1.A

CHAPTER 4

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

Instructions: *Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and define.*
written test.

Anaphylaxis

CHF

COPD

enema

handheld inhaler

inhalation

nasal

nebulizer

nostril

ophthalmic

otic

suppository

Student Handout 4.1.B.

CHAPTER 4 NOTE-TAKING OUTLINE

Objective 4.1 Identify Basic guidelines for administering all medications

1. _____

2. Know the medication delivery system

   a. _____ c. _____

   b. _____ d. _____

3. Verify each medication order

   a. _____

   b. _____

4. Know the types of medication orders

   a. _____

   b. _____

   c. _____

   d. _____

5. Give only medications _____

6. Read the_____ _____ _____**NEVER give by color-coding only!**

7. Never give a medication if_____.

8. Never give a drug if_____.

9. Always check for_____.

10. Take vital signs when_____.

11. Check the_____on the medication label.

12. Practice medical asepsis._____before and after administering a medication. Wear_____if potential for contact with_____or_____.

13. When administering oral medications,_____that the medication has been _____.

14. Document appropriately in the_____(_____)

B. Preparing for the medication pass ("med-pass")

1. Put the_____(_____) on the cart
2. Stock the cart:
   a. Medication cart or cabinet
   b. Paper_____
   c. Small plastic_____cups
   d. Drinking_____&_____
   e. Plastic_____
   f. Tablet_____
   g. Magnifying_____
   h. Disposable _____
   i. Paper towels & _____
   j. Hand _____ _____
   k. Portable trash _____
   l. B/P_____&_____
   m. Alcohol _____
   n. Pen & _____

Note: Not all facilities use medication carts. These supplies should be made available to the Medication Aide regardless of how the medications are stored or which 'style' of administration system is used.

3. Fresh food supplies
   a. Pitchers of fresh (not iced)_____and_____.
   b. Fresh containers of_____and/or_____.
   c. Other specially required_____(sugar-free, etc)

Note: Use refrigerated items quickly and dispose of unused portions after each med-pass.

REMEMBER: WHEN IN DOUBT....DON'T!!

Student Handout 4.2.A

4.2 Administer or Assist the Client With Self-Administration of Oral Medications

A. Procedure to administer or assist the client to administer oral medications

1. _____
2. Identify the_____and provide for client privacy.
   a. Identify the_____to whom medication is being given.
   b. If the client is not wearing an armband, there should be _____ _____ in the_____.

Note: It is not unusual for the cognitively impaired client to answer to another name or to give the wrong name. If there is no picture, confirm identification with another staff member.

3. Read the MAR and_____with the HCP orders.
4. Get the medication container from the cart/cabinet and read the label to verify the:

   Right _____
   Right _____
   Right _____
   Right _____
   Right _____

5. Check the_____on the medication label.
6. Compare the label with the instructions on the MAR. Read_____times.
7. Pour the_____into the appropriate container.
8. Place your_____in the appropriate box on the MAR (see special documentation requirements for PRN drugs & client refusal of medication in Chapter 6.

Student Handout 4.2.A

9. If the medication is a_____, follow special documentation procedures.
10. Give the drug(s) to the client_____with the recommended amount of ___ _____.
11. Stay with the client until_____(check mouth PRN).

12. If the Medication Aide must leave out of visual range of the med cart to administer the medication,_____MAR and lock the cart or cabinet.
13. After administering,_____thoroughly.
14. Return to the cart/cabinet and proceed in the same manner to the next client.
15. Medications must be administered within a_____window unless otherwise specified.
16. When all medications are administered, dispose of unused foods or liquids, re-stock the cart with supplies, and_____and_____the cart or cabinet.
17. Observe client for any_____or_____effects from the medication and report observation to physician immediately.

B. General guidelines for administering <u>oral solid</u> medication:

1. If the client is receiving several medications at one med-pass put them all in one cup and allow the client to_____.

Note: If the client is frail or has difficulty swallowing, administer each pill separately to prevent choking.

2. It is best to take pills with a_____but always check the HCP orders.

Note: Clients with a diagnosis of heart failure may be on a restricted fluid intake so it is very important to check the client's diet order for fluid restriction.

3. If the client has trouble swallowing a pill, check with the HCP for _____ _____of the medication. If no other form is available try the following:
   a. Have client drink some water to_____ _____ _____.
   b. Removing_____may help with swallowing.
   c. Don't_____the client
   d. Give pills one at a time and follow with_____ _ _____.
4. **DO NOT CRUSH** or dissolve a tablet, caplet, capsule or other form of solid

medication without an order.

Alert: If pharmacy labels DO NOT CRUSH, then do not crush.

5. A physician's order that states "May crush all meds" does not give permission to crush medications which are not *meant* to be crushed. DO NOT CRUSH:

a. _____

b. _____

c. _____

d. _____

6. If giving a solid medication and a liquid medication at the same time, give the solid medication first and the liquid second. Do NOT mix the_____medication with the_____medication.
7. Do not mix medication with_____or_____such as juice or milk without requesting permission of the physician and obtaining a written order to do so.
8. If the client states that he/she has never taken the medication before or if the client questions the accuracy of a drug order,_____BEFORE administering the medication.
9. Administer solid oral medications only when you are sure that the _____ _____ are being carried out.
10. Stay with the client until the medicine is_____. (Check the mouth if uncertain).

C. General guidelines for administering <u>oral liquid</u> medication

1. Unless instructed NOT to do so,_____well before pouring the medication
2. After removing the cap from the bottle, place it_____on counter or table.
3. Use_____ _____ _____when pouring and measuring liquids. Do not use eating utensils such as soup or dessert spoons to measure medication.

4. Place the measuring cup at _____ when pouring and measuring.

5. When pouring the medication, hold the bottle so that the label is _____ _____ then wipe the top of the bottle after pouring to keep the label from becoming _ _ .

6. If too much medication is poured into the medicine cup, _____ _____. Do not pour the extra amount back into the bottle.

7. If giving two liquid medications at one time and one of the liquids is a cough syrup, give the_____ _____ _____. The cough syrup is intended to coat and soothe the throat. DO NOT_____two liquid medications together!

8. **Caution**: When **NOT** to give medication:

   a. If any of the following are missing:

      - _____
      - _____
      - _____

   b. If the client exhibits significant change in_____or_____status.

   c. If there is a question or any doubt about the_____.

REMEMBER: WHEN IN DOUBT....DON'T!!

CHAPTER 5 DOCUMENTATION

OBJECTIVES

5.1 Explain how to complete three commonly used forms for documenting medication administration

5.2 Explain procedures for receiving and transcribing physician's orders

5.3 Document medication administration on the Medication Administration Record

5.4 Document medication errors

PERFORMANCE OBJECTIVE

Given selected forms, demonstrate understanding of receiving and transcribing orders and documentation of medication administration.

Upon completion of Chapter 5, student will demonstrate understanding of chapter content by completing a written test with 80% accuracy.

KEY TERMS

ad lib
HCP form
Medication Error Report form
PO form
PRN order

stat order

telephone order (TO)

transcribe

oral order

5.1 Describe Three Types of Forms Commonly Used to Document Medication Administration

INTRODUCTION: Documentation is an important part of medication management. It is frequently referred to as the "6th Right" of medication administration. Forms used to document can be quite confusing to unlicensed persons who are unfamiliar with the process. To simplify, without minimizing the importance of documentation, this chapter introduces examples of the three main forms used in most assisted living facilities. Medication Aides must know how to use these forms to insure safe medication management and compliance with laws and regulations. Medication Aides should assure this is part of their orientation to a new facility/job.

PERFORMANCE OBJECTIVE

Demonstrate understanding of three commonly used forms for documenting medication administration by completing each of the three forms correctly.

TOPICAL OUTLINE

A. The Physician's Order form or Health Care Provider Order Form

1. Used by Health Care Provider (HCP) to record prescribed medication and treatment orders which caregivers are to follow.
2. No medication, diet, medical procedure or treatment may be started, changed or discontinued by the facility without an order by the HCP. The client's record must contain a written order or a dated notation of the HCP oral order.
3. The HCP Order Form must be retained in the client's record.4. Medication orders must be confirmed on the HCP Order Form before each administration or per facility policy.

B. The Medication Administration Record

1. The form onto which the HCP orders are transferred (from the HCP Order Form).

2. Daily record of all medications to be administered.

3. Daily record of staff who administered medications.

4. Daily record of reason for administering and the results of PRN medications.

5. Daily record of medication exceptions (drugs not given and the reason).

6. Record of signatures and initials of all persons who administered medications.

C. The Medication Error Report Form

1. The facility form on which a medication error is documented.

D. Other medication administration documentation forms

1. Client Controlled Drug form
2. Controlled Drug Count Documentation
3. Drug Disposal Disposition form

5.2 Explain Procedures for Receiving and Transcribing Health Care Providers' Orders

INTRODUCTION: Medication orders are written by the HCP. They are instructions for treatment and medications required to treat the client. Because Virginia law does not require that a licensed nurse be employed by an ALF, Medication Aides may be responsible for receiving and transcribing orders. They must clearly understand required procedures as well as the limitations regarding their role in medication documentation.

PERFORMANCE OBJECTIVE

Given sample HCP order forms and scenarios, demonstrate appropriate documentation procedures for medications administered or omitted and for medication errors.

TOPICAL OUTLINE

A. Receiving medication orders

1. Written order
    a. Written on the Physician's Order (PO) form of the Health Care Provider' (HCP) form.
    b. A written order is the best type of medication order.
    c. Contact the HCP if the order is not legible—NEVER **GUESS!**
2. Oral Orders
    a. An oral order may be provided by a HCP by telephone or verbally ***directly*** to another person.
    b. Even though Medication Aides are permitted by law to receive oral orders, some facilities allow only licensed nurses to do so. To avoid medication

orders, always follow facility policies.

B. Guidelines for receiving telephone orders.

1. When possible, have a second staff person listen on the extension phone to the HCP who is giving the order. Have this person countersign the order.
2. Identify yourself to the HCP by stating your name and position.
3. Write the order down on the appropriate form exactly as the HCP states it.
4. Follow the "Five Rights".

5. Repeat the order back to the HCP.

6. Ask the HCP to spell words that you are unsure how to spell.

7. Repeat this process until the order is correct.

8. Virginia regulation requires that the order must be signed within ten (10) working days of receipt.

9. Be sure to inform the HCP that you are a Medication Aide and that the law forbids unlicensed persons to transmit orders for new prescription drugs to the pharmacy. The HCP will need to communicate the prescription to the pharmacy by phone or by fax.

C. The four types of medication orders are:

1. **Routine medication order**

   a. This is a detailed order for a drug that is to be administered on a regularly scheduled basis.

   b. The reason the medication is being given must be in the client's record, however, it does not normally appear in the order. This information is usually in the client's history and physical or in the HCP progress or office-visit notes.

Example: Digoxin 0.125 mg. Give one tablet by mouth every day. Hold if the pulse is below 60 beats per minute and notify physician.

Note: Occasionally the HCP order will be to simply increase or decrease the dosage of a medication that the client is currently taking. This is treated *exactly* the same as a new order. In other words, the old order is discontinued and a new order is written with the increased or decreased dose.

2. **PRN medication (as needed) order:**

   a. A medication which is ordered to be given "when necessary" or "as needed" within a designated number of hours.

   b. It may or may not be given on a daily basis.

c. The Department of Social Services Standards for Assisted Living Facilities require that the following four points be included in a PRN order if a licensed health care professional (nurse) is not responsible for medication management or if the client is cognitively impaired and unable to self- administer:

1. The symptoms for which the medication is to be given.

2. The exact dose. (It may not state "1-2 tablets" rather, it must state "give one tablet" or "give two tablets."

3. The exact time in a 24 hour period (e.g.: must not state "every 4-6 hours" rather, it must state "every 4 hours" or "every six hours" specifically. The decision as to what hour the drug is to be given may NOT be made by the Medication Aide.

4. What to do if symptoms persist. (e.g.: "Notify HCP if no relief in 24 hours").

Example: Acetaminophen 500mg. Give one tablet every 4 hours as needed for shoulder pain. Notify HCP if no relief within 24 hours.

Note: The Medication Aide may **NOT** give a PRN drug if *any* of the above four points are missing.

Medication Aides may **not** assess for medical need **nor** can the assessment of medical need be delegated to an unlicensed person by a registered nurse or a physician.

3. **Stat medication order**

a. An order to give a medication immediately.

b. A HCP may write that the medication be given "now" instead of "stat" to make sure that the medication is given right away.

4. **Single dose**

a. The order may be:

- to give a drug one-time only; or
- for the first dose of a drug that will become a routine order; or
- for an extra or increased dose of a medication that the client is

currently routinely receiving.

Example: Lasix 40 mg. "Give one tablet by mouth, now".

D. Preventing misinterpretation of an order

1. Do not leave a decimal point alone. *Example*:

   a. **.2 mg**. is WRONG because there is no number or 0 in front of the decimal point.

b. **0.2mg** is RIGHT because there is a 0 in front of the decimal. This minimizes the possibility of the dose being read as **2mg** instead of **0.2mg**.

2. Never place a decimal point and a zero after a whole number. Example:

a. **5.0mg** is WRONG because it could be read as 50mg. instead of 5mg.

b. **5mg** is the RIGHT way to write the dosage.

3. ALWAYS QUESTION THE ORDER IF:

a. There is any difficulty interpreting the name or spelling of a medication

b. There is any difficulty understanding a number for the dose of a medication.

c. There is a reason to believe that the dose seems inappropriate.

REMEMBER: When in Doubt---DON'T!

E. Transcribing orders onto the Medication Administration Record

1. **To transcribe** means to write down or to copy.

a. In medication administration it means to copy orders from the HCP Order Form onto the Medication Administration Record (MAR).

2. Procedure for accurate transcribing:

a. Write the client's personal identification information onto a blank MAR and before transcribing any orders onto the form include the following:

- Client's name and room number
- Any known allergies (write in capital letters in red and/or circle)
- The name of the client's HCP
- Diagnosis

b. Record each medication ordered from the HCP order form to include:

- Name of the drug and the strength of the drug
- Dose of the drug to be given (must be exact for PRN orders)
- The route the drug is to be given
- The time(s) the drug is to be given (must be exact for PRN orders)
- The date the drug is to be started
- The date the drug is to be stopped (if provided)

c. Document the date, time and name of the person who transcribed the order on the HCP Order Form.

3. Procedure for discontinuing a medication order on the MAR:

a. Highlight the discontinued drug in yellow and write "discontinued" and the date.

b. If the drug is not discontinued BUT the dose is reduced, this should be transcribed as a NEW drug order. The old order would be highlighted in yellow and "discontinued" written on the MAR . The new order with the revised dosage is then transcribed onto the MAR exactly as a new order would be.

Note: It is important to follow the facility policy regarding how a discontinued drug is indicated on the MAR as procedures may vary.

F. Transmitting the HCP order to the pharmacy

1. Medication Aides may not transmit oral orders for prescription drugs to the pharmacy. Medication Aides, when instructed by the HCP, may fax orders to the pharmacy if written at the facility by the HCP.

2. Medication Aides or nurses may forward a prescription to the pharmacy via fax if the prescription was faxed to the facility from the prescriber's practice location.

3. Neither a Medication Aide nor a nurse may fax a written prescription to the pharmacy which was brought to the facility by the patient or a patient representative.

5.3 Document Medication Administration on the Medication Administration Record

INTRODUCTION: Once the student is familiar with the various documentation forms, types of medication orders, and how to receive and transcribe orders, he must be taught how to document the administration, refusal or omission of medications using the correct forms and proper procedures.

TOPICAL OUTLINE

A. What to document

1. All medications administered or omitted.
2. Pulse and blood pressure measurements which are required before giving the medication or required to be monitored regularly.
3. Blood-glucose monitoring results.

B. Documenting routinely administered medications.

1. Place your initials in the box that corresponds with the date and time for the drug.
2. If the drug is given more than once daily, initial in the appropriate box each time.
3. Documentation per facility policy for extended absence of resident.

C. **Documenting pulse, blood pressure, and blood glucose readings**

1. Record these readings as you would a separate drug, unless they are related to the administration of another drug. Document per facility policy.

D. Documenting PRN medications

1. Place your initials in the box which corresponds with the date for the drug.
2. On the back of the MAR document the following:

- Date
- Hour of administration
- Name and dose of the drug
- Reason the drug was administered
- Results of administration (was drug effective?), to include date and time result was obtained

3. To insure accurate documentation of the result of a PRN drug, the Medication Aide must follow up with the client within a reasonable period of time and inquire as to whether the symptoms are relieved. Document the client's response.

Note: When documenting results of PRN administration, do not write simply "effective" or "ineffective". Document what the client says or state an objective observation. (See example on *Student Handout 5.1.C-page 2*).

E. Documenting medication exceptions.

1. Documenting the client's refusal to take medication:

   a. Place initials in the box that corresponds with the date and time for the drug.

   b. If the client refuses the drug, circle the initials. See **Chapter 7.6.D**, *Strategies for dealing with client's refusal*.

   c. On the back of the MAR document the following:

      - Date
      - Hour of administration attempt
      - Name and dose of the drug
      - The reason the drug was refused
      - The method used to dispose of the refused medication

   d. Report the refusal to the HCP or follow the facility policy for reporting

2. Documenting medications that are omitted:

   a. An omission means a drug was not given for reason other than client refusal.

   b. The most common reasons for omissions are:

      - The client is out of the facility with family or on "leave". See 18VAC 110-20-536 of the Board of Pharmacy regulations.The client is in the hospital.

- The drug is not available (NOTE: every attempt must be made to get the drug and the attempt(s) must be documented).

c. When a drug is omitted place initials in the box which corresponds with the date and time for the drug.

d. Circle the initials.

e. On the back of the MAR document the following :

- Date

- Time the drug was to be administered
- Name and dose of the drug
- The reason the drug was omitted
- Follow-up actions
- The method used to dispose of the medication, if required.

(**Note:** Forms may differ but must contain the information above).

f. Report the refusal to the HCP or follow the facility policy for reporting.

NOTE: For provision of prescription drugs sent outside the facility, see 18VAC 110-20-536 of the Board of Pharmacy regulations.

5.4 Document Medication Errors

INTRODUCTION: When one of the "5 Rights" of medication administration becomes a "wrong", a medication error has occurred. Students must understand that the most important action to take when a medication error occurs is to see that the client receives any treatment which might be required as a result of the error. The next step is to document the error in a way that indicates that the situation was analyzed as to the cause and what action was taken to prevent future errors.

TOPICAL OUTLINE

A. Medication error

1. When a medication is *not* given as prescribed by the HCP, a medication error has occurred. Errors are the opposite of the Five Rights and thus can be referred to as the *Five Wrongs*. They are:

   a. The *Wrong Client* – the client receives another client's medication.

   b. The *Wrong Medication* – the client received an un-prescribed medication.

   c. The *Wrong Dose* – was given to the client.

   d. The *Wrong Time* – a medication was given at the wrong time or not at all. This includes drugs that are given outside of the one-hour window (1 hour before and one hour after).

   Note: A common *wrong time* error is the administration of AC (before meals) and PC (after meals) medications at the wrong time.

   e. The *Wrong Route* – example: drops are placed in the ears rather than the eyes.

B. Documenting medication errors

1. After measures have been taken to insure client safety and the HCP has been

notified, the medication error must be documented on a *Medication Error Report Form.*

2.The following should be included on the report form:

a. The name of the client and

b. The date and time of the error;

c. The type of error (which of the *Five Wrongs*);

d. Which medication was given in error;

e. Record of who was contacted and when;

f. Consequences to the client;

g. Treatment required as a result of the error;

h. The name of the Medication Aide responsible for the error.

i. Follow-up by the supervisor with recommendations for preventing future occurrence.

TEACHING ACTIVITIES -- Chapter 5

Introduction

- Review each of the chapter objectives with the students. Use *Introduction* notes to provide background for each objective.
- Provide the students with **Student Handout 5.1.A** *Learning the Language of Medication Administration* vocabulary set. Instruct the students to define each of the terms on the handout using the glossary.
- Explain that students must earn a grade of at least 80% on the Chapter 5 test as well as perform return demonstrations for selected objectives.

Presentation & Discussion

- Present all material contained in *Topical Outline* for each objective. Elaborate and use examples as appropriate for the group or *c*lient population.
- Try to limit lecture time to no more than 15-20 minutes for each objective.
- Allocate a period of time for discussion as needed.

Objective 5.1 Describe Three Forms Commonly Used to Document Medication Administration.

- Provide the students with **Student Handouts 5.1.B**. *Assisted Living Facility Physician Order Form.* Explain what the form is used for.
- Provide the students with **Student Handout 5.1.C** *Medication Administration Record.* Explain the purpose of the form.
- Provide the students with **Student Handout 5.1.D** *Medication Error Report.* Explain the purpose of the form.

  Note: (Do not have the students demonstrate use of these forms at this point. This will be done in *Objective 5.2*).

Objective 5.2 Explain procedures for receiving and transcribing physician's orders

D Using the handouts, explain each point in the topical outline.

D Instruct the students how to take an oral telephone order. Use the role-playing exercise, (**Instructor Material 5.2** *Role-Playing Exercise***)** Steps 1 & 2 to involve the students and reinforce the lecture.

Tip: Make an overhead of the handouts on which you can write. Write examples as you explain so that students can see what they will be required to do in the next objective.

Objective 5.3 Document medication administration on the Medication Administration Record

D Continuing with the role-playing exercise, use Step 3 to teach them how to document the orders onto the MAR. They should document:

- Routinely administered drugs
- Drugs administered PRN
- Drug omissions

D When you complete this instruction encourage questions. Explain to the students that they will be required to demonstrate how to use the forms on the chapter test and on the final examination. They will be given a written situation similar to the one done in class and will be required to complete the forms in the same manner.

Objective 5.4 Document medication errors

D Provide the students with **Student Handout 5.1.D** *Medication Error Report.*

D Review each point in the *Topical Outline.*

D Continuing with the role-playing theme, create a hypothetical medication error event for *Mr. A.* Ask the students to document the error on the *Medication Error Report Form.*

D Circulate among the students and check accuracy of their documentation, providing individual assistance as needed.

Evaluation Complete the Chapter 5 written test with a minimum passing score of 80%.

Suggested Resources:

Substitute facility forms for the generic forms in this curriculum.

Student Handout 5.1.A

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

OBJECTIVE 5.1 –DOCUMENTATION

Instructions: Using the glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and define.

Learning Goal: To be able to define and spell words related to documentation of medication administration, on a written test.

1 HCP form - _____

_____

2 incident report - _____

_____

3 PO form - _____

_____

4 PRN order - _____

_____

5 stat order - _____

_____

6 telephone order (TO) - _____

7 **transcribe** - _____

8 **oral order** - _____

9 **“5 Wrongs”** - _____

Student Handout 5.1.B

Assisted Living Facility
Physician's Order Form

Month/Year_____

Client Information:

Name_____Room _____

Age_____Weight_____Height_____Diagnosis_____

Physician_____

ALLERGIES:

Date Ordered	Time Transcribed	Date Transcribed	Initials Transcribed	USE BALL POINT PEN ONLY

Medication Administration Record

Student Handout 5.1.C

Client____________________________________ **Room #**_______________ **Month**___________**Year**__________

ALLERGIES:

Drug		Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Start Date	Stop Date																																
Start Date	Stop Date																																
Start Date	Stop Date																																
Start Date	Stop Date																																
Start Date	Stop Date																																

Student Handout 5.1.C ,pg 2

Medication Exception Record

Client:_____ Client ID#_____ Month_____ Year_____.

Date	Time	Initial	Medication/Dosage	Reason For PRN Administration or Medication Exception		Follow-Up	
						Time & initial	Results/Outcome
.						follow-up	
07/01/07	1400	***CAS***	**Acetaminophen 325 mg. 1 tablet every**				
			6 hrs. as needed for hip pain.	**Hip pain**	1445	***CAS***	*Client states: "pain is gone"*

Initials Signature Initials Signature

Medication Administration Record

Student Handout 5.1.C, pg 3

Client *Andrew Jackson Allen* **Room #** 222 **Doctor** Barry Jones **Month** July **Year** 2007

ALLERGIES: Codeine

Drug	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Digoxin 0.05 mg. One tablet by mouth every morning *(Hold if pulse is below 60)*	0800															***CAS***																
	Pulse															**72**																
Start Date / Stop Date																																
Wellbutrin 200mg. One tablet by mouth two times daily two times daily	0800															***CAS***																
	1700															***CAS***																
Start Date / Stop Date																																
Ambien 5 mg. One tablet by mouth at bedtime	2100															***CAS***																
Start Date / Stop Date	**pain.** *(Notify my office if no relief in 48 hrs).*																															
Acetaminophen 325mg. One tablet every 6 hrs. for hip																																

R

N

P ***CAS***

Start Stop
Date Date

Start Stop
Date Date

Instructor Material 5.2

ROLE-PLAYING EXERCISE

RECEIVING ORAL TELEPHONE ORDERS

Step 1

1. Provide the students with *Student Handouts 5.1.A, B,.C* and *D.*

2. Use a hypothetical client name (Such as, *Andrew Jackson Allen).* Instruct students to fill in the client information on the form. Inform them of the client's allergy to codeine.

3. Review the importance of informing the HCP of the Medication Aides position and that, if the order is for new prescription drug(s), the HCP must transmit the order directly to the pharmacy.

4. Play the role of the HCP and 'phone' the Medication Aide and give the following orders:

   1 "Digoxin 0.05mg. Give one tablet by mouth every morning. Notify my office and
   2 do not give if the pulse is below 60.

   Wellbutrin 200 mg. Give one tablet by mouth two times daily.

   3 Acetaminophen 325 mg. Give one tablet po every 6 hrs as needed for hip pain.
   4 Notify my office if no relief in 48 hours.

   Ambien 5 mg. Give one tablet by mouth at bedtime."

5. Instruct the students that each order must be repeated back to the HCP.

6. Explain how to sign the order. Example: *T.O. Dr. Barry Jones /Name and position of person receiving the order.*

7. Explain that the order must be signed by the prescriber within 10 days. (It is acceptable to fax this to the HCP office for signature but *not* to the pharmacy to be filled).

Step 2

1. Instruct students to place the client's information on the blank MAR (*Handout 5.1.C*).

2. Explain how to transcribe the orders onto the MAR, inserting the correct hours of administration and the requirements for the pulse to be monitored. Instruct students to transcribe each medication order. (Circulate among the students to observe accuracy of

transcriptions and provide individual instruction as needed.)

Step 3

1. Have the students play the role of Medication Aide on July 14, 2007. Instruct them to "give" Mr. A. his medication and document administration on that day.

Note: Instruct the students to document on the MAR when they check and pour the medication.

2. Tell them that Mr. A requests something for hip pain at 1400. Ask what steps they would take. Have them document the PRN on the back of the MAR as a *medication exception*.

3. Have Mr. A. refuse his bedtime medication. Explain that when a client refuses, the initials are circled to indicate that a drug was not given. Explain how to document the refusal on the back of the MAR as a *medication exception.* (See *Chapter 7* for managing client refusal to take medication).

Student Handout 5.1.D

Medication Error Report

Date _____ Time _____

Resident Name _____ Room _____

Medication _____

Medication Aide _____

Explanation of error (who? when? what?)

First aid given (if needed)

Physician notified _____ Date _____ Time _____

Supervisor notified _____

Corrective action taken

Signature Date

(of person writing report)

Supervisor's signature Date

CHAPTER 6 STORAGE AND DISPOSAL OF MEDICATION

OBJECTIVES

6.1 Identify procedures for storing and securing medications

6.2 Explain procedures for maintaining an inventory of medication including controlled substances

6.3 Identify procedures for disposal and loss of medications

PERFORMANCE OBJECTIVE

Given information regarding guidelines for storing medications and several examples of medication, including Schedule II-VI drugs, demonstrate understanding of proper procedure for storing and securing these medications by completing a written test with 80% accuracy.

RETURN DEMONSTRATION

Complete sample forms for maintaining an inventory of controlled and non-controlled medications.

Upon Completing of Chapter 6, Student will demonstrate understanding of chapter content by completing a written test with 80% accuracy.

KEY TERMS

controlled substances

drug inventory

external medications

internal medications

verification form

6.1 Identify Procedures For Storing And Securing Medications and Equipment

INTRODUCTION: Medications not being given must be safely stored. Storage varies from one work setting to another but some precautions and guidelines should be followed wherever the Medication Aide works. Students must understand the importance of preserving the integrity of the medication, principles of infection control, and laws and regulations to be considered when storing drugs.

TOPICAL OUTLINE

A. Importance of storing medications properly

1. To ensure the safety and integrity of the client.
2. To ensure the safety and integrity of the all medications.
3. To comply with federal and state laws and regulations:
    a. Federal
    b. Virginia DSS

B. The medicine cabinet, container or compartment.

1. The space should be designated for medication storage only.
2. Virginia DSS regulations for assisted living facilities requires the following:
    a. The storage area shall be locked.
    b. Schedule II drugs should be kept under a double lock, e.g. a locked cabinet within a locked storage area or a locked container within a locked cabinet. Other schedules locked according to facility policy. (**Exception**: When the facility uses a unit dose packaging system in which the quantity stored is minimal and a missing dose can be readily detected). The person

responsible for the administration of controlled substances must keep the controlled substance key's protected from possible misuse.

c. The storage area must be well-lighted when in use but darkened when not.

d. When medications require refrigeration:

- The refrigeration area must be in a locked storage area.
- When it is necessary to store medications in a refrigerator that is routinely used for food storage, the medications must be stored in a locked container in a clearly defined area.

e. A resident who is capable of self-administering may be permitted to keep his medication in his room. The medications must be in a secure storage area that is inaccessible to other clients.

f. The person responsible for medication administration shall keep the keys to the storage area on his/her person.

g. Medication storage areas should be kept clean & free from clutter.

h. Medications and equipment should never be placed in pockets or areas not designated specifically for such items.

C. The pharmacy container

1. The pharmacy dispenses medications in containers that meet legal requirements, including requirements of good manufacturing practices, where applicable.
2. Medications must be kept and stored in these original pharmacy containers.
3. Transfer of medications from one container to another is done only by a pharmacist.
4. Only a pharmacist may change or alter the prescription label on a dispensed drug.

D. Storing internal and external medication

1. Orally administered medications must be kept separate from topical or suppository type medications.
2. Eye drops should be stored separate from internal or external medications.

E. Storing medications which require a specific temperature

1. Medications requiring storage at "room temperature" must be kept at temperatures ranging from 15° (59°F) to 30°C (86° F).
2. Medications requiring "refrigeration" or "temperatures between 2° C (36° F) and 8° C (46ºF)" are kept in a refrigerator with a thermometer to allow temperature monitoring.
3. Medications requiring storage "in a cool place" are refrigerated unless otherwise directed on the label.

F. Storing floor-stock drugs

1. Floor-stock of prescription drugs are not permitted in Virginia assisted living facilities.

2. OTC drugs may be floor stocked and administered pursuant to a HCP order. When an over-the-counter drug is prescribed, the client must have an individually labeled container with instructions which are specific to the client.

Alert: If a client must be away from facility, handle per facility policy. See Chapter 5.

Note: Any floor-stocked OTC medication to be administered per HCP order must be labeled with client's name and room number. What is required by regulation is that the nurse or Medication Aide write the client's name and room number on the original container. It is not acceptable for the pharmacy to send a label for a nurse or a Medication Aide to affix to the bottle. Writing instructions on the label by facility staff is not permitted. Follow the HCP orders in the client's record for administration instructions.

G. Storing and cleaning multi-use medical equipment

1. Medical equipment intended for use multiple times (such as, thermometers, stethoscopes, and blood pressure cuffs) must be stored separately from all other equipment and medication.
2. It is important to clean any surface that a used piece of equipment has been in contact with, as it may spread disease.

6.2 Maintain An Inventory of Medication Including Controlled Substances

INTRODUCTION: To avoid a medication error resulting from drug availability, there must be a system for insuring renewal and deliver of client medications. Procedures for drug renewal should be included in the facility medication management plan. Because of their potential for addiction and abuse, it is a good practice to routinely reconcile Schedule II-V drugs. The times (may be every shift, every 24 hours, or every week; laws and Regulations do not specify a time frame.), forms and procedures may vary in different facilities but the goal is always to maintain an inventory of these drugs in compliance with laws and regulations.

TOPICAL OUTLINE

A. Maintaining an inventory of individual client medications

1. New prescription drug orders:
    a. Must be filled promptly unless otherwise ordered.
    b. Client has the right to choose the pharmacy provider.
    c. Should be received or "checked in" when the drug arrives from the pharmacy according to facility policy.
2. Refilling prescription drugs:
    a. A Medication Aide may reorder a refill of a drug from the pharmacy if the prescription has refills. When the number of refills expires, the HCP must renew the order. Medication Aides may NOT renew a prescription, but they may order a refill.
    b. Client medication supplies must be monitored regularly and reordered from the pharmacy when supply is low.
    c. If the drug is not available, it is the responsibility of the facility to notify

the pharmacy, physician, family, or other supplier.

d. If the client requests a PRN drugs frequently, it is important to closely monitor the supply. Some PRN drugs may need to be reordered weekly or even more frequently.

Note: It is inappropriate to document '*drug not available'* on the MAR without making an effort to get the drug and documenting the results of the effort.

B. Maintain an inventory of controlled substances

1. Schedule II-V drugs are reconciled and counted by two staff members according to facility policy, usually at least every 24 hours.
2. The medication container may have a label identifying the drug as a controlled substance.
3. The Medication Aide should contact the pharmacist when there is doubt as to which Schedule the drug is in.

C. Guidelines for counting Schedule II-V drugs

1. Two staff (RMA's or nurses) should be present to conduct the count; one person who is ending a shift and one person who is starting a shift.
2. Count the number of pills in each container and confirm that the number of pills in the container is the same as the number on the Client Controlled Drug Record.
3. If the count is incorrect, first check the addition and subtraction.
    a. If an addition or subtraction error is identified, the Medication Aide should draw a single line through the error and write her initials next to the line and then write in the correct information and initial.
    b. If an error must be corrected, then:
        - *Do not* use correction fluid (or White Out or correction tape).
        - *Do not* erase or scribble over the error.

Note: The Count Book is *a legal document.*

4. If the count is still not correct and the Medication Aide is unable to account for the missing medication, she should notify her supervisor immediately or follow facility policy governing count inaccuracies/discrepancies.
5. When the count of all controlled substances is complete, each staff person must

document the count on the *Controlled Substance Count Verification* form.

D. For provision of prescription drugs sent outside the facility:

1. See 18VAC 110-20-536 of the Board of Pharmacy regulations.

2. Document per facility policy.

6.3 Identify Procedures for Disposal of Medications

INTRODUCTION: Disposal of medications is one of the duties that the Medication Aide may be asked to perform. This includes destruction of the medication so that it is unusable, as well as documentation of the destruction. Destruction must be done according to laws, regulations and the facility policy.

TOPICAL OUTLINE

A. Reason for disposal of medications

1. The client refused after it was poured.
2. The medication is dropped on the floor or contaminated.
3. The medication has expired.
4. The client for whom it was prescribed is discharged from the facility or program.
5. The medication has been discontinued by the HCP.

B. Guidelines for medication disposal

1. Acceptable procedures:
    a. Dispose of the medication in accordance with state and federal regulations and facility policy.
    b. Return to provider pharmacy if allowed by state and federal law.
    c. When disposing of drugs at the facility, a witness must observe the destruction. A witness must be one of the following:
        - director of nursing;
        - facility administrator and pharmacist providing services to the facility;

- another employee authorized to administer medication.

2. Acceptable methods of disposal (as allowed by state and Federal law).

   a. Guidance from Office of National Drug Control Policy (pdf)

      - http://www.ncjrs.gov/ondcppubs/publications/pdf/prescrip_disposal.pdf

   b. Campaign from U.S. Fish and Wildlife Service, the American Pharmacists Association, and the Pharmaceutical Research and Manufacturers of America

      - http://www.smarxtdisposal.net/

c. Guidance from the FDA

- http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm

d. This is the link to DEA's proposed rule on drug destruction:

- http://www.deadiversion.usdoj.gov/fed_regs/rules/2012/fr1221_8.htm

C. Documentation of medication disposal

1. Follow facility policy.
2. Document controlled substance destruction.
3. Use the *Medication Disposal Record* (See *Student Handout 6.3.A*)

D. Medication losses

1. Missing medications must be reported following facility procedures.
2. Missing medications can result in failure of the client to receive treatment.
3. Depending on the client's insurance, there may be difficulty replacing the medication.
4. If medications are frequently lost, facilities may be required to investigate the possibility of drug theft.

TEACHING ACTIVITIES - Chapter 6

Introduction

D Review the chapter objectives with the students. Use Introduction notes to provide background for each objective.

D Provide the students with **Student Handout 6.1.A** *Learning the Language of Medication Administration* vocabulary set. Instruct the students to define each of the terms on the handout using the glossary.

D Explain that students must earn a grade of at least 80% on the Chapter 6 test as well as perform return demonstrations for selected objectives.

Presentation & Discussion

D Present all material contained in Topical Outline for each objective. Elaborate and use examples as appropriate for the group or client population.

D Try to limit lecture time to no more than 15-20 minutes for each objective.

D Allocate a period of time for discussion as needed.

Objective 6.1 Identify procedures for storing and securing medications to comply with laws and regulations

D Explain all points in the Topical Outline. Review the Virginia DSS regulations covered in Chapter 1 regarding storage and disposal of medications.

D Provide the students with **Student Handout 6.1.B *Note-taking Outline*.**

D Emphasize the importance of effects of light and temperature on drugs.

Objective 6.2 Maintain an inventory of controlled substances

D Provide the students with **Student Handout 6.2 *Note-taking Outline*.**

D Explain all points in the *Topical Outline*.

D Emphasize the importance of orientation to individual facility policies governing storage and maintaining drug inventories.

D Refer students to **Student Handout 6.2.B** *Individual Controlled Drug Inventory* and explain that

this form (or a similar facility form), should be completed for each individual client's Schedule II drugs, using one sheet per drug.

D Using a hypothetical situation, have the students demonstrate completion of the form.

D Explain how to conduct a two-person drug count using **Student Handout 6.2.C** *Controlled Substance Count Verification Form pg 1-2*.

D May provide a hard copy of the Pharmacy regulations 18VAC 110-20-536.

Objective 6.3 Identify procedures for disposal of medications to comply with regulations

- Provide the students with **Student Handout 6.3** ***Note-taking Outline*****.**
- Review the key points in the *Topical* Outline.
- Provide students with **Student Handout 6.3.B** *Controlled Substances Disposal Record*, (or facility form), and demonstrate use of the form as it applies to facility policies and procedures on disposal.

Evaluation Complete the Chapter written test with a minimum passing score of 80%.

Suggested Resources:

- For additional information on medication errors, go to the Practitioners' Reporting Network of the U.S. Pharmacopoeia's web site at http://www.usp.org/practrep/mer.htm.
- **Drug Disposa**l - How a consumer may properly dispose of unwanted prescription drugs:
  - Guidance from Office of National Drug Control Policy (pdf)
    - http://www.ncjrs.gov/ondcppubs/publications/pdf/prescrip_disposal.pdf
  - Campaign from U.S. Fish and Wildlife Service, the American Pharmacists Association, and the Pharmaceutical Research and Manufacturers of America
    - http://www.smarxtdisposal.net/
  - Guidance from the FDA
    - http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm
  - This is the link to DEA's proposed rule on drug destruction:
    - http://www.deadiversion.usdoj.gov/fed_regs/rules/2012/fr1221_8.htm

Student Handout 6.1.A

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

CHAPTER 6

Instructions: Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and define.

Learning Goal: To be able to define and spell words related to maintaining aseptic condition issues relating to medication administration on a written test:

1. **Controlled substances** _____
2. **Drug Inventory** _____
3. **External Medications** _____
4. **Internal Medications** _____
5. **Verification Forms** _____

Student Handout 6.1.B

CHAPTER 6 - STORAGE AND DISPOSAL OF MEDICATIONS

NOTE-TAKING OUTLINE

Objective 6.1 Identify Procedures For Storing And Securing Medications to Comply with Laws and Regulations

A. Importance of storing medications properly

1. To ensure_____and_____of all medication.

2. To ensure_____.

3. To comply with f_____and s_____laws and regulations

   a._____

   b._____

B. The medicine cabinet, container or compartment.

1. The space should be designated for_____.

2. Virginia DSS regulations for assisted living facilities requires the following:

   a. The storage area shall be _____

   b. Schedule II drugs should be kept under a_____, e.g. a_____cabinet within a_____ _____ _____or a locked container within a locked cabinet. (**Exception**: When the facility uses a unit dose packaging system in which the quantity stored is minimal and a missing dose can be readily detected). The person responsible for the administration of controlled substances must keep the controlled substance key's protected from possible misuse.

   c. The storage area must be_____but darkened when not.

   d. When medications require refrigeration:

- The refrigeration area must be in a_____storage area.
- When it is necessary to store medications in a refrigerator that is routinely used for food storage, the medications must be stored in a _____ _____in a clearly defined area.

e. A resident who is capable of self-administering may be permitted to _____ _____. The medications must be in a secure storage area that is inaccessible to other clients.

f. The person responsible for medication administration shall _____ _____ area on his/her person.

g. Medication storage areas should be kept_____.

C. The pharmacy container

1. The pharmacy dispenses medications in containers that _____ including requirements of good manufacturing practices, where applicable.

2. Medications must be kept and stored in these _____ _____.

3. Transfer of medications from one container to another is done_____.

4. Only a pharmacist may change or alter_____on a dispensed drug.

D. Storing internal and external medication

1. Orally administered medications must be kept_____from topical or suppository medications such as_____,_____,_____, and _____.

2. Eye drops should be stored separate from_____medications.

E. Storing medications which require a specific temperature

1. Medications requiring storage at "room temperature" must be kept a temperatures ranging from_____to_____.

2. Medications requiring "refrigeration" or "temperatures between 2° C (36° F) and 8° C (46ºF) are kept in a refrigerator with a thermometer to allow temperature monitoring.

3. Medications requiring storage "in a cool place" are_____unless otherwise directed on the label.

F. Storing floor-stock drugs

1. Floor-stock drugs are_____in Virginia assisted living facilities.

2. When an over-the-counter drug is prescribed, the client must have an individually labeled container with instructions which are specific to the client.

   Note: Any floor-stocked OTC medication to be administered per HCP order must be labeled with client's name and room number. What is required by regulation is

that the nurse or Medication Aide write the client's name and room number on the original container. It is not acceptable for the pharmacy to send a label for a nurse or a Medication Aide to affix to the bottle. Writing instructions on the label by facility staff is not permitted. Follow the HCP orders in the client's record for administration instructions.

G. Storing Multi-Use Medical Equipment

1. Medical equipment intended for use multiple times (such as_____, _____, and_____) must be stored separately from all other equipment and medication. It is important to clean any surface that a used piece of equipment has been in contact with, as it may_____.

Student Handout 6.2

Objective 6.2 Maintain An Inventory of Medication Including

SCHEDULE II-VI DRUGS

NOTE-TAKING OUTLINE

A. Maintaining an inventory of individual client medications

1. New prescription drug orders

   a. Must be_____unless otherwise ordered.

   b. Client has the right to_____ _____ _____ _____.

   c. Should be received or_____when the drug arrives from the pharmacy according to facility policy.

2. Refilling prescription drug

   a. Refills which are indicated by the prescriber, may be called to the pharmacy by the_____. When the number of refills expires, the _____must renew the order. Medication Aides may NOT renew a prescription but they may order a refill.

   b. Client medication supplies must be_____and reordered from the pharmacy when supply is low.

   c. If the drug is not available, it is the responsibility of the facility to notify _____ _____ _____ _____ _____ _____ _____.

   d. If the client requests a PRN drugs frequently, it is important to _____ _____supply. Some PRN drugs may need to be reordered weekly or even more frequently.

Note: It is *inappropriate* to document '*drug not available'* on the MAR without making an effort to get the drug and documenting the results of the effort.

B. Maintain an inventory of controlled substances

1. Schedules II-V should be reconciled, or counted by _____ staff members at _____ _____ .
2. The medication container may have a label identifying the drug as a _____ _____.
3. The Medication Aide should contact the pharmacist when there is a doubt as to whether a drug _____ a controlled substance.

C. Guidelines for counting controlled substance medications

1. _____ _____ should be present to conduct the count; one person who is ending a shift and one person who is starting a shift.
2. Count the number of pills in each container and confirm that the number of pills in the container is the same as the number on the_____.
3. If the count is incorrect, first check the_____and_____.

    a. If an addition or subtraction error is identified, the Medication Aide should draw a single line through the error and write her initials next to the line and then write in the correct information and initial.

    b. If an error must be corrected:

    - *Do not* use_____.
    - *Do not*_____or_____over the error.

Note: The Count Book is *a legal document.*

4. If the count is still not correct and the Medication Aide is unable to account for the missing medication, she should notify her supervisor immediately or follow facility policy governing count inaccuracies.
5. When the count of all controlled substances is complete, each staff person must document the count on the *Controlled Substance Count Verification* form.

D For provision of prescription drugs sent outside the facility,

1. See 18VAC 110-20-536 of the Board of_____regulations.
2. Document per_____policy.

Student Handout 6.3

Objective 6.3 Identify Procedures for Disposal of Medications to Comply with Regulations

NOTE-TAKING OUTLINE

A.. Reason for disposal of medications

1. The client_____after it was poured.
2. The medication is dropped on the floor or_____.
3. The medication has_____.
4. The client for whom it was prescribed is_____from the facility or program.
5. The medication has been_____by the HCP.

B. Guidelines for medication disposal

1. Acceptable procedures:

   a. Dispose of the medication in accordance with state and federal _____ and facility policy.

   b. Return to provider_____if allowed by state and federal law.

   c. When disposing of drugs at the facility, a_____must observe the destruction. A witness must be one of the following:

      - _____ of nursing;
      - facility_____and_____providing services to the facility;
      - another_____authorized to administer medication.

   e. Guidance from Office of National_____Policy (pdf)

      - http://www.ncjrs.gov/ondcppubs/publications/pdf/prescrip_disposal.pdf

f. Campaign from U.S. Fish and Wildlife Service, the _____ _____ _____, and the Pharmaceutical Research and Manufacturers of America

- http://www.smarxtdisposal.net/

g. _____ from the FDA

- http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm

h. This is the link to DEA's_____rule on drug destruction:

- http://www.deadiversion.usdoj.gov/fed_regs/rules/2012/fr1221_8.htm

C. Documentation of medication disposal

1. Follow _____ policy
2. Document_____destruction.
3. Use the_____ _____ _____.

D. Medication losses

1. Missing medications must be_____following facility procedures.
2. Missing medications can result in failure of the client to_____.
3. Depending on the client's insurance, there may be difficulty _____ the medication.
4. If medications are frequently lost, facilities may be required to_____the possibility of drug theft.

Student Handout 6.2.B

INDIVIDUAL CONTROLLED DRUG INVENTORY

Start Date ____________

Client Name____Times to be ____________

Drug Name Dosage Given Start Amount

DATE	TIME ADMINISTERED	NAME OF PERSON ADMINISTERING	DAY'S BALANCE

Student Handout 6.2.C

CONTROLLED SUBSTANCE COUNT VERIFICATION FORM

DATE	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT
	OFF	***ON***	***OFF***	***ON***	***OFF***	***ON***
	7 – 3	**7 – 3**	**3 – 11**	**3 – 11**	**11 – 7**	**11 – 7**

Student Handout 6.2.C, p2

CONTROLLED SUBSTANCE COUNT VERIFICATION FORM

DATE	TIME	ON-COMING NURSE	OFF-GOING NURSE

Student Handout 6.3.B

CONTROLLED SUBSTANCES (Schedule II-V) DISPOSAL RECORD

Client's Name	Name of Drug	Quantity Disposed	Reason Disposed	Method of Disposal

CHAPTER 7 SPECIAL ISSUES IN MEDICATION ADMINISTRATION

OBJECTIVES

7.1 Identify special issues related to drug use in the elderly

7.2 Discuss the uses, adverse reactions and special considerations for selected psychotropic medications

7.3 Recognize when a drug is a chemical restraint

7.4 Explain the importance of blood testing to monitor therapeutic level of medication

7.5 Identify medications considered inappropriate for the elderly

7.6 Identify reasons for clients' refusal to take medications and respond appropriately.

7.7 Identify issues related to over-the-counter medications, herbal preparations and non-medical substances.

PERFORMANCE OBJECTIVE

Upon completion of Chapter Seven, the student will demonstrate an understanding of selected special issues in medication administration by completing a written quiz with 80% accuracy.

KEY TERMS

active refusal	**akathisia**	**amnesia**	**ataxia**
bradykinesia	**BUN**	**concentration**	**dehydration**
dystonia	**euphoria**	**extrapyramidal symptoms**	

geriatric	**hypnotic**	**jaundice**	**lethargy**
malnutrition	**NSAIDs**	**motility**	
orthostatic hypotension	**passive refusal**	**protrusion**	**psychotic behavior**
sedative	**schizophrenia**	**solubility**	**tardive dyskinesia**
torticollis			

7.1 Identify Special Issues Related to Drug Use in the Elderly

INTRODUCTION: As the body ages, body structures and systems change. Organ function declines. These changes are a normal part of aging and do not necessarily represent disease. However, these changes *do* affect the way the body responds to drugs. This objective briefly describes normal changes and how these changes impact the body's ability to absorb, metabolize and excrete drugs.

TOPICAL OUTLINE

A. How aging affects drug action:

1. Body composition changes affect the relationship between a drug's concentration and distribution.
    a. Lean tissue, fat tissue and water proportions change as we age.
    b. Body composition varies with the individual.
    c. These changes affect the relationship between dose given and the drug level in the body.
2. Changes in the cardiovascular system
    a. Changes in the nervous system may affect the heart's ability to respond to signals. This could result in exaggerated hypotensive effects from diuretics and anti-hypertensive medications.
3. Gastrointestinal function
    a. Gastric acid decreases
    b. Motility decreases and slows the movement of drugs in the stomach and intestines. It is important to take medications in an upright position with fluids.
4. Liver function

a. The liver's ability to metabolize certain drugs decreases with age.

b. The decrease is caused by diminished blood flow to the liver (which results from an age-related decrease in cardiac output) & lessened activity of enzymes.

Example: A client who takes a sleep medication. The liver's reduced ability to metabolize the drug can produce a hangover effect the next morning (thus increases fall risk).

c. Decreased liver function may result in more intense drug effects caused by higher blood levels, long-lasting drug effects because of prolonged blood levels, and greater risk of drug toxicity.

5. Renal function

a. Decreased kidney function affects drug excretion and causes toxicity.

b. HCP should order periodic blood chemistry tests such as a creatinine clearance to evaluate kidney function.

6. Neurological function

a. The brain becomes more sensitive to the effects of medications. The consequences of these effects range from impaired memory to increased risk of falls.

B. Special administration considerations

1. Adverse Drug Reactions (ADRs)

a. Elderly persons experience twice as many ADR's as young adults.

b. The main reason is increased number of medications needed to treat chronic diseases and increased sensitivity to many medications.

c. Signs and symptoms of ADR's (confusion, weakness, agitation and lethargy), are often mistakenly attributed to senility or disease.

d. Failure to identify ADR's will result in continued use of the drug which worsens the ADR and may result in adding another drug to treat the effects.

e. Most common causes of ADR's in long-term care facilities are:

- tranquilizers
- sedatives and hypnotics
- warfarin
- antacids
- digoxin

- aspirin

2. Non-adherence is the failure to take medication as prescribed by HCP caused by:

   a. Disbelief in the efficacy of the drug

   b. Memory loss

   c. Physical impairment

   d. Inability to tolerate common side effects of medication.

Note: Medication non-compliance due to memory loss is a common reason for admission to an ALF. An important role of the Medication Aide is to see that clients receive all medications as prescribed. (*For additional information see Objective 7.6*).

C. The effects of disease – Malnutrition & Dehydration

1. Malnutrition could result in altered drug effect due to declining organ function.

2. Dehydration, the lack of adequate fluid in the body's cells, also contributes to the distribution of a drug in the body. Dehydration leads to higher concentration of drugs in the blood and thus intensifies drug effects. Older persons become dehydrated quicker than younger persons because the ability to recognize thirst lessens with age. Unless ordered otherwise, it is important to offer fluids frequently, especially to clients who are taking many medications.

3. Patients are also at an increased risk of orthostatic hypotension with dehydration.

7.2 Discuss the Uses, Adverse Reactions and Special Considerations for Selected Psychotropic Medications

INTRODUCTION - Drug therapy plays a major role in the modern approach to psychiatric care. Psychotropic medications are ordered by the HCP to reduce and control symptoms of mental or emotional illnesses. These medications help to manage behavioral disturbances associated with diseases affecting the brain. They may be used in combination with other treatments such as counseling or psychotherapy.

Psychotropic medications are complex with many unique characteristics. It is the Medication Aide's responsibility to be aware of the many reactions and considerations to be used in the administration of these medications. Indiscriminate use of psychotropic drugs in the cognitively impaired client may be considered a chemical restraint. Chemical restraints are forbidden in Virginia assisted living facilities.

TOPICAL OUTLINE

A. Three classes of psychotropic medications.

1. Antidepressant agents
2. Antianxiety agents
3. Antipsychotic agents (also called neuroleptics)

B. Conditions commonly treated with psychotropic medications

1. **Depression**
   a. Can be caused by a loss or a disappointment, such as not meeting expectations.
   b. Often called the "blues".
   c. Hereditary factors may be a contributing factor.
   d. It is not a normal part of aging (a commonly held belief about aging).

e. Must be diagnosed by a qualified HCP

f. *Symptoms*

- Deep sadness
- Eating too much or eating too little
- Sleeping too much or unable to sleep
- Loss of interest in hobbies, friends & family, and pleasurable activities
- Feelings of worthlessness, helplessness and guilt

- Thoughts of death or suicide

g. Antidepressant drugs used to treat depression:

1. Selective Serotonin Reuptake Inhibitors (SSRIs)

a. Adverse reactions include:

- anxiety and/or agitation
- amnesia
- confusion
- constipation
- drowsiness
- dry mouth
- insomnia
- decreased sex drive

b. Special considerations for SSRIs include:

- Be alert to the possibility of suicide
- Watch the client's intake and output
- Weigh frequently noting any gain or loss
- May take 4-6 weeks to initially take effect
- Dose is often gradually increased and/or decreased

Examples:

- Prozac® (fluoxetine)
- Luvox® (fluvoxamine)
- Paxil® (paroxetine)
- Zoloft® (setraline)

2. Serotonin Nonselective Reuptake Inhibitors (SNRI's)

a. Adverse reactions include:

- loss of appetite
- anxiety
- blurred vision
- constipation
- dry mouth
- weakness

- nervousness

b. Special considerations for SNRI's

- Be alert to the possibility of suicide
- Monitor blood pressures as the drug can cause prolonged increases in blood pressure

Example:

- Effexor® (venlafaxine)

Observe and Report: Report any of the adverse effects listed above. Abnormal vital signs, including weight. Rash or hives (report immediately). Talk of suicide (report immediately).

2. **Anxiety disorders**

a. Anxiety is a general feeling of worry or dread which can affect a person's ability to function.

b. Diagnosis and treatment may be done by a qualified HCP only.

c. Signs of anxiety include

- heart palpitations or pain
- nausea and/or upset stomach
- loss of appetite
- tightness in the throat and muscles
- hands that are shaking, sweating, or cold
- feelings of tension, nervousness and indecisiveness
- insomnia

d. Drugs used to treat anxiety (Antianxiety agents or anxiolytics):

1. Benzodiazepines are often prescribed to treat anxiety. They are used to:

- manage anxiety disorders
- provide short-term relief of symptoms
- treat withdrawal symptoms of acute alcoholism
- treat anxiety prior to surgery

Examples:

- Xanax® (alprazolam)
- Klonopin® (clonazepam)
- Ativan® (lorazepam)

2. Adverse reactions to benzodiazepines:

- daytime sedation
- drowsiness and fatigue
- dizziness
- impaired coordination, also called ataxia
- muscle weakness
- dry mouth
- nausea and vomiting
- insomnia

3. Special considerations for benzodiazepines are:

- Watch for confusion, especially in the elderly. This can contribute to falls.
- Alcohol and other nervous system depressants can increase the effect and should be avoided when taking these drugs.
- Physical dependence may occur.
- DO NOT abruptly stop giving these medications.

Observe and Report: Report falls, change in coordination, or confusion.

3. **<u>Bipolar disorder</u>** (previously called 'manic-depressive')

a. Bipolar disorder is a mood disorder characterized by wide swings in behavior such as extreme hyperactivity (mania) to severe depression.

b. Diagnosis and treatment must be done by a qualified HCP.

c. Symptoms in the manic phase include:

- boisterousness (loud)
- decreased need for sleep
- delusion of grandeur (feelings of powerfulness)
- euphoria

- hyperactivity
- inability to concentrate
- rush of ideas

d. Drugs used to treat bipolar disorder:

1. Anticonvulsant drugs are commonly used to treat and prevent symptoms in the manic phase.
2. It is important to note that anticonvulsants are widely used for bipolar disorder, also.

Examples:

- valproic acid
- carbamazepine.

e. Special considerations:

1. Blood tests are done to monitor therapeutic levels of the drug in the blood. If the levels are too high the client can become toxic. Early signs of intoxication of lithium, another drug used to treat this disorder, are:

- abdominal pain
- ataxia (impaired coordination)
- diarrhea
- dizziness
- drowsiness
- muscle weakness
- slurred speech and/or difficulty swallowing

Observe and Report: In addition to the adverse reactions listed above, report:

- Complaints of blurred vision or difficulty walking.
- Any jerking movements of the eyes that are involuntary.
- Complaints of ringing in the ears.
- Signs of “giddiness.”

4. **Psychotic disorders**

   a. Psychosis is an impaired ability to recognize reality, demonstration of bizarre behaviors, and the inability to deal with life’s demands.

b. Diagnosis and treatment must be done by a qualified HCP.

c. Schizophrenia is a mental illness with classic psychosis features.

d. Symptoms observed in clients with schizophrenia may include:

- hallucinations
- delusions
- disorganized speech
- disorganized behavior or catatonic behavior

e. Drugs used to treat psychotic illnesses

1. Antipsychotic agents

Examples: [See also the latest Beers List.]

- Abilify® (aripiprazole)
- Risperdal® (risperidone)
- Clozaril® (clozapine)
- Haldol® (haloperidol)
- Thorazine® (chlorpromazine HCL)
- Serentil® (mesoridazine)
- Permitil®/Prolixin (fluphenazine HCL)
- Seroquel® (quetiapine fumarate)
- Zyprexa® (olanzapine)

2. Adverse reactions to antipsychotic drugs include:

- movement disorders
- orthostatic hypotension
- blurred vision
- constipation

- seizures
- dizziness
- dryness of mouth
- dystonia
- elevated blood sugar
- abnormal body movements
- weight gain

- abnormal eye movements
- irregular heartbeat
- ataxia
- tardive dyskinesia

3. Special considerations for antipsychotic medications include:
    - Alcohol and other nervous system depressants can increase the effects of these drugs.
    - Tell the client to change positions slowly when sitting up from lying down or when standing from sitting to minimize the effects of orthostatic hypotension
    - Clients should avoid exposure to sunlight or artificial UV rays.
    - Monitor the client closely for extrapyramidal symptoms.
4. Extrapyramidal symptoms (EPS) are abnormal movements that mimic movements that would happen after injury to the brain. These symptoms may be very frightening to the client experiencing them (and to clients observing them). *Symptoms* include:
    - spasm in the neck muscles
    - torticollis – a muscle spasm of the neck in which the head is pulled to one side and turned so the chin is pointing to the other side of the body.
    - rigidity of the back muscles
    - spasm and rigidity in the hands and feet
    - spasms in the jaw muscles

- difficulty swallowing
- severe and repeated upward rolling of the eyeballs.
- protrusion – thrusting the tongue out.
- akathisia - inability to sit down. The client is very restless and has an urgent need to move. Symptoms of akathisia include agitation, fidgeting and pacing. (Note: this is also a symptom in the client with dementia of the Alzheimer's type).

5. **Pseudo-parkinsonism**

a. A collection of symptoms that mimic parkinsonism and may include:

- brady-kinesia – a decrease in movement
- drooling
- increased salivation
- a rigid or mask-like facial expression
- rigidity
- tremors
- abnormal posture
- shuffling gait

Observe and Report: Report any abnormal movements of the body, face or eyes. Report any decrease in the clients ability to void. If the client refuses medication, report to HCP. Observe the client to be sure that the medication is swallowed. **Note:** It is important to remember that these medications are used in ALF's to control behavioral disturbances associated with dementia as well.

7.3 Recognize When A Drug is a Chemical Restraint

INTRODUCTION: Chemical restraints are not allowed in Assisted Living Facilities in Virginia. However, when HCP orders are not clearly written as required by regulations, it is not uncommon for residents to be given medications, unnecessarily for behaviors which could be managed by using behavior management techniques. The information in this chapter combined with the objective on communicating with the cognitively impaired client in Chapter 2, should provide the Medication Aide with the tools needed to safely manage behavior without using chemical restraints.

TOPICAL OUTLINE

A. Virginia Department of Social Services' definition of chemical restraint

1. "Chemical restraint" means a psychopharmacologic drug that is used for discipline or convenience and not required to treat the resident's medical symptoms, including when the drug is used in one or more of the following ways:
    a. In excessive dose (including duplicate drug therapy)
    b. For excessive duration
    c. Without adequate monitoring
    d. Without adequate indications for its use
    e. In the presence of adverse consequences which indicate the dose should be reduced or discontinued
    f. In a manner that results in a decline in the resident's functional status

B. Dangers of chemical restraints

1. Physical harm includes:
    a. Reduction in the client's ability to function
    b. Lack of movement causes loss of muscle tone and strength

c. Incontinence

d. Injury resulting from falls

2. Psycho-social harm includes:

a. Confusion

b. Delirium

c. Depression

d. Social isolation

e. Increase in episodes of aggression

C. Most common reasons for chemical restraint use:

1. Lack of understanding of what the client is trying to communicate through the behavior
2. Lack of understanding of behavior management techniques
3. Inadequate staffing

D. Managing behavior

1. See *Chapter 2, Objective 2.3*

E. Communicating with the health care team

1. Clearly describe what the client is doing.
2. Do not use words like "agitated" or "angry". Instead, state what the client is *doing*, or *saying*. In other words, state only *facts*, *not opinion.*
3. If attempts to manage behavior fail, document every effort made to manage it.
4. If the client's behavior indicates that placement in the facility may no longer be appropriate, every measure must be taken to move the client to a facility that can provide the services needed to safely manage the behavior without chemical restraints.

7.4 Explain The Importance of Blood Testing to Monitor Therapeutic Level of Medication

INTRODUCTION: With most medications, a certain level of drug in the blood stream is required to achieve the desired affect. Blood testing can be done to measure the level of a medication in the blood. Testing is very important when the client is taking certain medications. In some facilities, the Medication Aide may be responsible for scheduling such tests when they are ordered by the HCP, and for reporting the test results.

TOPICAL OUTLINE

A. Reason for monitoring

1. To confirm that the client is receiving an effective dose of medication.
2. To determine whether the client is receiving too much medication.
3. To ensure that the client is taking a medication properly.
4. Instances of deliberate drug overdosing.

B. Blood levels

1. **Therapeutic level** is the level of a medication in the blood that indicates that the dosage is correct to achieve the desired effect.
2. **Toxic level** is the level of medication in the blood that can cause harm or death.
3. Sometimes the amount of medication that helps (therapeutic level) is very close to the amount that can cause harm (toxic level).

C. Determining correct dosage

1. Factors that affect medication levels (see Chapter 3):
    a. age
    b. weight

c. activity level

d. disease

e. poly-pharmacy

D. Most frequently monitored medications

1. Monitoring may be done for nearly any type of medication. Most often done for:

   a. Coumadin® (warfarin) – a blood test called a prothrombin time (PT) or International Normalized Ratio (INR) is used to monitor the blood-thinning effects of the drug.

b. Anti-seizure drugs such as:

- Dilantin® (phenytoin),
- Tegretol® (carbamazepine), and
- Depakote®, Depacon®, Depakene® (valproic acid).

c. Asthma medications, such as Theodur® (theophylline).

d. Barbiturates such as Phenobarbital.

e. Psychotropic drugs such as Eskalith® (lithium).

f. When high doses are administered.

E. Factors that can interfere with testing

1. The time between when the medication was first taken and the blood test.
2. Taking medications other than the one(s) being monitored. Can include:
   a. prescription drugs
   b. OTC drugs
   c. alcohol
   d. marijuana or other "street" drugs

F. Responsibility of facility staff.

1. Monitor HCP orders for blood level requests.
2. If ordered on a routine or weekly basis, be sure that the test is done.
3. Report the results to the HCP if not done by the lab which does the test.
4. Report any unusual signs or symptoms which might indicate problems related to drug levels such as:
   a. excessive bruising
   b. bleeding which is difficult to stop
   c. increase in seizure activity

7.5 Identify Medications Considered Inappropriate for the Elderly

INTRODUCTION – Medication toxic effects and drug-related problems can have profound medical and safety consequences for elderly adults. A group of physicians conducted a national survey of geriatric experts to identify medications to be avoided or used with caution in the elderly. The result of this survey was published in 1991 and is known as the *Beers Criteria (or Beers List).* This list was first published in 1991 and is periodically reviewed and updated. See most recent version which can be found at the links below.

TOPICAL OUTLINE

A. Beer's Criteria (the Beers List)

1. The Beer's List is a list of medications that are generally considered inappropriate when given to elderly people because these medications may pose more risk than benefit.
2. For a wide variety of reasons, the medications listed tend to cause side effects in the elderly due to the physiologic changes of aging.
3. The list is the result of recommendations by geriatric experts.
4. Much of the updated list has been adopted into nursing home regulations.
5. Review the list (briefly) with students.
6. Recommend that a copy of the list be placed with the facility's drug reference source.

B. Web Resources:

http://www.americangeriatrics.org/files/documents/beers/2012BeersCriteria_JAGS.pdf
http://www.americangeriatrics.org/files/documents/beers/2012AGSBeersCriteriaCitations.pdf
http://en.wikipedia.org/wiki/Beers_Criteria

7.6 Identify Reasons For Clients' Refusal to Take Medications and Respond Appropriately.

INTRODUCTION: Clients refuse to take medications for many reasons. Each client has different ideas and feelings about health, illness and healing. An individual may not understand the seriousness of an illness or may misunderstand the reason for which a drug is prescribed. Whatever the reason, when a client refuses medication, the Medication Aide must listen attentively to fully understand the reason for the refusal. This objective explores some common reasons for refusing medications and strategies for managing medication refusals.

TOPICAL OUTLINE

A. When the client refuses medication.

1. The client always has the right to refuse medications.
2. Clients refuse to take medications for many reasons. Some of the reasons are:
    a. The effects and/or side effects are unpleasant or unwanted.
    b. The medication tastes bad.
    c. The client has difficulty swallowing.
    d. Religious, cultural, or ethnic beliefs.
    e. Depression or loss of will to live.
    f. Delusional belief that staff is intending to harm ("poison") him/her.

B. Types of refusal

1. Active refusal is when a person directly refuses to take the medication.
2. Passive refusal is less direct and requires closer observation. Examples are:
    a. The client takes the medication but later spits the medication out; he may or may not attempt to hide the medication.

b. The client takes the medication when offered but then intentionally vomits within ½ hour of taking the medication.

C. Questions to ask to try to determine the reason for refusal:

1. Is the client experiencing unpleasant effects from the medication?
2. Does the client have difficulty swallowing?
3. Is the client afraid for some reason?
4. Is the client refusing other medical treatment?

D. Strategies for dealing with client's refusal:

1. If the client refuses and gives no reason, rephrase the offer to assist the client in understanding the need for the medication.
2. Notify the HCP or supervisor when a client refuses medication.
3. Document refusal.
4. Observe the client and report any effects which may result from refusal.
5. Consider changing the dosage form if there is swallowing difficulty.
6. Consider changing the time of administration if taking the drug interferes with an activity or with sleep. (Example: diuretics may limit a clients ability to participate in an outing because of the need to go to the bathroom frequently.)
7. If there is a suspicion of passive refusal such as "cheeking" medication or vomiting after administration, follow the recommendations for action on the client's Individualized Service Plan.
8. If the refusals continue, explore other options with the HCP.

Note: Passive refusal is not uncommon in clients with diagnoses of mental illness or dementia. It is important that the care team collaborate with the HCP to develop and follow a plan to assist the client with adherence to his/her drug regimen.

7.7 Identify Issues Related to Over-The-Counter Medications and Herbal Preparations and Non-Medical Substances.

INTRODUCTION: Herbal medication use is increasing in popularity. These medications are easily purchased in a variety of settings such as health food stores, discounts stores, pharmacies and the internet. These preparations are not regulated by the FDA and do not have to meet federal or state standards for approval. As with over-the-counter medications, these medications may interact with others the client is taking and may cause side effects, allergic reactions, or other problems. Medication Aides must report the clients use of these preparations to the HCP.

TOPICAL OUTLINE

A. Use of over-the-counter medications

1. Most commonly used OTC medications:
    a. Pain relievers
    b. Laxatives
    c. Cold treatment
    d. Benadryl® (diphenhydramine) for sleep
2. These drugs are often not reported to the HCP. This can result in:
    a. Increasing or decreasing the effect of prescription drugs.
    b. Damage to vital organs such as the kidneys, liver, and stomach.
3. Must have a HCP order even though they may be purchased without prescription.
4. Must be recorded on the MAR and documented in the same manner as prescription drugs.
5. OTC errors must be reported in the same manner as prescription medications.
6. OTC medications must be stored in the same manner as prescription medications.

B. Use of herbal medications

1. These preparations are becoming increasingly popular.

2. Not regulated by the FDA & do not have to meet federal or state standards.

3. As with OTC, these drugs are often not reported to the HCP. This can result in:

    a. Increasing or decreasing the effect of prescription drugs.

    b. Damage to vital organs such as the kidneys, liver, and stomach.

4. Use of the preparations should be reported to the HCP.

5. Must have a HCP order if they are administered by Medication Aides.

6. Must be recorded on the MAR and documented in the same manner as prescription drugs.

7. Examples of herbal medications:

    - melatonin
    - ginkgo biloba
    - glucosamine
    - L-tryptophan
    - St. Johns Wort

C. Use of non-medical substances

1. Legal substances such as alcohol, nicotine, and caffeine affect the way the body works.

2. The use of any illegal drugs, such as marijuana, should be reported to the HCP.

3. These drugs may interact with both OTC and prescription medications and may cause side effects, allergic reactions, and other problems.

4. Some non-medical substances / drug interactions can be life-threatening.

TEACHING ACTIVITIES - Chapter-7

Introduction

- Review chapter objectives. Use the brief *Introduction* notes to provide background for each objective.
- Provide students with **Student Handout 7.1.A** *Learning the Language of Medication Administration* vocabulary set. Instruct the students to define each of the terms on the handout using the glossary. These are technical terms so students will need additional time. It is important that they understand these concept.
- Inform students that they must achieve a minimum score of 80% on the Chapter 7 test as well as perform return demonstrations for selected objectives.

Presentation & Discussion

- Provide students with **Student Handout 7.1.B** *Chapter 7 Note-taking Outline*.
- Present each point in the *Topical Outline* for each objective. Elaborate and use examples as appropriate for the group or client population.
- Try to limit lecture time to no more than 15-20 minutes for each objective.
- Allow time for discussion, as needed.

Objective 7.1 Identify special issues related to drug use in the elderly

- Present each point in the *Topical Outline*. It is important to remember that many (if not most), of the students will have little or no training in the care of the elderly. This chapter should be taught at a slow pace.
- Emphasize the effects of size and weight in aging and how changes effect metabolism.
- Review how poly-pharmacy puts elders at high risk for adverse drug reactions.
- Explain dehydration, the effects in the elderly and how diuretics can contribute. Do not assume that students understand dehydration.
- Many textbooks and reference books on the care of the elderly have entire chapters on drug use in the elderly. Instructors would benefit by adding such references to their training library.

Objective 7.2 Discuss the uses, adverse reactions and special considerations for selected psychotropic medications

- Provide students with **Student Handout 7.2** *Chapter 7 Note-taking Outline*.
- Because there is a higher incidence of chemical restraint use in facilities where medications are administered by unlicensed persons who are not supervised by a licensed nurse, trainers should place take care to present the material in **Objectives 7.2** and **7.3**.
- Review each of the classes of psychotropic drugs. Distinguish between antianxiety and antipsychotic agents.
- In simple terms, explain how drug half-life can result in undesired concentration in the blood and produce negative outcome

- Use teaching activities to reinforce learning. Repetition is key when teaching unlicensed persons what to observe and report when clients receive psychotropic drugs.
- Many textbooks and reference books on the care of the elderly have entire chapters on drug use in the elderly. Instructors would benefit by adding such references to their training library.

Objective 7.3 Recognize when a drug is a chemical restraint

- Provide students with **Student Handout 7.3** *Chapter 7 Note-taking Outline*.
- Explain chemical restraints using the DSS regulations definition.
- Explain the physical and psychosocial complications that can result from chemical restraint use.
- Re-visit the information in *Objective 2.3 Communicating with the Cognitively Impaired Client.*
- Review the DSS standards training requirements for staff who care for the mentally impaired client.
- Textbooks and reference books on the care of the elderly have entire chapters on drug use in the elderly. Instructors would benefit by adding such references to their training library.

Objective 7.4 Explain the importance of blood testing to monitor therapeutic level of medication

- Provide students with **Student Handout 7.4** *Chapter 7 Note-taking Outline*.
- Explain why blood testing to monitor therapeutic drug levels is done.
- Give examples, from *Objective 7.2,* or drugs which are commonly monitored. use in the elderly. Instructors would benefit by adding such references to their training library.

Objective 7.5 Identify the "Beers List" of medications for the elderly

- Provide students with **Student Handout 7.5***Chapter 7 Note-taking Outline*.
- Print latest Beer's List from the internet and review the list using the information to reinforce information in **Chapter 7** objectives.

Objective 7.6 Identify reasons for clients' refusal to take medications and respond appropriately.

- Provide students with **Student Handout 7.6** *Chapter 7 Note-taking Outline*.
- Review the Topical Outline.

- Explain the difference between active and passive refusal.
- Review ways to deal with client refusals.
- Refer to *Objective 2.3* to review behavior management techniques..

Objective 7.7 Identify issues related to over-the-counter medications and herbal preparations.

- Provide students with **Student Handout 7.7** *Chapter 7 Note-taking Outline*.

Evaluation

- Complete the Chapter 7 written test with a minimum passing score of 80%.

Suggested Resources

D Lewis, C (2002). Aging: The Health Care Challenge. F.A. Davis Company. Philadelphia.

D Yee, B., Williams, B. (2002) Medication management and appropriate substance use for elderly individuals. Aging: The Health Care Challenge

D Nursing Drug Handbook. (2006) Drug therapy across the lifespan. pp. 10-12. Lippincott, Williams & Wilkins. Philadelphia.

Internet Resources:

For a range of information on elders go to the National Institute on Aging:

http://www.nih.gov/nia

Beer's List

http://www.americangeriatrics.org/files/documents/beers/2012BeersCriteria_JAGS.pdf

http://www.americangeriatrics.org/files/documents/beers/2012AGSBeersCriteriaCitations.pdf

http://en.wikipedia.org/wiki/Beers_Criteria

Student Handout 7.1.A

LEARNING THE LANGUAGE OF MEDICATION ADMINISTRATION

CHAPTER 7

Instructions: Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and define.

Learning Goal: To be able to define and spell words related to maintaining aseptic condition issues relating to medication administration on a written test:

1. **active refusal** _____
2. **akathisia** _____
3. **amnesia** _____
4. **ataxia** _____
5. **bradykinesia** _____
6. **BUN** _____
7. **catatonic** _____
8. **concentration** _____
9. **dehydration** _____
10. **dystonia** _____

11. extrapyramidal symptoms_____

12. euphoria_____

13. geriatric_____

14. hypnotic_____

15. jaundice _____

16. lethargy _____

17. malnutrition _____

18. NSAIDs _____

19. motility _____

20. orthostatic hypotension _____

21. passive refusal _____

22. protrusion _____

23. psychotic behavior _____

24. sedative _____

25. schizophrenia _____

26. solubility _____

27. tardive dyskinesia _____

28. torticollis _____

29. void

Student Handout 7.1.B

CHAPTER 7

NOTE-TAKING OUTLINE

Objective7.1: Identify Special Issues Related to Drug Use in the Elderly

A. How aging affects drug action

1. Body composition changes affect the relationship between a drug's concentration and distribution.
   a. _____
   b. Body composition_____.
   c. These changes affect _____

      _____
2. Changes in the cardiovascular system.
   a. Changes in the nervous system may affect the hearts ability to respond to signals. This could result in exaggerated_____effects from _____ and_____.
3. Gastrointestinal function
   a. Gastric acid _____
   b. Motility_____and slows the movement of drugs in the stomach and intestines.
4. Liver function
   a. The liver's ability to metabolize certain drugs_____with age.
   b. The decrease is caused by_____(which results from an age-related decrease in cardiac output & lessened activity of enzymes.

      Example: A client who takes a sleep medication. The liver's reduced

ability to metabolize the drug can produce a hangover effect the next morning (thus increases fall risk).

c. Decreased liver function may result in_____caused by higher blood levels, long-lasting drug effects because of prolonged blood levels, and **greater risk of drug toxicity**.

5. Renal function

   a. Decreased kidney function affects drug_____and causes_____.

   b. BUN and drug concentration levels should be_____.

B. Special administration considerations

1. Adverse reactions

   a. _____ _____ experience twice as many ADRs.

   b. The main reason is_____needed to treat chronic diseases.

   c. Signs and symptoms of ADR (confusion, weakness, agitation and lethargy), are often mistakenly attributed to_____or_____.

   d. Failure to identify ADR will result in continued use of the drug which

   _____ __ _____and may result in adding another drug to treat the effects.

   e. Drugs most likely to result in_____are:

   - diuretics
   - digoxin
   - anticoagulants
   - anti-hypertensives
   - corticosteroids
   - sleeping aids
   - OTC drugs

2. Non-compliance means_____. Happens when:

   a. Disbelief in the_____.

   b. _____ loss

   c. Physical_____.

   d. Inability to tolerate_____of medication.

C. The effects of disease – Malnutrition & Dehydration

1. Malnutrition can contribute to _____ because there is less. albumin (a plasma protein) available for 'binding' with the drug. Because there is less protein to bind with the drug, more of the drug can enter the cells and cause a greater concentration and an intensified effect. Older clients are at high risk for the resulting toxic effects. Dosage must be reduce to prevent this effect.

2. Dehydration is_____. Dehydration leads to higher concentration of drugs in the blood and thus intensifies drug effects. Older persons become dehydrated quicker than younger persons because the desire to drink lessens with aging. Unless ordered otherwise, it is very important to _____ _____frequently, especially to clients who are taking many medications.

Student Handout 7.2

Objective7.2 Discuss the Uses, Adverse Reactions and Special Considerations for Selected Psychotropic Medications

A. Four classes of psychotropic medications.

1. _____ agents
2. _____ agents
3. _____ agents
4. _____agents (also called neuroleptics)

B.. Conditions commonly treated with psychotropic medications

1. Depression
   a. Caused by loss or disappointment
   b. Hereditary factors
   c. Often called the blues
   d. Diagnosis
      - It is not a normal part of aging (a commonly held belief about aging).
      - Must be diagnosed by a qualified HCP
   e. Symptoms
      - Deep sadness
      - Eating too much or eating too little
      - Sleeping too much or unable to sleep
      - Loss of interest in hobbies, friends & family, and pleasurable activities.
      - Feelings of worthlessness, helplessness and guilt
      - Thoughts of death or suicide
   f. Antidepressant drugs used to treat depression
      1. Selective Serotonin Reuptake Inhibitors (SSRIs)

a. Adverse reactions include:

- anxiety and/or agitation
- amnesia
- confusion
- constipation
- drowsiness
- dry mouth
- insomnia
- decreased sex drive

b. Special considerations for SSRIs include:

- Possibility of misuse or abuse
- Be alert to the possibility of suicide
- Watch the client's intake and output
- Weigh frequently. Note any gain or loss
- May take 4-6 weeks to take effect
- Dose is gradually increased and/or decreased

Examples:

- Prozac® (fluoxetine)
- Luvox® (fluvoxamine)
- Paxil® (paroxetine)
- Zoloft® (setraline)

2. Serotonin Nonselective Reuptake Inhibitors (SNRI's)

a. Adverse reactions include:

- loss of appetite
- anxiety
- blurred vision
- constipation
- dry mouth
- weakness
- nervousness

b. Special considerations for SNRI's

- Possibility of misuse or abuse

- Be alert to the possibility of suicide
- Monitor blood pressures as the drug can cause prolonged increases in blood pressure

Example:

- Effexor® (venlafaxine)

Observe and Report: Report any of the adverse effects listed above.

Monitor and report vital signs, including weight.

Report any rash or hives, immediately

Report any talk of suicide immediately.

2. Anxiety disorders

   a. Anxiety is a general feeling of worry or dread which can affect a person's ability to function.

   b. Diagnosis and treatment may be done by a qualified HCP only.

   c. Signs of anxiety include

      - heart palpitations or pain
      - nausea and/or upset stomach
      - loss of appetite
      - tightness in the throat and muscles
      - hands that are shaking, sweating, or cold
      - feelings of tension, nervousness and indecisiveness
      - insomnia

   d. Drugs used to treat anxiety (antianxiety agents or anxiolytics):

      1. Benzodiazepines are often prescribed to treat anxiety. They are used to:

         - manage anxiety disorders
         - provide short-term relief of symptoms
         - treat withdrawal symptoms of acute alcoholism
         - treat anxiety prior to surgery

      Examples:

         - Xanax® (alprazolam)
         - Librium® (chlordiazepoxide HCL)
         - Klonopin® (clonazepam)
         - Valium® (diazepam)
         - Ativan® (lorazepam)

      2. Adverse reactions to benzodiazepines:

- daytime sedation
- drowsiness and fatigue
- dizziness
- impaired coordination, also called ataxia
- muscle weakness
- dry mouth
- nausea and vomiting
- insomnia

- blood diseases (also called blood dyscrasias)

3. Special considerations for benzodiazepines are:

   - Watch for confusion, especially in the elderly. This can contribute to falls.
   - Alcohol and other nervous system depressants can increase the effect and should be avoided when taking these drugs.
   - Smoking may affect absorption and result in larger doses need to achieve the desired results.
   - Physical dependence may occur.
   - DO NOT abruptly stop giving these medications.

Observe and Report: Report for signs of blood dyscrasias such as sore throat, fever, jaundice or unusual weakness that gets worse.
Report any signs of bleeding into the skin (purpura).

3. Bipolar disorder (previously called 'manic-depressive')

   a. Bipolar disorder is a mood disorder characterized by wide swings in behavior such as extreme hyperactivity (mania) to severe depression.
   b. Diagnosis and treatment must be done by a qualified HCP.
   c. Symptoms in the manic phase include:

      - boisterousness
      - decreased need for sleep
      - delusion of grandeur (feelings of powerfulness)
      - euphoria
      - hyperactivity
      - inability to concentrate

- rush of ideas

d. Drugs used to treat bipolar disorder:

    1. Lithium is commonly used to treat and prevent symptoms in the manic phase.

e. Adverse reactions to lithium:

- fine tremors in the hands
- general discomfort
- mild thirst

- frequent urination
- mild nausea

f. Special considerations:

1. Blood test are done to monitor therapeutic levels of the drug in the blood. If the levels are too high the client can become toxic. Early signs of lithium intoxication are:
    - abdominal pain
    - ataxia (impaired coordination)
    - diarrhea
    - dizziness
    - drowsiness
    - muscle weakness
    - slurred speech and/or difficulty swallowing

Observe and Report: In addition to the adverse reactions listed above, report complaints of blurred vision or difficulty walking.
Report any jerking movements of the eyes that are involuntary.
Report any complaints of ringing in the ears.
Report any evidence of "giddiness".

4. Psychotic disorders

a. Psychosis is an impaired ability to recognize reality, demonstration of bizarre behaviors, and the inability to deal with life's demands.

b. Diagnosis and treatment must be done by a qualified HCP.

c. Schizophrenia is a mental illness with classic psychosis features .

d. Symptoms observed in clients with schizophrenia may include:

- hallucinations

- delusions
- disorganized speech
- disorganized behavior or catatonic behavior

e. Drugs used to treat psychotic illnesses

1. Antipsychotic agents

Examples:

- Risperdal® (risperidone)
- Clozaril® (clozapine)
- Haldol® (haloperidol)
- Thorazine® (chlorpromazine HCL)
- Serentil® (mesoridazine)
- Permitil® (fluphenazine HCL)

2. Adverse reactions to antipsychotic drugs include:
   - blurred vision
   - constipation
   - seizures
   - dizziness
   - dryness of mouth
   - dystonia
   - elevated blood sugars
   - abnormal body movements
   - weight gain
   - abnormal eye movements
3. Special considerations for antipsychotic medications include:
   - Alcohol and other nervous system depressants can increase the effects of these drugs.
   - Tell the client to change positions slowly when sitting up from lying down or when standing from sitting to minimize the risk of orthostatic hypotension
   - Clients should avoid exposure to sunlight or artificial UV rays.

- Monitor the client closely for extrapyramidal symptoms.

4. Extrapyramidal symptoms (EPS) are abnormal movements that mimic movements that would happen after injure to the brain. These symptoms may be very frightening to the client experience them (and to clients observing them) They include:
    - spasm in the neck muscles
    - torticollis – a muscle spasm of the neck in which the head is pulled to one side and turned so the chin is pointing to the other side of the body.

- rigidity of the back muscles
- spasm and rigidity in the hands and feet
- spasms in the jaw muscles
- difficulty swallowing
- severe and repeated upward rolling of the eyeballs.
- protrusion – thrusting the tongue out
- akathisia - inability to sit down. The client is very restless and has an urgent need to move. Symptoms of akathisia include agitation, fidgeting and pacing. (Note: this is also a symptom in the client with dementia of the Alzheimer's type).

5. Pseudo-parkinsonism – is a collection of symptoms that mimic parkinsonism and may include:
    - bradykinesia – a decrease in movement
    - drooling
    - increased salivation
    - a rigid or mask-like facial expression
    - rigidity
    - tremors
    - abnormal posture
    - shuffling gait

Observe and Report: Report any abnormal movements of the body, face or eyes.

Report any decrease in the clients ability to void.

If the client refuses medication, report to HCP.

Observe the client to be sure that the medication is swallowed.

Student Handout 7.3

Objective7.3: Recognize When A Drug is a Chemical Restraint

A. Virginia Department of Social Services definition of chemical restraint

1. "Chemical restraint" means a _____

_____

_____

   a. In excessive_____(including duplicate drug therapy);

   b. For excessive_____.

   c. Without adequate _____

   d. Without adequate_____ _____ _____;

   e. In the presence of_____which indicate the dose should be reduced or discontinued; and

   f. In a manner that results in a decline in the resident's _____

      _____.

B. Dangers of chemical restraints

1. Physical harm includes:

   a. _____

   b. _____

   c. _____

   d. _____

2. Psycho-social harm includes:

   a. _____

   b. _____

   c. _____

   d. _____

e. _____

C. Most common reasons for chemical restraint use:

1. _____

2. _____

3. _____

D. Managing behavior

1. See Chapter 2, Objective 2.3)

E. Communicating with the health care team

1. Clearly describe what the client is_____.
2. Do not use words like "agitated" or "angry". Instead, state what the client is *doing,* or say*ing.* In other words, state only_____, not_____.
3. If attempts to manage behavior fail,_____.
4. If the client's behavior indicates that placement in the facility may no longer be appropriate, every measure must be taken to move the client to a facility that can

_____

_____

_____

Student Handout 7.4

Objective 7.4 Explain The Importance of Blood Testing to Monitor Therapeutic Level of Medication

A. Reason for monitoring

1. To confirm that the client is_____.
2. To determine whether the client is _____
3. To ensure that the client is_____.
4. Instances of_____.

B. Blood levels

1. **Therapeutic level** is the _____

_____

2. **Toxic level** is _____
3. Sometimes the amount of medication that helps (therapeutic level), is _____

_____

C. Determining correct dosage

1. Factors that affect medication levels

   a. _____, _____, _____, disease and poly-pharmacy. (see Chapter 3)

D. Most frequently monitored medications

1. Monitoring may be done for nearly any type of medication. Most often done for:

   a_____- a blood test called a prothrombin time (PT) or International Normalized Ratio (INR) is used to monitor the blood-thinning effects of the drug.

   a. _____such as gentamicin or tobramycin. These drugs may cause hearing loss or kidney damage if the level in the blood gets too high.

b. _____drugs such as Lanoxin® (digoxin), quinidine or Pronestyl® (procainamide).

c. _____drugs such as Dilantin® (phenytoin), Tegretol® (carbamazepine), and Depakote®, Depacon®, Depakene® (valproic acid).

d. _____medications, such as Theodur® (theophylline).

e. _____such as Phenobarbital.

f. _____ such as Eskalith® (lithium).

g. When_____are administered.

E. Factors that can interfere with testing

1. The time between when the medication was_____and the blood test.
2. Taking medications other than the one(s) being monitored. Can include:
   a. _____
   b. _____
   c. _____
   d_____drugs

F. Responsibility of facility staff.

1. Monitor_____for blood level requests.
2. If ordered on a routine or weekly basis, be sure that_____.
3. Report the results to the HCP if not done by the_____.
4. Report any unusual signs or symptoms which might _____ related to drug levels such as:
   a. excessive bruising
   b. bleeding which is difficult to stop
   c. increase in seizure activity

Student Handout 7.5

Objective 7.5 Identify the "Beers" of Medications for the Elderly

A. Beer's list of drugs to be avoided in the elderly

1. Recommended by geriatric experts
2. See Handout 7.5.A *The Beer's List*
3. Developed for use in nursing homes but would be considered _____ _____for the general aging population.

B. Other studies of drug use in the elderly

1. _____
2. _____
3. _____
4. _____

Student Handout 7.6

Objective 7.6 Identify Reasons For Clients' Refusal to Take Medications and Respond Appropriately.

A. When the client refuses medication.

1. The client always_____.
2. Clients refuse to take medications for many reasons. Some of the reasons are:
   a. _____
   b. _____.
   c. _____.
   d. _____.
   e. _____.
   f. _____.

B. Types of refusal

1. _____ refusal is when a person_____refuses to take the medication.
2. _____ is less direct and requires closer observation. Examples are:
   a. The client takes the medication but_____; he may or may not attempt to hide the medication.
   b. The client takes the medication when offered but then _____ _____within ½ hour of taking the medication.

C. Questions to ask to try to determine the reason for refusal:

1. Is the client experience_____from the medication?
2. Does the client have_____?
3. Is the client_____some reason?
4. Is the client_____other medical treatment?

D. Ways to respond to refusals include:

1. If the client refuses and gives no reason, wait for_____and then offer the medication again. If the client refuses again, try again in _____ _____ before considering a final refusal. This is particularly important with clients who have a diagnosis of dementia.

2. Notify the HCP or supervisor when a client_____medication.

3. _____ refusal.

4. Observe the client and report any_____which may result from refusal.

5. Consider changing the dosage form if there is_____difficulty.

6. Consider changing the time of administration if taking the drug interferes with an_____or with_____. (Example: diuretics may limit a clients ability to participate in an outing because of the need to go to the bathroom frequently.

7. If the refusals continue,_____.

Student Handout 7.7

Objective 7.7 Identify Issues Related to Over-The-Counter Medications and Herbal Preparations and Non-Medical Substances

A. Use of over-the-counter medications

1. Most commonly used OTC medications:
   a. _____
   b. _____
   c. _____
2. These drugs are often not reported to the HCP. This can result in:
   a_____or_____the effect of prescription drugs.
   b. Damage to_____such as the_____, _____, &_____.
3. Must have a_____even though they may be purchased without prescription
4. Must be recorded on the MAR and_____the same manner as prescription drugs.
5. OTC_____must be reported in the same manner as prescription medications.
6. OTC medications must be_____in the same manner as prescription medications.

B. Use of herbal medications

1. These preparations are becoming increasingly popular.
2. Not regulated by the_____& do not have to meet federal or state standards.
3. As with OTC, these drugs are often not reported to the HCP. This can result in:
   a. _____ the effect of prescription drugs.
   b_____to vital organs such as the kidneys, liver, and stomach.
4. Use of the preparations should be_____.

5. Must have a_____if they are administered by facility staff.
6. Must be recorded on the MAR and documented in the _____

_____.

C. Use of non-medical substances

1. _____

2. _____

http://www.americangeriatrics.org/files/documents/beers/2012BeersCriteria_JAGS.pdf

http://www.americangeriatrics.org/files/documents/beers/2012AGSBeersCriteriaCitations.pdf

http://en.wikipedia.org/wiki/Beers_Criteria

CHAPTER 8 INSULIN MODULE

OBJECTIVES

8.1 Define and list the causes of two types of diabetes mellitus

8.2 Identify activities involved in the management of diabetes

8.3 List common signs and symptoms of hypoglycemia and hyperglycemia

8.4 Perform finger stick procedure for glucose monitoring

8.5 Administer insulin injection

PERFORMANCE OBJECTIVES

1. Demonstrate an understanding of the basic facts about diabetes by completing a written quiz with 80% accuracy.
2. Perform a finger-stick for glucose monitoring according to a rating sheet.
3. Administer an insulin injection according to a rating sheet.

KEY TERMS

diabetes
glucagon
hyperglycemia
hypoglycemia
insulin
insulin pen
ketones

ketoacidosis

subcutaneous

8. 1 Explain Basic Facts About Diabetes Mellitus

INTRODUCTION : Diabetes Mellitus is a complicated disease which is often misunderstood by clients and caregivers. Many assisted living residents are cognitively impaired and unable to fully participate in the management of their disease. Unlicensed assistive personnel are the primary caregivers in ALFs and many of them also assume the responsibilities of Medication Aide. Trainers of Medication Aides must take great care to present the facts about diabetes using a variety of teaching techniques, varied repetition, and reinforcing activities. To insure safe diabetes management, Medication Aides must understand the role of insulin in the body, the signs and symptoms of hypoglycemia and hyperglycemia and how to perform a finger-stick to monitor blood glucose levels. Identifying types of insulin, accurate measurement of insulin and how to administer subcutaneous insulin injections should be carefully taught.

TOPICAL OUTLINE

A. The purpose of insulin in the body

1. Insulin is a hormone produced after stimulation by food/meals.
2. Insulin is produced in special cells in the pancreas called beta cells.
3. Insulin allows glucose (the ‘fuel’ of the body) to enter the cells.
4. Without insulin, glucose, (which comes from the food we eat), is unable to enter the cells and the body’s systems begin to deteriorate and will ultimately fail if untreated.

B. Diabetes

1. Diabetes is a metabolic disease of the endocrine system in which the body’s ability to produce or use insulin is impaired. The two most common types are

Type 1 and Type 2.

2. Type 1 diabetes:

   a. The body produces no insulin

   b. Insulin-dependent (IDDM)

   c. Can develop at any age but typically develops before age 4

   d. Represents about 5% of all cases

   e. Continues throughout life

3. Type 2 diabetes:
    a. May or may not require insulin
    b. Typically develops after the age of 40 but can develop in the teen years
    c. Can be controlled with diet and exercise In many clients
    d. Represents 95% of all cases

C. Cause(s) of Diabetes Mellitus

1. Cause(s) of Type 1 Diabetes:
    a. Heredity
    b. Physical injury to pancreas from accident or disease
    c. Autoimmune
2. Cause(s) of Type 2 Diabetes:
    a. Obesity
    b. Advanced age
    c. Poor eating habits
    d. Inactivity
    e. Heredity

D. Symptoms of Diabetes Mellitus

1. Fatigue
2. Constipation or diarrhea
3. Numbness and tingling in the lower extremities (lower legs & feet)
4. Headache

5. The "3 P's":

    a. *Polydipsia* - increased thirst

    b. *Polyphagia* – increased hunger

    c. *Polyuria* – increased urination

6. Persistent elevated blood glucose levels.

8.2 Identify Activities Involved In The Management Of Diabetes

INTRODUCTION: Managing diabetes requires setting short-term and long-term goals for meal planning, medications, glucose monitoring and exercise. It also requires setting long-term goals such maintaining a target range for blood glucose, and regular physical and eye examinations. Caregivers in ALFs play an important role in assisting the client with diabetes to achieve these goals and avoid complications of the disease.

TOPICAL OUTLINE

A. Diet management

1. Create a meal plan with the HCP or diabetes educator for each individual.
2. Goals of a therapeutic meal plan:
    a. Control weight
    b. Control blood glucose levels
    c. Reduce the need for additional insulin

B. Exercise

1. Design plan with HCP after health evaluation.
2. Must be in balance with meal plan and insulin regimen.
3. Goals of the exercise plan:
    a. Maintain muscle tone and physical fitness
    b. Lower blood glucose levels
    c. Increase sensitivity to medications
    d. Control weight

C. Medication

1. Oral diabetes medications

    a. Oral medications are not insulin.

    b. Drugs which lower blood glucose levels by encouraging the pancreas to produce and better utilize insulin.

    c. Used to treat Type II Diabetes

    Examples:

    - Orinase® (tolbutamide)
    - Tolinase® (tolazamide)

- DiaBeta® (glyburide)
- Glucophage® (metformin)
- Avandia® (rosiglitazone maleate)
- Actos® (pioglitazone hydrochloride)

2. Insulin injections make up for the body's inability to produce insulin.

   a. See chart on ***Insulin Types*** below:

Insulin Types	Onset	Peak (Hours	Usual Effective Duration	Usual Maximum Duration
Rapid-Acting				
• Humalog *(insulin lispro)*	< 15 min	0.5 – 1.5	2 – 4	4 – 6
• NovoLog *(insulin aspart)*	5 – 10 min	1 – 3	3 – 5	4 – 6
Short-Acting				
• Humulin R *(regular)*(U-100, U-500)*	0.5 – 1 hour	2 – 3	3 – 6	6 – 10
• Novolin R *(regular)*	0.5 – 1 hour	2 – 3	3 – 6	6 – 10
• Novolin BR *(Velosulin: regular buffered)*	0.5 – 1 hour	2 – 3	3 – 6	6 – 10
• ReliOn/Novolin R *(regular)*	0.5 – 1 hour	2 – 3	3 – 6	6 – 10
Intermediate-Acting				
• Humulin L *(lente)*	3 – 4 hours	4 – 12	12 – 18	16 - 20
• Novolin L *(lente)*	3 – 4 hours	4 – 12	12 – 18	16 - 20
• Humulin N *(NPH)*	2 – 4 hours	4 – 10	10 – 16	14 – 18
• Novolin N *(NPH)*	2 – 4 hours	4 – 10	10 – 16	14 – 18
• ReliOn/Novolin N *(NPH)*	2 – 4 hours	4 – 10	10 – 16	14 – 18
Long-Acting				
• Humulin U *(ultralente)*	6 – 10 hours	--	18 – 20	20 – 24
• Lantus *(insulin glargine)*	1.1 hours	--	24	24
Mixtures/Combination				
• Humulin 50/50 *(50% NPH, 50% regular)*	30 min	3 – 5		24
• Humulin 70/30 *(70% NPH, 30% regular)*	30 min	2 – 12		24
• Humulog Mix 75/25 *(75% insulin lispro Protamine suspension / 25 % insulin*	15 min	30 – 90 min		24
• Novolin 70/30 *(70% NPH, 30% regular)*	30 min	2 – 12		24
• NovoLog Mix 70/30 *(70% insulin aspart protamine suspension and 30% insulin aspart*	15 min	30 – 90 min		24
• ReliOn/Novolin 70/30 *(70% NPH, 30%*	30 min	2 – 12		24

2. *Insulin injections (continued)*

b. Clients with Type 1 diabetes require insulin injections.

c. The client may take one type of insulin by injection or;

d. The client may take a mixture of two types of insulin. (See Objective 8.5 for instructions on mixing two types of insulin for injection.)

3. What is BYETTA®?

   a. BYETTA® is an injectable medicine used to improve blood sugar control in adults with Type 2 diabetes. It may be used with other oral diabetes medications.

   b. BYETTA® is NOT a substitute for insulin in clients with diabetes that requires insulin treatment.

NOTE: The dose may be made up of one or more blisters.

Do NOT use three 1-mg blisters in place of one 3-mg blister because the client may receive too much insulin. Always follow the HCP orders exactly as written.

D. Blood-glucose monitoring

1. The action and tools used for monitoring blood glucose
2. Blood glucose monitoring tells how the body is responding to certain foods, activities, and medications.
3. Clients self-perform with a glucose meter or are assisted by the Medication Aide.
4. The goal of glucose monitoring is to maintain a consistent, normal blood-glucose level and to treat as needed.
5. More on glucose monitoring in Objective 8.4 of this chapter.

E. Ketone testing

1. Ketones are the by-product of the body's burning of fat instead of glucose for energy.
2. Occurs when there is not enough insulin available to use the glucose for energy.
3. If high blood glucose levels are left untreated, ketones can build-up in the blood

and a serious condition called ketoacidosis may develop.

4. Ketone levels can be checked in urine samples using ketone testing strips.

5. Ketone test results:

   a. If urine test indicates a ‘trace’ of ketone it may indicate that ketone buildup in the blood is starting. Urine should be tested again in a few hours.

   b. If urine test indicates ‘moderate’ or ‘large’ amounts of ketones, this is a danger sign of ketoacidosis which can poison the body.

c. Report the presence of ketones in the urine to the client's HCP immediately!

F. Frequent office or phone visits with the HCP

1. Clients with diabetes should maintain close contact with his/her HCP.
2. The HCP should be contacted when there is any doubt about any aspect of treatment, or any change in the client's health.

8.3 List Common Signs And Symptoms Of Hyperglycemia and Hypoglycemia

INTRODUCTION : Living with diabetes means dealing with problems that go along with having the disease. One of these problems is abnormal blood-glucose levels. It is important that the Medication Aide recognize the signs and symptoms of hyperglycemia and hypoglycemia to avoid serious complications such as insulin shock or ketoacidosis.

TOPICAL OUTLINE

A. Hyperglycemia

1. Increased blood-glucose level (high blood-sugar).
2. Cause(s):
    a. When the body has too little insulin or is unable to use insulin properly.
    b. Over-eating or eating the wrong types of food (excess concentrated sweets).
    c. Lack of exercise
    d. Illness
    e. Stress
3. Signs and symptoms of hyperglycemia
    a. Increased thirst
    b. Frequent urination
    c. Hunger
    d. Fatigue and/or unusually sleepy
    e. Irritable

f. Frequent infections

g. Slow-healing cuts or sores

h. Increased blood-glucose

i. Increased ketones

j. Fruity smell to breath

k. If untreated: ketoacidosis is life threatening and can progress to death.

4. Treatment of hyperglycemia

a. Lower the blood-glucose level by:

- Exercise
- If blood-glucose is over 240 mg/dl, check urine for ketones (with order from physician)
- If ketones are present -- DO NOT EXERCISE
- Decrease amount of food (especially non-complex carbohydrates)
- Insulin

B. Hypoglycemia (low blood glucose)

1. Cause(s)
   a. Missing a meal
   b. Too much exercise
   c. Poor insulin management
2. There are **three degrees of hypoglycemia** and the treatment for each varies.
   a. **Mild hypoglycemia**
      1. *Symptoms* include
         - shakiness
         - sweating
         - fast heart beat
         - pale skin
         - hunger
      2. *Treatment* options (per order)
         - 4 ounces of juice
         - 4 ounces of regular (NOT diet) soda
         - 2-3 glucose tablets
         - 8 ounces of SKIM milk.

b. **Moderate hypoglycemia**

1. *Symptoms further develop* causing:

- an inability to concentrate
- confusion
- slurred speech
- blurred vision and
- irrational behavior.

2. *Treatment*

- Often requires a larger amount of glucose to recover per order.
- Offer the above treatment options, (see mild hypoglycemia), 15 minutes apart.
- Wait 30 minutes before resuming normal activities

c. **Severe hypoglycemia** - function begins to be impaired so that the assistance of another person is often necessary to prevent further progression.

1. *Symptoms*

- may include disoriented behavior or being unconscious
- seizure
- coma

2. *Treatment*

- Is more of an urgent situation, requiring help from another person.
- Call 911 to insure back up assistance in the event the patient does not respond to treatment.
- If the person is unconscious (eyes are closed and is unable to respond) and cannot swallow, turn the patient on their side and give glucagon.
- Do NOT attempt to give anything by mouth until the person is fully conscious.

C. Many HCPs ask their clients to report the following:

1. A severe low blood glucose level that requires treatment by another person.
2. Blood glucose levels that consistently run below 70-80 more than 2-3 times in a row.

3. More than one unexplained low blood glucose reaction in a week.

4. Blood glucose levels consistently higher than 300 (more than 2-3 days).

5. If the client is ill with symptoms of nausea, vomiting, diarrhea or fever.

8.4 Perform Finger Stick Procedure For Blood Glucose Monitoring

TOPICAL OUTLINE

A. Blood glucose monitoring

1. Measures how well the body is processing sugar (sometimes called blood sugar).
2. Random blood glucose tests measure the blood sugar without consideration of the last time food (meal, snack, or beverage with calories) was consumed.
    a. Used by diabetics to determine if there is a need for food or insulin.
3. Fasting blood sugar tests measure the amount of glucose in the blood after not eating for 8 hour.
4. Blood glucose checks are recommended for:
    a. persons taking insulin or oral drugs for diabetes
    b. persons having difficulty controlling blood-glucose levels
    c. Persons having low blood-glucose levels without warning signs ("hypoglycemic unawareness").
5. Since blood glucose monitoring involves blood as well as the use of medical equipment such as fingerstick devices (various types of lancets) and blood glucose meters, it presents a situation in which there is a risk of passing blood- borne pathogens to yourself or other residents. By adhering to all guidelines and maintaining aseptic conditions, the risk is greatly minimized. Outbreaks of HBV have occurred in ALF settings due to poor blood glucose monitoring techniques and breaches in infection control, even resulting in death of residents.
6. If the employee unintentionally pricks a finger or body part with the fingerstick device, report the incident immediately to file an incident report. The employee has the right to receive an evaluation and follow-up to assess the need for appropriate post exposure prophylaxis, in addition to other recommended

precautions, depending on the situation, in accordance with OSHA regulations.

http://www.osha.gov/SLTC/bloodbornepathogens/index.html

B. Supplies needed for blood glucose monitoring

1. Blood glucose meter – reads the blood sugar

2. Test strip – collects the blood sample

3. Fingerstick device - pricks finger, and provides a small drop of blood for the glucose strip. (Refer to Student Handout 8.4.A for a discussion of different fingerstick devices and when they should or should not be used in practice.)
4. Alcohol wipes to clean fingers.
5. Blood glucose meter user manual – provides information about use, cleaning and storage of the device.
6. Gauze, band aids, or other supplies - to stop and contain blood flow.
7. Hand hygiene supplies and gloves – to practice standard precautions
8. Cleaning agents as specified in the blood glucose meter user manual for disinfecting the blood glucose meter. Also need a cleaning agent (can be the same one if the recommended agent for the glucose meter is appropriate) to clean other surfaces.
9. Do not carry used alcohol swabs, lancets, or other supplies in your pockets. Carry only the supplies that you need for the procedure to another area for blood glucose monitoring. Discard of items appropriately.

Note: Each resident must have his/her own fingerstick device.

Multi-use fingerstick devices should **NEVER** be used when assisting residents with blood glucose monitoring, or even if you think the resident *may* need help at some point in the procedure.

This is extremely important because sharing fingerstick devices among multiple people is one of the common causes of bloodborne pathogen exposure and infection in long-term care facilities.

And remember, the person infected could be you!

C. Steps to perform blood glucose monitoring

1. Provide for client privacy & explain procedure

2. Gather equipment needed for the procedure. Ensure that the test strips match the glucometer and that it is calibrated appropriately.

3. Perform hand hygiene. If client performs BGM, instruct client to wash their hands.

4. Put on gloves.

5. Select a finger using site rotation principles.

6. Clean client's finger with alcohol swab. Allow skin to air dry, do not blow on the site.

7. Perform the stick on the side of the selected finger-tip by pricking with a single use fingerstick device (do not milk the finger).

8. Place blood droplet on testing strip/device following device instructions.
9. Wipe client's finger with gauze after stick and ensure bleeding has stopped or provide something to stop and absorb the bleeding. Do not wipe the finger with the alcohol swab. Dispose of trash appropriately.
10. Read and record the test results.
11. Discard lancing device and blood-contaminated equipment/supplies in biohazardous waste container.
12. Clean and disinfect the blood glucose meter according to manufacturer's instructions.
13. Clean any other surfaces that could possibly have been contaminated, either by the patient and their blood or by used equipment.

D. Normal blood glucose ranges for adults

Time Blood Glucose is Tested	Desirable Ranges
Fasting blood glucose before breakfast	**90 -- 130 mg/dl**
(Taken on an empty stomach and shows how well the body uses the long-acting insulin.)	
Pre-meal blood glucose before dinner & lunch	**90 – 130 mg/dl**
(Show the effectiveness of the breakfast and lunch insulin doses).	
Two hours after eating	**Less than 180 mg/dl**
(Blood glucose peaks a few hours after eating. This reading shows if the insulin taken was enough to cover the carbohydrates eaten).	
Just before bedtime	**110 - 150 mg/dl**
(This is a target range. The client should not go to bed with blood glucose that is too low to avoid the risk of having a sever hypoglycemic episode during the night).	

8.5 Administer or Assist the Client With Self-Administration of Insulin

INTRODUCTION : Most people with type 1 diabetes take insulin by injection. The goal is to mimic insulin-blood glucose action that occurs normally. The type of insulin therapy is individualized for each client and is based on age, weight, diet, exercise, and lifestyle choices.

TOPICAL OUTLINE

A. Means of insulin administration

1. Insulin may be administered by one of 2 different means: a **syringe** or an **insulin pen**
2. A **syringe** with a needle attached is used to inject insulin into a patient, with insulin withdrawn from a **multi-dose vial.** A **multi-dose vial** contains enough insulin for multiple doses; however, it should be dedicated to a single individual
    a. When drawing a dose of insulin from a **multi-dose vial**, the top of the vial should be cleaned with alcohol and a new needle and syringe should be used every time
    b. Needles and syringes should be disposed of immediately after use in a sharps container
3. An **insulin pen** is an injection device specifically for insulin that resembles a pen. It either has an insulin reservoir or an insulin cartridge, which usually contain several doses of insulin within them
    a. Before each insulin injection, a new needle must be attached to the pen.
    b. Insulin pens are intended for one individual and should **NEVER** be shared between residents. They are prescription medication and are assigned to an individual resident and must be labeled with the resident's name (Refer to

Student Handout 8.5.A, CDC Clinical Reminder regarding insulin pens).

c. The needle from an insulin pen should be disposed of immediately after use in a sharps container

Note: Both needles and syringes should **NEVER** be used more than once. Both are contaminated after use.

Note: An insulin pen should **NEVER** be used for multiple people. It should always be dedicated to one resident. Reusing needles or syringes or sharing insulin pens can result in the transfer of bloodborne pathogens.

B. General guidelines for administration of subcutaneous injections

1. Follow the "Five Rights" of medication administration.
2. Perform appropriate hand hygiene and put on gloves.
3. Select a syringe-needle unit that is appropriate for the medication.
4. Insulin syringe units must match the insulin type:
    a. U-100 syringes must be used with U-100 insulin.
5. Select the correct site for the injection using a subcutaneous injection site chart. Many such charts are available online and may be found by searching "subcutaneous injection sites."
6. Prepare the client properly.
7. Clean the injection site with an alcohol swab. Allow the site to air dry, do not blow on the site
8. Pinch approximately two inches of skin
9. Holding the syringe like a dart, (not a plunger), use a smooth, quick, dart-like motion to insert the needle into the client's skin.
10. Use the correct angle of insertion (45° to 90°), for the injection.
11. Do NOT pull back on the plunger (aspirate) when administering insulin.
12. Release the skin.
13. Inject the medication slowly into the client.
14. Remove the needle from the injection site with a quick, smooth motion.
15. Discard the syringe/needle unit immediately into a hard-walled ('sharps') container.
16. If the client bleeds, provide a means to stop bleeding and prevent blood from contaminating surfaces. Clean and disinfect countertops and other surfaces that may have been contaminated with blood.
17. Dispose of gloves and wash hands

18. Observe the client for any signs of hypersensitivity.

19. Document on the medication administration record according to facility policy.

Note: Do not attempt to administer insulin injections until you have been supervised by (at least 3 times) by a health care professional.

Remember: **When in Doubt...Don't!**

C. Mixing two types of insulin-

1. Rapid or short acting insulin may be ordered to be mixed with intermediate insulin. Long acting insulin is Lantus and CANNOT be mixed with any other insulin.

2. Steps in mixing two types of insulin:

   a. Assemble needed supplies including appropriately sized insulin syringe.

   b. Provide for client privacy & explain procedure.

   c. Verify medication order for accuracy on the MAR three times.

   d. Perform appropriate hand hygiene and put on gloves.

   e. Inspect both bottles of insulin for expiration date and condition of vials.

   f. Mix the cloudy bottle by rolling between palms.

   g. Wipe the tops of both bottle stoppers with alcohol.

   h. Pull the plunger down to prescribed number of units for the total amount of insulin to be injected (rapid/short-acting plus intermediate.)

   i. Push the needle into the cloudy bottle, inject air equal to the number of units of intermediate insulin to be administered, then remove the needle from the bottle.

   j. Insert needle into the clear bottle, inject air equal to the number of units of rapid/short-acting insulin to be administered, then withdraw the prescribed number of units of rapid/short-acting insulin from the clear bottle.

   k. Push the needle into the cloudy bottle and pull the plunger back to withdraw the prescribed number of units of intermediate insulin.

   l. Properly rotate injection sites.

   m. Cleanse the injection site with ~~a~~nd alcohol swab in a circular motion from inner to outer point of site and allow skin to dry.

   n. Pinch approximately two inches (2”) of skin.

   o. Insert syringe quickly at a 45°-90° angle and release skin.

p. Inject insulin into released skin.

q. Immediately dispose of needle/syringe into a puncture-proof container.

r. Clean and disinfect all countertops and surfaces that may have been contaminated with blood.

s. Properly dispose of gloves and perform appropriate hand hygiene.

t. Document in MAR according to facility policy.

D. The insulin pen

1. Types of insulin pens:

   a. Disposable pens which come pre-filled with insulin. The pen is discarded when the insulin is used.

   b. Reusable pens are loaded with a new insulin cartridge when the old cartridge of insulin has expired or there is no more insulin in the cartridge.

   c. Insulin pens are not all the same so it is very important to read and completely understand the operating instructions for the pen that the client chose.

E. Administering insulin using an insulin pen

1. Basic steps that are common to most models and types of pens are:

   a. Perform hand hygiene and put on gloves

   b. Remove the pen cap.

   c. Check the insulin (amount and appearance)

   d. Clean the injection site with an alcohol swab.

   e. Attach the pen needle and remove both caps.

   f. Prime the pen.

   g. Dial the dose and inject.

   h. Count 5 seconds before removing needle from the skin – insulin pens often need extra time to completely empty the full dose into the skin.

   i. Remove the needle from the pen and dispose of properly.

   j. Replace the pen cover.

   k. Clean and disinfect all countertops and surfaces that may have been contaminated with blood.

   l. Remove gloves and wash hands.

Note: The insulin pen user manual provides information about proper use and

storage of the device. Do NOT attempt to use an insulin pen until you have been supervised by a health care professional.

Remember: **When in Doubt...DON'T!**

TEACHING ACTIVITIES - Chapter 8

Introduction

D Review each of the chapter objectives with the students. Use *Introduction* notes to provide background for each objective. Elaborate as needed for the group and for a specific client population.

D Provide the students with **Student Handout 8.1.*A*** *Learning the Language of Medication Administration* vocabulary set. Instruct the students to define each of the terms on the handout using the glossary.

D Explain that students must earn a grade of at least 80% on the Chapter 8 test as well as perform return demonstrations for selected objectives.

Presentation & Discussion

D Present all material contained in Topical Outline for each objective. Elaborate and use examples as appropriate for the group or client population.

D Try to limit lecture time to no more than 15-20 minutes for each objective.

D Allocate a period of time for discussion as needed.

Objective 8.1 Explain Basic Facts About Diabetes Mellitus

D Provide the students with **Student Handouts 8.1.B** Chapter8 Note-taking Outline.

Objective 8.2 Identify activities involved in the management of diabetes

D Using the handouts, explain each point in the topical outline.

Objective 8.3 List common signs and symptoms of hypoglycemia and hyperglycemia

D Provide students with **Student Handout 8.3.A** *Recognizing Hypoglycemia and Hyperglycemia.* Review symptoms of each. Give examples of what types of complaint the client might offer when experiencing the symptoms.

D Provide the students with ***Studen*t Handout 8.3.B** *Recognizing the Signs and Symptoms of*

Hypoglycemia and Hyperglycemia-Scenarios. Instruct the students to discuss the scenarios in groups and share the results of the discussions with the class.

Objective 8.4 Perform finger stick procedure for glucose monitoring

- Explain the i*m*portance of blood-glucose monitoring.
- Demonstrate the procedure for finger-stick. Use this opportunity to reinforce principles of infection control and disposal of biohazardous waste.
- Provide the students with **Student Handout 8.4.A** *Use of Fingerstick Devices on More than one Person* and **Student Handout .8.4.B** *Skills Competency Checklist, Finger-stick for Blood Glucose Monitoring*.
- Watch each student perform a finger-stick and rate according to the checklist.

Objective 8.5 Administer insulin injection

- Demonstrate how to draw up and administer subcutaneous insulin injection.
- Provide the students with **Student Handout** .**8.5.A** *CDC Clinical Reminder: Insulin Pens.* and **Student Handout 8.5.B.** *Skills Competency Checklist-InsulinAdministration.*
- Watch each student a*dminister a subcutaneous insulin i*n*jection and rate according to t*he checklist.
- Provide the students with **Student Handout** .**8.5.B** *Skills Competency Checklist-Mixing Insulins* and watch each student follow the procedure for mixing insulin and rate according to the checklist.

Application

- Demonstrate procedure for performing a finger-stick for glucose *mon*itoring.
- Demonstr*a*te administration of a subcutaneous insulin injection.
- Demonstrate procedure for mixing two types of insulin.

Evaluation Complete the Chapter 8 written test with a minimum passing score of 80%.

Suggested Resources:

Information on Byetta®
http://www.byetta.com/index.jsp

Student Handout 8.1.A

Learning the Language of Medication Administration

Chapter 8-Insulin Module

Instructions: Using the Glossary provided by your instructor, find the definition of each word and write the definition in the space provided. For the abbreviations, write what the abbreviation stands for and define.

Learning Goal: To be able to define and spell words related to diabetes management and insulin administration on a written test.

diabetes _____

_____

_____

_____

hyperglycemia _____

_____

_____

_____

hypoglycemia _____

_____

_____

_____

insulin - _____

_____

insulin pen _____

_____

ketones

ketoacidosis

subcutaneous

Student Handout 8.1.B

CHAPTER 8 - DIABETES

NOTE-TAKING OUTLINE

I. Facts about Diabetes Mellitus – Objective 8.1

A. Purposes of Insulin

1. Insulin is a_____produced in the_____.
2. Special cells in the pancreas, called_____produce the insulin.
3. Insulin allows_____to get into the body's_____to be burned for _____.
4. Without insulin, the body's cells are unable to use glucose for energy. Ultimately the body systems will begin to_____if left_____.

B. Diabetes.

1. Diabetes is a_____of the endocrine system.
   a. This disease_____the body's ability to produce insulin.
   b. The two most common types are_____& _____.
2. Type I diabetes:
   a. The body produces_____insulin.
   b. Individuals with type I diabetes are insulin_____.
   c. Typically develops_____age_____.
   d. Represents_____of all cases of diabetes.
   e. _____ disease.

3. Type II Diabetes:

   a. _____ or_____require insulin.

   b. Usually develops after the age of_____, but can develop in _____ years.

   c. Many clients_____type II with_____and _____.

   d. Represents_____of all cases.

C. Causes

1. Type I Diabetes:

a. _____

b. _____

2. Type II Diabetes:

a. _____

b. _____

c. _____

d. _____

e. _____

D. Symptoms of Diabetes Mellitus

1. _____

2. _____

3. _____

4. _____

5. _____

a. _____

b. _____

c. _____

6. _____

II. Management of Diabetes Mellitus – Objective 8.2

A. Diet.

1. Goal of therapeutic meal plan:

a. _____

b. _____

c. _____

B. Exercise

1. _____

2. _____

3. Goal of exercise plan:

   a. _____

   b. _____

   c. _____

d. _____

C. Medication

1. Oral Diabetes Medications

   a. Are not_____.

   b. Work by_____.

   c. Examples:

      i. _____

      ii. _____

      iii. _____

2. _____make up for the body's inability to produce insulin.

   a. Rapid Acting – Onset of action _____

      i. _____

      ii. _____

   b. Short Acting – Onset of action _____

      i. _____

      ii. _____

   c. Intermediate Acting – Onset of action _____

      i. _____

      ii. _____

   d. Long Acting – Onset of action _____

      i. _____

      ii. _____

e. Mixtures – Onset of action _____

i. _____

ii. _____

*****Clients with_____diabetes require regular_____.**

3. BYETTA®

a. BYETTA® is an_____used to improve blood sugar control in Type II diabetes. It is an_____, not an insulin.

b. It is_____in clients with diabetes that requires insulin treatment.

D. Blood Glucose Monitoring

1. Main_____for monitoring glucose.
2. _____ _____ _____ tells how the body is responding to certain foods, activities or medications.
3. The goal of glucose monitoring is to maintain a_____, _____ blood glucose level and to_____as needed.

E. Ketone Testing

1. Ketones are_____instead of glucose for energy.
2. Occurs when there is not enough_____to use glucose for energy.
3. When ketones build up in the blood, a dangerous condition called _____ can occur.
4. Ketones are checked in_____samples.
5. Ketone test results:
   a. A "trace" of ketones may indicate that _____.
   b. Tests that indicate_____of_____amounts of ketones may indicate_____and poison the body.
   c. _____ the presence of ketones in the urine to the HCP.

F. Office Visits with the HCP

1. Clients _____
2. The HCP _____

III. Signs/Symptoms of Hyperglycemia and Hypoglycemia – Objective 8.3

A. Hyperglycemia

1. _____ blood glucose levels.

2. Causes:

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

3. Signs and Symptoms

a. _____

b. _____

c. _____

d. _____

e. Frequent Infections

f. _____

g. _____

h. _____

i. _____

j. If untreated: Ketoacidosis

4. Treatment

a. Lower blood glucose by:

i. _____

ii. _____

iii. _____

iv. _____

B. Hypoglycemia _____

1. Causes

a. _____

b. _____

c. _____

2. Three degrees of hypoglycemia

a. _____

i. Symptoms

1. _____

2. _____

3. _____

4. _____

5. _____

ii. Treatment Options

1. _____

2. _____

3. _____

4. _____

b. _____

i. Symptoms

1. _____

2. _____

3. _____

4. _____

5. _____

ii. Treatment

1. Often will require a_____amount of glucose to recover.

2. _____

3. _____

c. _____

i. Symptoms

1. _____

ii. Treatment

1. _____

2. _____

3. _____

4. _____

C. Report the Following

1. _____

2. _____

3. _____

4. _____

5. _____

IV. Performing Fingersticks – Objective 8.4

A. Blood Glucose Monitoring

1. Measures_____.
2. _____measures the blood sugar without _____ of the last time food was consumed.
3. _____ measures the amount of glucose in the blood after fasting for 8 hours.
4. Testing is recommended for :
   a. _____
   b. _____
   c. _____

B. Supplies needed for Fingerstick

1. _____- reads the blood glucose level.
2. _____ - collects the blood sample.
3. _____ - pricks finger to provide a small drop of blood for the testing strip.
4. _____- lancet fits into this device and releases to prick the finger when a button is pressed.
5. _____ - to clean testing site.
6. _____ - provides information about use, cleaning and storage of the device.

C. Normal blood glucose ranges for an adult

1. Fasting range - _____
2. Pre-meal, before lunch and dinner - _____
3. Two hours after eating - _____
4. Just before bedtime - _____

V. Administer/Assist with Administration of Insulin – Objective 8.5

A. Guidelines for subcutaneous injections

1. Follow the_____.
2. Follow_____, ALWAYS wear gloves!
3. Select a_____-_____that is appropriate for the medication.
4. Insulin_____must match the insulin_____.
5. Select the correct_____site for injection.
6. _____ the client properly.

7. _____the injection site with_____.
8. Pull up a 2 inch area of tissue (approx).
9. Hold the syringe like a_____, inject the needle at a_____to _____ degree angle.
10. DO NOT_____on the plunger after insertion.
11. _____the medication slowly into the client.
12. _____ the needle from the site with a smooth, quick motion.
13. Hold pressure firmly over injection site – DO NOT MASSAGE AREA.
14. Discard the syringe/needle_____into a "_____" container.
15. _____ the client for any signs of hypersensitivity.
16. _____on the MAR according to facility policy.

B. Mixing Insulin

1. _____ _____ insulin may be ordered to mixed with _____ insulin.
2. Steps in mixing 2 types of insulin:
   a. _____ supplies.
   b. Provide for_____and_____procedure.
   c. _____medication order with MAR_____times.
   d. _____both vials of insulin for_____and damage.
   e. Mix the_____bottle by rolling in palms.
   f. _____ the tops of both bottles stoppers with _____.
   g. Pull the plunger down to the prescribed number of_____for the

cloudy bottle of insulin, pulling up air into the syringe.

h. Push the syringe into the_____bottle, injecting the_____, then remove the needle from the bottle.

i. Pull the plunger down for the prescribed number of_____for the_____bottle of insulin.

j. Insert the needle into the clear bottle of insulin, inject the air, and _____ the prescribed number of units of_____from the clear bottle.

k. Pull the needle form the clear bottle.

l. Push the needle into the_____bottle, pull back on the plunger to withdraw the prescribed number of units of cloudy insulin.

m. Pull the_____out of the bottle. You will now have 2 types of insulin mixed in the same syringe.

n. Follow the correct injection procedures.

***** ALWAYS REMEMBER –CLEAR BEFORE CLOUDY OR R BEFORE N**

C. The insulin Pen

1. Types of Insulin Pens

a. _____ _____which comes prefilled with insulin. The pen is discarded when the insulin is used.

b. _____ _____which are loaded with a new insulin cartridge when the old cartridge is used.

c. Insulin pens are not the_____. It is important to read and understand the operating instructions for the pen in use.

D. Administering Insulin using an Insulin Pen

1. Basic steps common to most models and types of pens:

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

DO NOT attempt to use an insulin pen UNTIL_____.

Student Handout 8.3.A

RECOGNIZING THE SIGNS AND SYMPTOMS OF HYPOGLYCEMIA

SIGNS AND OF HYPERGLYCEMIA

What The Medication Aide Might Observe	What The Client Might Say
■ Client drinks more than usual	■ I am thirsty
■ Client goes to the bathroom frequently	■ It seems like I have to go to the bathroom constantly
■ Client is eating more	■ I am still hungry
■ Client is squinting	■ I can't see clearly
■ Client acts irritable	■ I feel nervous, something is wrong
■ Client has infections or sores that take a long time to heal	■ I have a sore that doesn't seem to heal.

SIGNS AND SYMPTOMS OF HYPOGLYCEMIA

What The Medication Aide Might Observe	What The Client Might Say
MILD	
■ Client's hands are shaking	■ I feel nervous
■ Clients skin is pale and wet.	■ I feel lightheaded and dizzy
■ Client has a rapid pulse.	■ My heart is really beating fast
■ Client is eating more.	■ I seem to be hungry all of the time
MODERATE	
■ Client has difficulty concentrating	■ I can't think clearly
■ Client is confused	■ I feel strange (or unable to say what he is feeling)
■ Client's speech is slurred	■ I am having trouble saying things (or may not be aware of it)
■ Client is rubbing eyes and squinting	■ I am having trouble seeing
■ Client is acting strangely	■ Most likely will not be aware of this
SEVERE	
■ A person's function begins to be impaired so that the assistance of another person is necessary to prevent further progression to a critical state of hypoglycemia that may result in seizures and coma.	■ Client may be unable to say what he is feeling.

Student Handout 8.3.B

Recognizing the Signs and Symptoms of Hypoglycemia and Hyperglycemia

SCENARIOS

Instructions: *Read and discuss the following scenarios. What do you think might be going on and what action might you take each situation?*

1. A client who usually participates actively in activities is sitting, listlessly, watching television. She has been drinking a lot of liquids and complains, "I sure have been going to the bathroom a lot today". It is flu season and for the past few days, she has been complaining of feeling like she is "coming down with something."

2. A Medication Aide assists a client to administer her morning insulin injection before breakfast. At breakfast, the client complains that she is "just not hungry" and refuses to eat most of her breakfast. Not long after breakfast she complains of feeling "nervous". She looks a little pale and is sweating more than usual. The Medication Aide checks her pulse and notes that it is much faster than normal.

3. A diabetic client who is usually very pleasant and likes to play basketball joins in a game sponsored by the local college. In the second half of the game he begins to make a lot of mistakes. When the coach asks what the problem is the client can't seem to speak clearly and

appears somewhat confused. He yells at the coach and says, "So what are you going to do about it, huh?"

4. A diabetic client who likes to watch soap operas spends the afternoon in her room doing so. A Medication Aide comes in to remind her to take her 4 pm insulin injection and finds the client "asleep". The Medication Aide tries awakening her, but is unable to do so. The client's skin feels very cold and moist.

Student Handout 8.4.A

http://www.cdc.gov/injectionsafety/PDF/Clinical_Reminder_Fingerstick_Devices_RiskBBP.pdf

CDC CLINICAL REMINDER

Use of Fingerstick Devices on More than One Person Poses Risk for Transmitting Bloodborne Pathogens

Summary: The Centers for Disease Control and Prevention (CDC) has become increasingly concerned about the risks for transmitting hepatitis B virus (HBV) and other bloodborne pathogens to persons undergoing fingerstick procedures for blood sampling -- for instance, persons with diabetes who require assistance monitoring their blood glucose levels. Reports of HBV infection outbreaks linked to diabetes care have been increasing[1,2,3]. This notice serves as a reminder that fingerstick devices should never be used for more than one person.

Background

Fingerstick devices are devices that are used to prick the skin and obtain drops of blood for testing. There are two main types of fingerstick devices: those that are designed for reuse on a single person and those that are disposable and for single-use.

Figure 1: Reusable fingerstick devices*

- **Reusable Devices:** These devices often resemble a pen and have the means to remove and replace the lancet after each use, allowing the device to be used more than once (see **Figure 1**). Due to difficulties with cleaning and disinfection after use and their link to numerous outbreaks, CDC recommends that these devices never be used for more than one person. If these devices are used, it should only be by individual persons using these devices for self-monitoring of blood glucose.

- **Single-use, auto-disabling fingerstick devices:** These are devices that are disposable and prevent reuse through an auto-disabling feature (see **Figure 2**). In settings where assisted monitoring of blood glucose is performed, single-use, auto-disabling fingerstick devices should be used.

Figure 2: Single-use, disposable fingerstick devices*

The shared use of fingerstick devices is one of the common root causes of exposure and infection in settings such as long-term care (LTC) facilities, where multiple persons require assistance with blood glucose monitoring. Risk for transmission of bloodborne pathogens is not limited to LTC settings but can exist anywhere multiple persons are undergoing fingerstick procedures for blood sampling. For example, at a health fair in New Mexico earlier this year, dozens of attendees were potentially exposed to bloodborne pathogens when fingerstick devices were reused to conduct diabetes screening.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion (DHQP)

Recommendations

Anyone performing fingerstick procedures should review the following recommendations to ensure that they are not placing persons in their care at risk for infection.

- Fingerstick devices should **never** be used for more than one person.
- Auto-disabling **single-use** fingerstick devices should be used for assisted monitoring of blood glucose.

These recommendations apply not only to licensed healthcare facilities but also to any setting where fingerstick procedures are performed, including assisted living or residential care facilities, skilled nursing facilities, clinics, health fairs, shelters, detention facilities, senior centers, schools, and camps. Protection from infections, including bloodborne pathogens, is a basic requirement and expectation anywhere healthcare is provided.

Additional information is available at:

http://www.cdc.gov/injectionsafety/blood-glucose-monitoring.html

http://www.cdc.gov/hepatitis/Settings/GlucoseMonitoring.htm

http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm224025.htm

References

1. Centers for Disease Control and Prevention. Transmission of hepatitis B virus among persons undergoing blood glucose monitoring in long-term-care facilities – Mississippi, North Carolina, and Los Angeles County, California, 2003-2004. MMWR 2005;54:220-223.
2. Patel AS, White-Comstock MB, Woolard D, Perz JF. Infection Control Practices in Assisted Living Facilities: A Response to Hepatitis B Virus Infection Outbreaks. ICHE 2009;30(3):209-214.
3. Thompson ND, Perz JF. Eliminating the Blood: Ongoing Outbreaks of Hepatitis B Virus Infection and the Need for Innovative Glucose Monitoring Technologies. J Diabetes Sci Technol 2009;3(2):283-288

* **Disclaimer:** Images provided on this page are examples only and do not represent an endorsement by the Centers for Disease Control and Prevention.

~~Student Handout 8.5.A~~

http://www.cdc.gov/injectionsafety/PDF/Clinical-Reminder-insulin-pen.pdf

CDC CLINICAL REMINDER

Insulin Pens
Must Never Be Used for More than One Person

Summary

The Centers for Disease Control and Prevention (CDC) has become increasingly aware of reports of improper use of insulin pens, which places individuals at risk of infection with pathogens including hepatitis viruses and human immunodeficiency virus (HIV). This notice serves as a reminder that insulin pens must **never** be used on more than one person.

Background

Insulin pens are pen-shaped injector devices that contain a reservoir for insulin or an insulin cartridge. These devices are designed to permit self-injection and are intended for single-person use. In healthcare settings, these devices are often used by healthcare personnel to administer insulin to patients. Insulin pens are designed to be used multiple times, for a single person, using a new needle for each injection. Insulin pens must **never** be used for more than one person. Regurgitation of blood into the insulin cartridge can occur after injection [1] creating a risk of bloodborne pathogen transmission if the pen is used for more than one person, even when the needle is changed.

In 2009, in response to reports of improper use of insulin pens in hospitals, the Food and Drug Administration (FDA) issued an alert for healthcare professionals reminding them that insulin pens are meant for use on a single patient only and are not to be shared between patients [2]. In spite of this alert, there have been continuing reports of patients placed at risk through inappropriate reuse and sharing of insulin pens, including an incident in 2011 that required notification of more than 2,000 potentially exposed patients [3]. These events indicate that some healthcare personnel do not adhere to safe practices and may be unaware of the risks these unsafe practices pose to patients.

Recommendations

Anyone using insulin pens should review the following recommendations to ensure that they are not placing persons in their care at risk for infection.

- Insulin pens containing multiple doses of insulin are meant for use on a single person only, and should **never** be used for more than one person, even when the needle is changed.
- Insulin pens should be clearly labeled with the person's name or other identifying information to ensure that the correct pen is used **only** on the correct individual.
- Hospitals and other facilities should review their policies and educate their staff regarding safe use of insulin pens and similar devices.
- If reuse is identified, exposed persons should be promptly notified and offered appropriate follow-up including bloodborne pathogen testing.

These recommendations apply to any setting where insulin pens are used, including assisted living or residential care facilities, skilled nursing facilities, clinics, health fairs, shelters, detention facilities, senior centers, schools, and camps as well as licensed healthcare facilities. Protection from infections, including bloodborne pathogens, is a basic expectation anywhere healthcare is provided. Use of insulin pens for more than one person, like other forms of syringe reuse [4], imposes unacceptable risks and should be considered a 'never event'.

See additional information on assuring safe care during blood glucose monitoring and insulin administration.

References

1. Sonoki K, Yoshinari M, Iwase M, Tashiro K, Iino K, Wakisaka M, Fujishima M. Regurgitation of blood into insulin cartridges in the pen-like injectors. Diabetes Care. 2001;24(3):603-4.
2. Information for healthcare professionals: risk of transmission of blood-borne pathogens from shared use of insulin pens (2009). U.S. Food and Drug Administration Postmarket Drug Safety Information for Patients and Providers.
3. Important Patient Safety Notification (2011). Dean Clinic.
4. Centers for Disease Control and Prevention (CDC) and the Safe Injection Practices Coalition (SIPC).

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion (DHQP)

APPENDIX A REGULATORY AGENCIES & WEBSITES

Virginia Board of Nursing Regulations Governing Medication Aides

http://www.dhp.virginia.gov/nursing/leg/MedicationAides7-6-11.doc

The Drug Control Act and Regulations of the Virginia Board of Pharmacy

http://www.dhp.virginia.gov/pharmacy/pharmacy_laws_regs.htm

Virginia Barrier Crimes

http://www.dmhmrsas.virginia.gov/documents/forms/3006eHRMbg.doc

Virginia Department of Social Services Standards Governing Assisted Living Facilities

http://www.dss.virginia.gov/files/division/licensing/alf/intro_page/code_regulations/regulations/032-05-010-19.pdf**Virginia Department of Health- Healthcare Associated Infections**

http://www.vdh.virginia.gov/Epidemiology/Surveillance/HAI/index.htm

VDH Standard & Transmission-based Precautions

http://www.vdh.virginia.gov/epidemiology/surveillance/hai/documents/pdf/StandardTransmissionBasedPrecautionsSign.pdf

Guidance from Office of National Drug Control Policy (pdf)

http://www.ncjrs.gov/ondcppubs/publications/pdf/prescrip_disposal.pdf

Campaign from U.S. Fish and Wildlife Service, the American Pharmacists Association, and the Pharmaceutical Research and Manufacturers of America

http://www.smarxtdisposal.net/

Guidance from the FDA

http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm

DEA's proposed rule on drug destruction:

http://www.deadiversion.usdoj.gov/fed_regs/rules/2012/fr1221_8.htm

GLOSSARY

absorption How a substance is taken into the circulation (blood stream). How much of a drug is absorbed and how long it takes to absorb determines the drug's availability for use in the body.

Abuse To willfully inflict physical pain, injury or mental anguish or unreasonable confinement.

active refusal When a client directly refuses to take a medication

addiction Compulsive physiological need for and use of a habit-forming substance.

- **Physical addiction** Drug dependence in which the drug is used to prevent withdrawal symptoms or in which it is associated with tolerance, or both.
- **Psychological addiction** Drug dependence in which the drug is used to obtain relief from tension or emotional discomfort; called also emotional dependence.

ad lib Use as much as one desires. In licensed facilities, the order for such use must be specifically defined.

administer Direct application of a drug to the patient's body whether by injection, inhalation, ingestion or any other means

administration route How the drug is administered, i.e., orally, topically, subcutaneous injection, inhalation, intranasal, rectally, vaginally, etc.

ADR Abbreviation for ***adverse drug reaction.*** **A**n often undesirable or unexpected effect of a drug which can vary in significance. Some adverse reactions are minor, tolerable for the patient and short-lived,

	while others are more life threatening; also known as a side effect.
Akathisia	Constant pacing; a total inability to sit still. If forced to sit still the person may experience extreme anxiety and agitation.
ALF	Abbreviation for *Assisted Living Facility*.
Alzheimer's disease	A progressive neurodegenerative disease of the brain which impairs ability to think, reason or remember and interferes with the ability to function.
amnesia	Lack or loss of memory; inability to remember past experiences.

anaphylaxis	A severe allergic reaction to a substance to which a person has become sensitized. Requires emergency treatment.
anatomy	Study of the structure and the parts of the body
anxiety	State of feeling apprehensive, uneasy, uncertain, or in fear of an unknown or recognized threat.
aphasia	Loss of the power of expression by speech, writing, or signs, or of comprehending spoken or written language, due to injury or disease of the brain center.
APS	Abbreviation for *Adult Protective Services.*
aseptic	Free of disease-causing organisms.
ataxia	Irregular muscular action. Particularly affects walking; gait is typically very unsteady
biohazardous waste	Waste which may cause disease or injury.
blood-borne pathogen	A disease-causing organism which is carried in the blood.
BON	Abbreviation for *Board of Nursing*, the agency in Virginia which is responsible for education, testing and licensing of nurses, nurse aides and Medication Aides.
BOP	Abbreviation for *Board of Pharmacy*
Bradykinesia	Very slow movement. May be drug side effect. Symptom of disease such as Parkinson's.
BUN	Abbreviation for *Blood Urea Nitrogen* which is a measure of the kidneys' ability to excrete urea, the chief waste product of protein breakdown. Elevated in renal failure; influenced by the amount of protein intake in the diet. In medication administration, the function of the kidneys affects drug excretion.
catatonic	A condition of being apparently awake but unresponsive. Catatonia is a severe psychiatric and medical condition associated with a number of psychiatric and medical conditions, such as drug abuse, depression, and

	schizophrenia.
CE	Abbreviation for Continuing *Education.* Educational requirement to maintain a license or certificate.
chemical name	Describes the chemical structure of a compound.
CHF	Abbreviation for *Congestive Heart Failure;* a disease of the heart most commonly referred to as “heart failure”.
cognitive impairment	Altered ability to think, to reason and/or remember which interferes with the ability to function normally.

communication barrier An internal or external obstacle which interferes with sending or receiving a message.

communicable disease One which can be transmitted from one human to another.

concentration Amount of drug in a certain volume of liquid.

confusion Usually refer to loss of orientation (ability to place oneself correctly in the world by time, location and personal identity) and often memory (ability to correctly recall previous events or lean new material). Confusion is a symptom. It may range from mild to severe. A person who is confused may have difficulty solving problems or tasks, especially those known to have been previously easy for the person and an inability to recognize family members or familiar objects, or to give approximate location of family members not present.

contamination The act of process of rendering something harmful or unsuitable. Passage of an infectious organism, such as a virus, from an infected person to an object such as a needle, which then, when used, may pass infection to another person. The soiling or making inferior by contact or mixture, as by introduction of infectious organisms into a wound, into water, milk, food or onto the external surface of the body or on bandages and other dressings.

contraindication Conditions in which the use of a certain drug is dangerous or inadvisable.

controlled substances Potentially dangerous or habit-forming drugs whose sale and use are strictly regulated by law; any prescription drug in Virginia.

COPD Medical abbreviation for *Chronic Obstructive Pulmonary Disease*; a condition of the respiratory system in which breathing is difficult.

cueing To give signs or signals to indicate a desired behavior or action.

CVA Abbreviation for *cerebral vascular accident.* Medical term for a brain stroke.

DEA Abbreviation for *Drug Enforcement Administration, a* federal agency

	which regulates and enforces laws on drugs in Schedules I-V; determines on a federal level which Schedule classification is most appropriate for drugs
dehydration	A condition caused by the loss of too much water from the body. Severe diarrhea or vomiting can cause dehydration. Can be life-threatening if untreated.
delirium	A temporary state of mental confusion caused by disease, illness, drugs or alcohol. Usually subsides in time when the cause is removed.
delusions	False beliefs that are resistant to reasoning.

dementia	Mental deterioration caused by disease, injury or alcohol.
depression	A prolonged state of sadness. May be hereditary or caused by a life situation. A treatable condition.
diabetes	A disease in which the body does not properly control the amount of sugar in the blood resulting in a high level of sugar in the blood. Occurs when the body does not produce enough insulin or does not use it properly.
directing	To instruct, or indicate, for the client, a desired action. A behavior management technique.
disinfect	To render free from disease-causing organism.
disoriented	Lose of awareness of time, place or identity.
distribution	Movement of a drug throughout the body after it is absorbed into the circulation (blood stream).
dosage	The amount of drug to be administered, e.g., one 50mg tablet, 10 units, 5ml, etc.
drug	Chemical substance used in the diagnosis, treatment, prevention or cure of disease; also called medication.
drug inventory	To maintain and accurate supply and count of client's medications stored in the facility. A *Drug Inventory For* may be used to document the count of certain drug schedules.
DSS	Abbreviation for *Department of Social Services*, the agency which licenses Virginia assisted living facilities.
dystonia	Abnormal tonicity of muscle, characterized by prolonged, repetitive muscle contractions that may cause twisting or jerking movements of the body or a body part. Can be caused by prolonged or improper use of some psychotropic drugs.
elimination	The process of eliminating a drug or other substance from the body.
enema	A procedure used for clearing the bowel and colon of fecal matter. Liquid is introduced, usually water and sodium bicarbonate or sodium

	phosphate, by means of a bulb or enema bag, into the anus and thus to the bowel and colon. This tends to stimulate the bowel to release fecal matter.
enteric	Pertaining to the small intestine
enteric-coated	A coating placed on medication which allows it to dissolve in the small intestine rather than in the stomach

EpiPen®	A unit dose syringe that is pre-filled with the medication, epinephrine. It is used for self-administration of epinephrine in the event of an allergy emergency.
ethical standards	Guides to moral behavior.
euphoria	A feeling of well being or elation; may be drug related.
excretion	An excreting of waste matter: the act or process of discharging waste matter from the tissues or organs.
external medications	Those administered on the outside of the body such as creams, ointments or transdermal patches.
expiration date	Date after which a drug should not be used.
exploitation	The use of another person or his/her belongings for personal gain.
extrapyramidial	Refers to a group of symptoms that are usually related to the close and prolonged administration of antipsychotic drugs.
FDA	Abbreviation for ***Food and Drug Administration***, the federal agency which enforces the Food, Drug and Cosmetic Act; determines when a manufacturer can market its drug based on safety and efficacy data; determines if a generic drug is therapeutically equivalent to a brand name drug.
frequency	How often a drug is administered, e.g., once daily, twice daily before meals, every four hours as needed for cough, etc.
generic drug	An often lesser expensive drug that may be deemed therapeutically equivalent by the United States Food and Drug Administration to a trade name drug, because it has the same active ingredient(s) and is identical in strength, dosage form and route of administration.
geriatric	Relating to older people.
glucagon	Hormone secreted by the alpha cells of the pancreas. Glucagon is responsible for raising blood glucose.
glucose	Simple sugar; the form in which all carbohydrates are used as the

	body's principal energy source; transported in the blood and metabolized in the tissues.
glucometer	A small, portable machine that can be used to check blood glucose concentrations.
grievance	A situation in which a person feels she wishes to file a complaint.
handheld inhaler	A portable handheld device that delivers medication in a form that the person breathes in directly to the lungs.

HCP form	A form used by persons authorized to prescriber and treat; usually provided by the facility or the pharmacy provider.
hyperglycemia	An abnormally high level of sugar (glucose) in the blood.
hypnotic	A drug that produces drowsiness and assists with the onset and maintenance of sleep.
hypoglycemia	A deficiency of sugar (glucose), in the blood caused by too much insulin or too little glucose.
Incident report	A form that is required by the facility to be completed to document details of an unusual event that occurs at the facility, such as an injury to a patient or a staff member.
indications	Diseases, conditions and disorders for which a drug may be used to treat.
infection	The invasion of the body by pathogenic microorganisms thus producing a state of disease.
inhalation	Administration of drugs by way of droplets or mist that the patient breathes into the lungs.
inhalation therapy	Breathing treatment used to help restore or improve breathing function in patients with respiratory disease. If medication is included, it is usually administered by way of a nebulizer or a hand-held inhaler.
ISP	Abbreviation for *Individualized Service Plan*, a document required by DSS which outlines the plan of care for clients in assisted living facilities.
instillation	Placement of drops of liquid into the eyes, ears, nose, or some other body cavity.
insulin	A hormone that enables the body to metabolize and use glucose. Lack of or insensitivity to insulin results in diabetes.
insulin pen	An insulin injection device the size of a pen that includes a needle and holds a vial of insulin. It can be used instead of syringes for giving insulin injections.

internal medications	Those medications administered inside the body such as by
jaundice	Yellowing of the skin and eyes caused by too much bilirubin in the blood.
ketoacidosis	A severe condition caused by a lack of insulin or an elevation in stress hormones. It is marked by high blood glucose levels and ketones in the urine, and occurs almost exclusively in those with type 1 diabetes; can result in diabetic coma.

ketones Acidic substances produced when the body uses fat, instead of sugar, for energy.

legal standards Guides to legal behavior

lethargy Lack of energy, sluggishness, dullness, apathy.

liable Legally obligated; responsible for an action.

malnutrition Poor nourishment of the body often due to not eating healthy foods, improper digestion, poor absorption of nutrients or a combination of these factors.

Medication Administration Record (MAR) A form used to document all drugs administered to a particular resident.

Medication Aide The official title given to those persons who meet all requirements of the Board of Nursing and who are registered, and in good standing with the board.

Medication Error Report form Used to document the details of a medication error.

medicine cart Movable unit for storing medications.

metabolism The chemical breakdown of a drug within the body. The rate of metabolism or speed at which the body processes drug varies from individual to individual, and therefore, the magnitude and duration of a drug's effect may differ from one person to the next. Typically, the elderly or a patient with compromised kidney or liver function will metabolize drug at a slower rate. Therefore, the drug effect can be greater in these patients and last longer than in a younger, healthier adult. This is why lower strengths or smaller doses are often given to these patients.

microorganism An organism that can be seen only with the aid of a microscope; also called a microbe.

motility The ability to move**;** the movement of muscles that propel food through the intestinal tract.

metered dose inhaler Small, portable devices used to administer medication into the lungs.

nasal	By way of the nose. In medication administration, it refers to nose drops or nose sprays.
nebulizer	A machine or hand-held device used to administer medication for respiratory disease into the lungs, by way of inhalation.
neglect	Failure to provide food, medication, shelter or appropriate care or providing improper or inappropriate care that results in injury or harm, whether physical or emotional, to the person.

NSAID	Abbreviation for *Nonsteroidal Anti-Inflammatory Drug*. A drug that decreases fever, swelling, pain, and redness.
ophthalmic	related to the eye. In medication administration, it usually refers to eye drops or eye ointments.
oral order	An order from a HCP for medication or treatment which is transmitted verbally rather than written.. Generally, unlicensed assistive personnel, such as a Medication Aide, should avoid accepting a verbal order.
orthostatic hypotension	A large decrease in blood pressure upon standing; may result in fainting.
OSHA	Abbreviations for *Occupational Safety and Health Administration.* A federal agency under the Department of Labor that publishes and enforces safety and health regulations for business and industries.
otic	Related to the ear. In medication administration it usually refers to the administration of eardrops.
over-the-counter	Drugs available without a prescription; common abbreviation is ***OTC*.**
passive refusal	A client accepts a medication but refuses to swallow or conceals and later spits it out. Swallowing a medication and then vomiting it back.
pathogen	Disease-causing microorganism.
Patient Abandonment	From a regulatory perspective, in order for patient abandonment to occur, the care provider must have first accepted the patient assignment and established a provider-patient relationship, then severed that provider-patient relationship without giving reasonable notice to the appropriate person (supervisor, employer) so that arrangements can be made for continuation of care by others. Refer to Guidance Document 90-41 on the nursing website @ www.dhp.virginia.gov .
perseveration	Continuance of activity after the stimulus is removed.
pharmacology	Study of drugs; includes their composition, uses and effects.

pharmacy requisition form A form used to order supplies and medications from the pharmacy

PO Accepted medical abbreviation for *by mouth;* a route of administration.

Physician's Order Form A form used by persons authorized to prescriber and treat; usually provided by the facility or the pharmacy provider. Often abbreviated as *P.O. form.*

poly-pharmacy When a client is taking a combination of two or more drugs.

PPE	*Personnel Protective Equipment*, such as gloves, gowns, masks, goggles required by OSHA when exposure to possible blood-borne pathogens.
precautions	Warnings to use care when giving drugs under certain conditions.
prescription drug	Means any drug required by federal law or regulation to be dispensed only pursuant to a prescription
PRN order	A drug order for a medication to be administered, as needed, within a particular time parameter prescribed by the HCP.
pre-pour	To pour medication in advance of time for dose to be given.
protrusion	The state of being thrust forward or laterally, as in tongue thrusting caused by voluntary or involuntary movements of the jaw muscle.
psychotic behavior	A term that refers to a group of severe mental illnesses where the person has periods of loss of contact with reality which results in a severe impairment in the ability to function. Common symptoms include hallucinations, delusions, withdrawal, and impairment of intellectual function, lose of personal care skills.
redirecting	To divert from one action to another. A behavior management technique.
Resident's Bill of Rights	A document that states the rights of clients living in long-term care facilities. Frequently referred to as *'Resident's Rights'.*
routine order	Drug order for drug to be administered over a period of time until discontinued.
schizophrenia	One of the most complex of all mental health disorders; involves a severe, chronic, and disabling disturbance of the brain.
sedative	A drug that decreases activity and calms the recipient.
self-administration	The act of a person administering drugs to himself with knowledge of the identity and purpose of the drug.
self-administer	A resident of, or applicant to, an ALF who is capable of self-administering medication will be described in the UAI (Universal

	Assessment Instrument) as one who is capable of taking medication without any assistance of any kind from another person. For these purposes, assistance is defined as verbal cues, prompting, set-up or any hands-on assistance by another individual.
solubility	The amount of a substance that can be dissolved in a liquid under specified conditions.

Standard Precautions	Established by OSHA to prevent contamination by blood-borne pathogens; wearing gloves when handling body fluids, wearing personnel protective equipment and disposing of biohazardous waste.
stat order	An order for a medication to be administered immediately.
sterile	Free of microorganisms.
subcutaneous	Beneath the skin; an area that is rich in fat and blood vessels. Some drugs, such as insulin, are injected into this area to aid their absorption.
suppository	A solid cone or cylinder of usually medicated material which melts and is for insertion into a bodily passage or cavity (as the rectum, vagina, or urethra).
tardive dyskinesia	Potentially irreversible neurological side effects of antipsychotic drugs in which there are involuntary repetitive movements of the face, limbs and trunk.
telephone order	An order received, by way of telephone, from a HCP for medication or treatment and received by an authorized person. Abbreviated as *T.O.*
therapeutic range	The concentration or level of a drug in the blood required for the desired outcome.
torticollis	A state of inadequate muscle tone in the muscles in the neck that control the position of the head. It can cause the head to twist and turn to one side, and the head may also be pulled forward or backward.
toxicity	The quality, state, or relative degree of being toxic or poisonous to the body.
trade name	Licensed name under which a drug prepared by a specific manufacturer is sold; also known as proprietary or brand name.
transcribe	To record information from one document to another. In medication management it usually means copying the HCP orders from the HCP form onto the *Medication Administration Record (MAR)*
UAI	Abbreviation for *Uniform Assessment Instrument*, a document required by DSS which identifies the level of care required for each client.

validation	To make valid; substantiate; confirm
void	To excrete or discharge from the body. Usually refers to urine.

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Miller, D (2000) Nurse's clinical guide: medication administration. Springhouse, PA. Springhouse.

U.S. Pharmacopoeia
http://www.usp.org

Informed Drug Guide: Information on 99 commonly prescribed drugs
http://www.intmed.mcw.edu/drug.html

Prescription and over-the-counter medication information from MedMaster™†, a product of the American Society of Health-System Pharmacists (ASHP) and USPDI® Advice for the Patient® ‡, a product of the United States Pharmacopeia(USP)
http://www.nlm.nih.gov/medlineplus/druginformation.html

Internet Sources

Abuse poster for CNAs

http://www.dss.virginia.gov/files/division/dfs/as/aps/intro_page/learn_more/032-02-0744-01-eng.pdf

http://www.dss.virginia.gov/files/division/dfs/as/aps/intro_page/prevention_month/handouts_fliers/What_Is_Adult_Abuse.pdf

American Diabetes Association: Excellent resource for trainers.
http://www.diabetes.org/
Mandated reporting in Virginia:
http://www.dss.virginia.gov/family/as/aps.cgi
http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+22VAC40-705-40Drug Administration Resources

EpiPen®: Information and video clip on proper administration of the EpiPen®
http://www.epipen.com/how-to-use-epipen
Inhalation therapy: Information on how to use nebulizers and metered dose inhalers (MDIs)
http://www.njc.org/disease-info/treatments/devices/metered/nebulizer/index.aspx
Insulin: Information on insulin types and how to administer pre-filled insulin pens.
http://www.lillydiabetes.com/Pages/index.aspx

Lantus: How to administer Lantus® injection video.

http://www.lantus.com/starting/how-to-use/injecting-lantus.aspx

How to inject insulin: Becton-Dickinson:
http://www.bd.com/us/diabetes/page.aspx?cat=7001
http://www.bd.com/us/diabetes/page.aspx?cat=7001&id=7259

Suggested Resources for Trainers

A downloadable brochure and posters on *As You Age: A Guide to Aging, Medicines, and Alcohol.*

http://www.asyouage.com/AYA_SITE_DIRECTORY_.html
Popular Medications listed online at MedicineNet.com
http://www.medicinenet.com/medications/article.htmVirginia Department of Health's Hand Hygiene FAQs

http://www.vdh.virginia.gov/epidemiology/surveillance/hai/documents/pdf/HandHygieneFactSheet.pdf

US Department of Labor OSHA Healthcare Wide Hazards (Lack of) Universal Precautions
http://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html
OSHA Law & Regulations

http://www.google.com/url?sa=t&rct=j&q=osha&source=web&cd=2&cad=rja&ved=0CDcQjBAwAQ&url=http%3A%2F%2Fwww.osha.gov%2Flaw-regs.html&ei=kW6CUe63Hc--4AOggYHQBg&usg=AFQjCNH8OXY4sp7pL9y_IuA3Iw-mLBuq9A

Your Medicine: Be Smart. Be Safe. Fact Sheet can be downloaded from:
http://www.ahrq.gov/patients-consumers/diagnosis-treatment/treatments/safemeds/yourmeds.html

Food & Drug Interactions, can be seen on the FDA website:

http://www.fda.gov/forconsumers/consumerupdates/ucm096386.htm

For questions about medications, contact the Division of Drug Information at the Center for Drug Evaluation and Research at the U.S. Food and Drug Administration at

Toll Free (855) 543-3784, or (301) 796-3400 or email to: druginfo@fda.hhs.gov

http://www.fda.gov/Drugs/default.htm

Drug Assistance Programs

A list of several types of prescription drug assistance available to Virginians. (Click on the links shown below for more information.)

http://www.virginiadrugcard.com/index.php

A list of the many pharmaceutical companies that run programs which facilitate the accessibility to needed medications for patients who are in financial difficulties and are not eligible for Medicare, Medicaid or private insurance

http://www.nccn.com/component/content/article/58/99-prescription-assistance-programs.html

American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults

http://www.americangeriatrics.org/files/documents/beers/2012BeersCriteria_JAGS.pdf

Websites:

Administration on Aging, www.aoa.gov

American Society of Consultant Pharmacists, www.ascp.com

Food and Drug Administration, www.fda.gov

National Library of Medicine, www.medlineplus.gov

CONTACT INFORMATION

Virginia Department Of Social Services, Division Of Licensing Programs :
Contact Information

LICENSING INFORMATION PHONE LINE:
For information on training or filing complaints call Licensing's statewide toll-free number: **1-800-KIDS-LIL/ (1-800-543-7545)**

For the Richmond area only, call (804) 692-2394, www.dss.virginia.gov

VDSS Regulated Settings: Child Day Centers, Family Day Homes, Assisted Living Facilities, Adult Day Care Centers, Children's Residential Programs, and Private Adoption and Foster Care Agencies.

PLEASE CONTACT THE LICENSING OFFICE SERVING YOUR AREA (AS LISTED BELOW) FOR INFORMATION AND ASSISTANCE WITH LICENSING RELATED INQUIRIES:

http://www.dss.virginia.gov/contact_us/dolp_district.pdf

DRUG CLASSIFICATION REFERENCES

DEA's drug scheduling:

http://www.justice.gov/dea/druginfo/ds.shtml

Drugs.com's Drug Class Database:

http://www.drugs.com/drug-classes.html

Global RPh's Drug List:

http://www.globalrph.com/druglist.htm

Classes of Medications

Drug Class	Generic/Trade Name		What you need to know?
Antibiotics Drugs that treat bacterial infections by stopping the growth of bacteria or by directly killing the bacteria	Amoxicillin	Amoxil, Trimox	• Diagnosis/reason for use • Does the resident have allergies? • Give the entire course of antibiotics unless otherwise instructed • Expect improvement in symptoms within a few days (even if resident shows improvement finish entire course) • Know common side effects: nausea, diarrhea, allergic reactions, etc
	Penicillin	Pen VK	
	Cephalexin	Keflex	
	Clarithromycin	Biaxin	
	Azithromycin	Zithromax, Z pack	
	Erythromycin	EryTab, E-Mycin	
	Ciprofloxacin	Cipro	
	Levofloxacin	Levaquin	
	Sulfamexthoxazole	Bactrim, Septra, SMZ-TMP	
	Nitrofurantoin	Macrobid, Macrodantin	
Cardiovascular Drugs Drugs that treat high blood pressure, congestive heart failure, angina, reduce atherosclerotic events, prevent arrhythmias	Digoxin	Lanoxin	• Diagnosis/reason for use • Monitor blood pressure as indicated due to side effects of hypotension • Monitor pulse prior to administration (digoxin) • Administer with a full glass of water unless otherwise indicated
	Diltiazem	Cardizem	
	Furosemide	Lasix	
	Bumetanide	Bumex	
	Hydrochlorothiazide	Microzide, Esidrex	
	HCTZ/Triamterene	Maxide, Dyazide	
	Isosorbide dinitrate	Isordil	
	Nitroglycerine	Nitrostat, Nitrodur	
	Propranolol	Inderal	
	Atenolol	Tenormin	

Cholesterol Lowering Agents Drugs that decrease the amount of lipids (fat) circulating in the blood or absorbed from the digestive tract	Simvastatin Zocor Atorvastatin Lipitor Pravastatin Pravachol fluvastatin Lescol Rosuvastatin Crestor Ezetimibe Zetia Cholestyramine Questran	• Muscle pain/soreness is a sign of a possibly serious side effect • Give at similar time each day • May be given with food if drug causes stomach upset • Grapefruit and grapefruit juice may
Respiratory Drugs Drugs used to prevent or treat breathing difficulties including opening airways in such diseases as asthma, COPD, emphysema, bronchitis, etc	Albuterol Proventil, Ventolin Salmeterol Serevent Formoterol Foradil Montelukast Singulair Fluticasone/salmeterol Advair Ipratropium bromide Atrovent Levalbuterol Xopenex Theophylline Theo-Dur Tiotropium Spiriva	• Shake (MDI)inhalers prior to each use • C/R should rinse mouth with water after use of certain inhalers (Servent, Advair, Atrovent, Spiriva) to prevent Candidiasis (thrush) • Handi-halers are devices ONLY (the medication is in a capsule which is placed into the chamber and
Allergy Medications Drugs used to treat or prevent symptoms associated with allergic reactions such as runny nose, itching, hives, coughing, etc.	Diphenhydramine Benadryl Clemastine Tavist Hydroxyzine Atarax Loratadine Claritin Desloratadine Clarinex Fexofenadine Allegra Cetrizine Zyrtec Triamcinolone Nasacort	• Drugs may cause lightheadedness or sleepiness • Give with a full glass of water, avoid taking with fruit juices • May be taken with or without food • For nasal sprays shake well before use and have patient blow nose before use

Diabetic Medication Drugs used to control a patients blood glucose from becoming to high either by increasing the amount of insulin in the body, making cells more sensitive to insulin or by decreasing production on natural sugars in the body	Metformin Glimepride Glipizide Glyburide Pioglitazone Rosiglitazone Acarbose Miglitol Insulin	Glucophage Amaryl Glucotrol DiaBeta, Micronase Actos Avandia Precose Glyset Novolog, Humalog, NPH	• Can be used in combination • Amaryl, Glyburide are best taken with the first meal of the day • Glipizide should be taken 30 minutes AC breakfast if taken once a day, if more than once daily give 30 minutes AC • Insulins are given as injections/ "shots" into the fatty part of the skin • Humalog: give this 15 minutes before or right after a meal • Novolog: 5-10 minutes AC
Anti-Parkinson's agents Used in the treatment of Parkinson disease	Amantadine Benztropine Bromocriptine Levodopa Levodopa and Carbidopa Selegiline Trihexyphenidil	Symmetrel Cogentin Parlodel Dopar, Larodopa Sinemet Eldepryl Artane	• Maintain adequate hydration (2-3 l/d) • Take at same time each day • Monitor BP • Take last dose of the day in the afternoon to avoid insomnia • Be alert to the side effects of these products esp. drowsiness, altered mental status, N/V, constipation

Anti-coagulant Drugs Drugs used to keep blood from forming clots in a C/R's arteries and veins, preventing such	Aspirin Warfarin Coumadin Enoxaparin Lovenox Heparin	• Give at the same time every day • Requires residents to have regular blood lab work • Observe for bruising and bleeding
Anti-psychotics These medications are used to treat schizophrenia, manic depression, psychosis, etc, by acting on chemical in the brain to improve social interactions, mood, expression of mood, as well as delusions, paranoia, and appearance.	Aripiprazole Abilify Clozapine Clozaril Ziprasidone Geodon Olanzapine Zyprexa Quetiapine Seroquel Risperdone Risperdal Haloperidol Haldol Thiothixene Navane Droperidol Inapsine Molindone Moban	• Requires a diagnosis to support use, must be able to identify medical symptoms being treated by the medication, must observe for effectiveness and for any side effects • May be considered a "chemical restraint" if not ordered, administered and monitored appropriately • They can produce significant movement & non-movement SE's • Most may be taken with or without food, but may take with food if stomach upset occurs • Geodon and Navane should be taken
Anti-anxiety agents These medications act on chemicals in the brain to treat anxiety.	Buspirone Buspar Alprazolam Xanax Clonazepam Klonopin Diazepam Valium	• Give these medications with or without food, give with food if stomach upset occurs • Valium should be given with food

Sedatives/Hypnotics These medications work on chemicals in the brain to help patients fall asleep or stay asleep	Zolpidem — Ambien Chloral hydrate Eszopiclone — Lunesta Zaleplon — Sonata Flurazepam — Dalmane Temazepam — Restoril	• These medications should be used for short periods of time (7-10 days) as needed, unless a healthcare provider has approved more frequent use. • If using these medications for sleep take shortly before bedtime on an
Alzheimer's Medications Drugs work on chemicals in the brain to treat and prevent the signs and symptoms of Alzheimer's such as poor memory, slow mental function, disorientation, etc. These agents will not 'cure' Alzheimer's disease but may decrease the	Donepezil — Aricept Rivastigmine — Exelon Galantamine — Reminyl Memantine — Namenda Tacrine — Cognex	• Exelon and Reminyl are best taken with breakfast and dinner • Cognex should be taken on an empty stomach, unless stomach upset occurs then may take w/ food • Patient should drink plenty of non-caffeine-containing liquid unless
Stool softeners Drugs used to draw water into the stool and make it softer and easier to pass without as much effort	Docusate sodium — Colace Lactulose Sorbitol	• Give medications with or without food, but may be taken with food if it causes stomach upset • Patient should drink plenty of non-caffeine-containing liquid unless told to drink less liquid by a healthcare provider

Laxatives Drugs that cause increased activity of the bowel causing it to empty of stool relieving constipation	Polyethylene Glycol Bisacodyl Senna Magnesium Hydroxide	Miralax Dulcolax, Fleets, Corrector Senokot, Ex-Lax Milk of Magnesia	• Patient should drink plenty of non-caffeine-containing liquid unless otherwise contradicted • Do not give dairy products, calcium supplements or antacids within 1 hour of bisacodyl • Laxatives are for occasional as
Bulk Fiber Laxatives These medications work by softening the stool by increasing its water content. They may also be used to increase fiber in the diet.	Psyllium Methylcellulose	Metamucil Citrucel	• Give with a full glass of water to prevent obstruction of the esophagus • Patient should drink plenty of non-caffeine-containing liquid about 1500 ml/day unless told to drink less liquid by a healthcare provider • Should be given at least 2 hours before or after other drugs
Anti-diarrheals These medications are used to treat diarrhea by slowing movement through the gastrointestinal tract	Diphenoxylate/Atropine Loperamide Imodium	Lomotil Bismuth Kaopectate, Pepto-Bismol	□□Patient should drink plenty of non-caffeine-containing liquid unless otherwise contraindicated □□Do not use more than the maximum

Antacids These medications are used to prevent and treat gastrointestinal ulcers, gastroesophageal reflux disease, and syndromes caused by huge amounts of stomach acid. They work by either decreasing acid production or neutralizing acid that has been formed.	Cimetidine — Tagamet Famotidine — Pepcid Nizatidine — Axid Ranitadine — Zantac Omeprazole — Prilosec Esomeprazole — Nexium Lansoprazole — Prevacid Pantoprazole — Protonix Rabeprazole — Aciphex Magesium hydroxide — Milk of Magnesia Aluminum/magnesium hydroxide — Maalox Calcium carbonate — Tums	• Tagamet, Pepcid, Axid and Zantac should be taken at bedtime if patients are taking once a day; or may be taken when symptoms occur or if symptoms are anticipated, 1 hour before a meal • Take Prilosec, Nexium, Prevacid, Protonix and Aciphex 30-60 minutes before the first meal of the day. • Protonix and Aciphex should be taken whole and not crushed • Prilosec, Nexium and Prevacid capsules may be opened and the contents sprinkled on soft food or
Urinary System Drugs Drugs used to treat incontinence and bladder leakage, by acting on the muscles and nerves in the bladder	Oxybutynin — Ditropan, Oxytrol Tolterodine — Detrol Trospium — Sanctura Cranberry tablets/capsules	• Patient should drink plenty of non-caffeine-containing liquid unless told to drink less liquid by a healthcare provider • Sanctura should be given on an empty stomach, either 1 hour before or 2 hours after meals • Oxytrol patch should be applied to

Prostate Medications These medications are used to treat the symptoms of an enlarged prostate by relaxing the muscles of the prostate or reducing prostate growth by decreasing testosterone.	Doxazosin Terazosin Tamsulosin Finasteride Dutasteride	Cardura Hytrin Flomax Proscar Avodart	• Patient should drink plenty of non-caffeine-containing liquid unless told to drink less liquid by a healthcare provider • Give Flomax 30 minutes after the same meal every day
Hormones **Thyroid** Replacement or supplemental therapy in hypothyroidism, etc	Levothyroxine Thyroid	Synthroid, Levoxyl Armour thyroid	• ALWAYS give thyroid hormones on an empty stomach • Do not change brands • Report chest pain, rapid HR, palpitations, heat tolerance, excessive sweating, agitation ↑ nervousness, or lethargy
Hormone Replacements These medications can be used in preventing osteoporosis, treating	Conjugated Estrogens Estradiol	Premarin Climara, Estrace, Vivelle	• Give hormone replacement therapy at a similar time each day • Give with food
Cancer Drugs Drugs used in the treatment of various form of cancer which usually work by decreasing	Tamoxifen Megestrol Letrozole Bicalutamide	Nolvadex Megace Femara Casodex	• Give these medications at a similar time each day • May be given with or without food, but can be given with food if stomach

Eye Medication Drugs used in the treatment of various eye problems including glaucoma, pink eye, dry eyes, etc	Timolol Levobunolol Betaxolol Pilocarpine Latanoprost Dorzolamide Brinzolamide Bimatoprost Travoprost Ciprofloxacin	Timoptic Betagan Betoptic Isopto, Pilopine Xalatan Trusopt Azopt Lumigan Travatan Ciloxan	• Wash hands prior to and after instilling eye drops or ointment • Never touch the dropper to the C/R's eye, lid or other skin • Wait 3-5 minutes between each drop • Always have C/R sitting down or lying down for eye medications • Ointments may produce blurring of vision • Have C/R tilt head back and look up and drop medicine into eye • If possible after administering eye drops the patient should keep their eyes closed, while applying pressure to the inside corner of the eye for 1-2
Nasal Products Steroids Vasoconstrictors Moisturizers	Triamcinolone Mometasone Fluticasone Oxymetazoline Saline Nasal Spray	Nasocort Nasonex Flonase Afrin Ayr	• Nasal steroids may cause a bad taste in the back of the mouth • Do not use Afrin for greater than 3 days in a row

Ear Products Drugs given to treat bacterial infections and associated pain; to soften ear wax.	Neomycin-polymycin B Cortisporin Ciprofloxacin Cipro Ofloxacin Floxin Otic Carbamide peroxide Debrox	• Have patient lie on their side with affected ear up. • Adults: gently pull ear lobe up and back • Children gently pull ear lobe down and back • Instill drops in ear without touching dropper to ear • It is best if the patient can stay on
Topicals Products applied to the skin surface; includes a variety of product forms such as creams, ointments, gels, sprays, shampoos, etc to treat mild pain, infections, dry skin Antibiotics Steroids Moisturizers Protective coating	Bacitracin, Neomycin Polymyxin B Neosporin Hydocortisone Westcort Mometasone Elocon	• Use gloves to avoid getting product on your skin

Vitamins Vitamins are given to treat a variety of conditions such as Vitamin B 12 to treat pernicious anemia, Vitamin B12 deficiency, thyrotoxicosis, hemorrhage; Vitamin C in the prevention and treatment of scurvy, urinary acidification, dietary supplementation, has been promoted in the prevention and decreasing severity of colds, wounds, etc; Vitamin E in the prevention and treatment of hemolytic anemia and a dietary supplement Management of hypocalcaemia in C/R with chronic renal dialysis **Minerals** Used in the prevention & treatment of iron deficiency anemia by replacing iron; zinc oxide may	Multivitamins Vitamin E Ascorbic Acid Cyanocobalamin (Vitamin B 12) Folic Acid Calcitriol Ferrous Gluconate	Centrum, Flintstones Once-A- Day Vita-C, Cevi-Bid Nascobal Folvite Calcijex, Rocltrol Fergon	• Multivitamins may cause constipation • May take with food to decrease risk of stomach upset • Should be taken with water or juice on an empty stomach for maximum absorption; however may be administered with food to prevent irritation –not with cereals, dietary fiber, eggs or milk or with antacids • May color stools black

Other Common Supplements Used as antacid and calcium supplement	Calcium salts	Caltrate 600, Os-Cal 500, Rolaids, Tums	• Take with food but not within 1-2 hours of eating large amount fiber-rich foods • Avoid taking calcium supplements
Herbal Supplements *Ginseng* – energy, stamina booster; reduces physical stress; may lower cholesterol *Gingko* – improvement in memory, dementia, dilates arteries, capillaries, veins; improves intermittent claudication *Ginger* - anti-inflammatory for arthritis *Garlic* – treatment of hyperlipidemia, lowers cholesterol,	Ginseng Ginkgo Ginger Garlic Saw palmetto St. John's Wort	Korean: Panax ginseng American: Quinquefolium Gingko biloba Zingiber officinale Allium sativum Serenoa repens hypericum peforatum	• Considered by FDA as dietary supplements • Use with caution – side effects • Many herbs interact with other medications • A careful review by the physician or pharmacist on all medications – prescription, OTC's and herbal supplements due to potentially significant adverse reactions and drug-drug interactions