

**LESSON 7**  
**SPECIAL ISSUES IN**  
**MEDICATION**  
**ADMINISTRATION**

# 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

Entropy-  
ramidal  
symptoms

Geriatric

Hypnotic

jaundice

lethargy

Malnutrition

NSAIDs

Motility

Orthostatic  
hypotension

Passive  
refusal

Protrusion

Psychotic  
behavior

Sedative  
torticollis

Schizoph  
renia

Solubility

Tardive  
dyskinesia

Bradykinesia

Slowness of movement, as found, for example, in patients with Parkinson's disease.

BUN

Blood Urea Nitrogen

Torticollis

A condition in which the neck is twisted and the head inclined to one side, caused by spasmodic contraction of the muscles of the neck.

# Schizophrenia

Psychiatry.. Also called dementia praecox. a severe mental disorder characterized by some, but not necessarily all, of the following features: emotional blunting, intellectual deterioration, social isolation, disorganized speech and behavior, delusions, and hallucinations.

# Dystonia

A neurological disorder, caused by disease of the basal ganglia, in which the muscles of the trunk, shoulders, and neck go into spasm, so that the head and limbs are held in unnatural positions

Dyskinesia

Difficulty or abnormality in performing voluntary muscular movement

## 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

Decreased kidney function affects drug excretion and causes toxicity.

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)

Elderly persons experience twice as many ADR's as young adults.

The main reason is increased number of medications needed to treat chronic diseases and increased sensitivity to many medications.

Signs and symptoms of ADR's (confusion, weakness, agitation and lethargy), are often mistakenly attributed to senility or disease. 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.

## 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:

Disbelief in the efficacy of the drug

Memory loss

Physical impairment

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
- g. Deep sadness
- h. Eating too much or eating too little
- i. Sleeping too much or unable to sleep
- j. Loss of interest in hobbies, friends & family, and pleasurable activities
- k. Feelings of worthlessness, helplessness and guilt
- l. Thoughts of death or suicide
- m. Antidepressant drugs used to treat depression:

# 1. Selective Serotonin Reuptake Inhibitors (SSRIs)

## a. Adverse reactions include:

- anxiety and/or agitation
- amnesia
- confusion
- constipation
- drowsiness a 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<sup>®</sup> (fluoxetine)
- Luvox<sup>®</sup> (fluvoxamine)
- Paxil<sup>®</sup> (paroxetine)
- Zoloft<sup>®</sup> (sertraline)

## 2. Serotonin Nonselective Reuptake Inhibitors (SNRI's)

- a) Adverse reactions include: loss of appetite
- b) anxiety
- c) blurred vision
- d) Constipation
- e) dry mouth
- f) Weakness
- g) 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<sup>®</sup> (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
  - d. heart palpitations or pain
  - e. nausea and/or upset stomach
  - f. loss of appetite
  - g. tightness in the throat and muscles hands that are shaking, sweating, or cold

h. feelings of tension, nervousness and indecisiveness

i. 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<sup>®</sup> (alprazolam)

Klonopin<sup>®</sup> (clonazepam) Ativan<sup>®</sup> (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

#### 4)) 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. 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 (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:

- Risperdal<sup>®</sup> (risperidone)
- Clozaril<sup>®</sup> (clozapine)
- Haldol<sup>®</sup> (haloperidol)
- Thorazine<sup>®</sup> (chlorpromazine HCL)
- Serentil<sup>®</sup> (mesoridazine)
- Permitil<sup>®</sup> (fluphenazine HCL)
- Seroquel<sup>®</sup> (quetiapine fumarate)
- Zyprexa<sup>®</sup> (olanzapine)

## 2. Adverse reactions to antipsychotic drugs include:

- movement disorders
- orthostatic hypotension
- blurred vision and constipation
- Seizures and dizziness
- dryness of mouth
- dystonia
- elevated blood sugar
- 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 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). 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

❑ 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:

- 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.

16. QUIZ FOR  
CHAPTER 7

1. Constant pacing and the inability to sit still is called:

- a. akathisia
- b. ataxia
- c. dystonia
- d. torticollis

a. akathisia

2. Irregular muscular action, particularly affecting walking, is called:

a. akathisia

b. ataxia

c. dystonia

d. torticollis

a. ataxia

3. Very slow movement is called:

a. torticollis

b. dystonia

c. bradykinisia

d. ataxia

a. bradykinisia

4. A condition caused by loss of fluid from the body is called:

- a. dystonia
- b. dehydration
- c. torticollis
- d. ataxia

- a. dehydration

5. Abnormal muscle tone that causes jerking and twisting movements of parts of the body is called:

a. akathisia

b. ataxia

c. dystonia

d. torticollis

a. dystonia

6. A group of symptoms related to close and prolonged administration of antipsychotic drugs is called:

- a. extrapyramidal symptom
  - b. passive refusal
  - c. ataxia
  - d. tardive dyskinesia
- a. **extrapyramidal symptom**

**Extrapyramidal symptoms (EPS)**, also known as **extrapyramidal side effects (EPSE)**, are drug-induced movement disorders that include acute and tardive symptoms

7. NSAIDs is the abbreviation for non-steroidal anti-inflammatory drugs.

a. True

b. False

a. True

a. True

8. When a client accepts a medication but then doesn't swallow it or later vomits the medication deliberately is called:

- a. torticollis
  - b. ataxia
  - c. tardive dyskinesia
  - d. passive refusal
- 
- a. passive refusal

9. Potentially irreversible neurological side effects of antipsychotic drugs in which there are involuntary, repetitive movements of the face, limbs and trunk. is called:

- a. torticollis
- b. ataxia
- c. tardive dyskinesia
- d. passive refusal

**Tardive Dyskinesia**

A syndrome of potentially irreversible, involuntary, dyskinetic movements that may develop in patients who have been treated with antipsychotic medications (for example phenothiazines) longer-term. Other drugs known to cause tardive dyskinesia include: tricyclic antidepressants, selegiline, clozapine, levamisole and metoclopramide. (27 Sep 1997)

10. Inadequate muscle tone in the neck muscles that caused twisting of the head from side to side or backward and forward is called:

a. akathisia

b. ataxia

c. dystonia

d. torticollis

Neurology= A contracted state of the cervical muscles, producing twisting of the neck and an unnatural position of the head.

a. torticollis

11. Which of the following are important to consider when administering medications to the elderly client:

- a. Changes in body composition affect drug concentration and distribution
- b. Changes in the heart are minimal
- c. The liver's ability to metabolize certain drugs changes with aging
- d. a and c only

a. a and c only

## 12. Special medication administration considerations in the elderly include

- a. Money is always an issue when purchasing drugs
  - b. Elderly persons experience twice as many adverse drug reactions
  - c. They usually refuse medications
  - d. They usually prefer to receive medications from nurses
- 
- a. Elderly persons experience twice as many adverse drug reactions

13. Non-compliance with drug regimen in the elderly is affected by which of the following:

- a. The client does not believe that the drug is useful
  - b. The Medication Aide does not know what the drug is for
  - c. The client has memory loss
  - d. Both a and c
- a. **Both a and c**

14. A drug that is most likely to result in toxicity in the elderly is:

- a. diuretics
- b. digoxin
- c. over-the-counter drugs
- d. none of the above

a. digoxin

15. Which are included in the class of psychotropic drugs:

- a. antidepressants
  - b. anti-anxiety
  - c. antipsychotic
  - d. all of the above
  - e. none of the above
- a. all of the above

16. According the Virginia Department of Social Services “chemical restraint” is defined as a psychopharmacologic drug that is used for discipline or convenience and not required to treat the client’ medical symptoms.

a. True

b. False

a. True

17. Types of **physical** harm that can result from the use of chemical restraints include:

- a. reduced ability to function
- b. loss of muscle tone and strength
- c. incontinence
- d. injury from falls
- e. all of the above
- f. all but c
- a. all but c

**18. Psycho-social harm that can result from the use of chemical restraints includes the following:**

a. depression

b. social isolation

c. confusion

d. increased episodes of aggression

e. b and c only

f. all of the above

a. all of the above

