MULTIPLE CHOICE

1. Factors that affect the pharmacokinetics of lipophilic medications in older adults include:
   a. greater adipose tissue ratio to body mass.
   b. decreased total body water.
   c. increased glomerular filtration rate.
   d. increased creatinine clearance.

   ANS: A
   Older adults have a higher ratio of adipose (fat) tissue where lipophilic (fat-soluble) medications can be stored thus resulting in a potential for an accumulation of the medication and potentially fatal overdoses. Older adults have a decrease in lean body mass and an increase in fat. An increased body mass would not affect lipophilic medication absorption. Older adults have a decreased glomerular filtration rate, which begins to decline as early as age 25. Older adults have a decrease in overall kidney function.

   DIF: Cognitive Level: Remembering    REF: p. 103
   TOP: Integrated Process: Teaching/Learning
   MSC: Client Needs: Health Promotion and Maintenance

2. Which pharmacokinetic/pharmacodynamic parameter does the aging process least affect?
   a. Absorption
   b. Distribution
   c. Metabolism
   d. Excretion

   ANS: A
   There is no conclusive evidence that the absorptive process is changed appreciably in older adults. Distribution, metabolism, and excretion are all affected significantly by aging.

   DIF: Cognitive Level: Remembering    REF: p. 107
   TOP: Integrated Process: Teaching/Learning
   MSC: Client Needs: Health Promotion and Maintenance

3. What factor is an important contribution to polypharmacy in older adults?
   a. Inadequate communication among medical care providers
   b. Implementation of Medicare Part D prescription drug benefit
   c. Use of generic medications
   d. Increasing popularity of dietary and herbal supplements

   ANS: A
Polypharmacy is often the result of inadequate communication among specialists or between specialists and primary care providers. Medicare Part D prescription drug benefits influence the financing of medication but are not directly related to polypharmacy. Generic medications are a way to keep medication costs down. The use of herbal supplements is an important factor when examining drug interactions or adverse reactions but is not a direct factor related to polypharmacy.

DIF: Cognitive Level: Remembering  REF:  p. 104
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

4. The area in which nurses have the greatest effect on the safe, effective medication therapy of an older client is:
   a. educating the client to all aspects of the medication.
   b. assessing for adverse reactions to the medication.
   c. monitoring overall health of the client as it is affected by the medication.
   d. evaluating the outcomes resulting from the medication.

ANS: A
Nurses have the greatest opportunity to impact medication use and improve treatment outcomes through patient education. Assessing for reactions, monitoring effects, and evaluation of outcomes all depend on the client’s understanding and compliance with the medication therapy (i.e., are affected by client education).

DIF: Cognitive Level: Analyzing  REF:  p. 110
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

5. When developing a teaching plan for an older, newly diagnosed diabetic client, the nurse best ensures an understanding of oral hypoglycemic medications when providing:
   a. the package insert and assessing the client’s reading skills.
   b. the client with the website address for the American Diabetes Association.
   c. oral explanations and sending the client home with a written copy.
   d. the information in paragraph form as opposed to numbered line fashion.

ANS: C
Providing memory aids, such as written information including charts, is effective in reinforcing teaching. Package inserts are not always written in lay language that is understandable and appropriate to the reading level of the older adult. The font size of the print may be too small for aging eyes. Not all older adults are computer literate or comfortable with the use of the computer. This method may be more effective for younger clients. A more effective manner in which to provide written information to older adults is in the form of lists using a large-size font.

DIF: Cognitive Level: Applying  REF:  pp. 110–112
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

6. The nurse suspects that a client is experiencing tardive dyskinesia when observing that:
   a. the client can’t seem to stop moving.
   b. the client’s facial muscles are twisting involuntarily.
c. the client not able to get up out of a chair.
d. the client’s hand tremors so much that drinking from a cup is difficult.

ANS: **B**

Facial movements and involuntary twisting of the limbs, trunk, neck, and face is the definition of tardive dyskinesia. A compulsion to be in motion is the definition of akathisia. An inability to move is the definition of akinesia. A bilateral tremor and rigidity reflects Parkinsonian symptoms.

DIF: Cognitive Level: Remembering REF: p. 109
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

7. The Beers Criteria is an effective tool for health care professionals prescribing and/or managing the medication therapy of older adults since it identifies medications that for this population:
a. are not typically covered by drug benefit plans.
b. have a higher than usual risk for injury.
c. are likely to be abused.
d. generally cause allergic reactions.

ANS: **B**

Drugs on the Beers’ list are those that have been identified to have a higher than usual risk when used in older adults. The Beers Criteria have no relation to medication financing. There is no evidence that the drugs are likely to be abused by older adults. There is no greater likelihood of these drugs causing allergic reactions.

DIF: Cognitive Level: Remembering REF: p. 108
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

8. When performing the initial assessment on a new client in a geriatric outpatients practice, the most effective method the nurse can implement to elicit an accurate medication assessment is to ask that the client:
a. make a list of all her current medications.
b. work with a family member to make a list of her medications.
c. bring in all of the medications that she is currently taking.
d. allow her previous primary care provider to provide a list of medications.

ANS: **C**

The gold standard is to use the “brown bag” approach. The patient is asked to bring all medications including prescription drugs, OTC drugs, and herbal and dietary supplements. The patient may not remember all of the medications that are being taken. As each medication is removed from the bag, necessary information is obtained. A complete medication assessment includes OTC drugs, as well as herbal and dietary supplements, not just prescription medications. Your primary source of information should be the patient if she is able to provide the information; the previous provider may not be able to provide information on supplements or OTC and herbal medications. The nurse needs to include more than just prescription medications. In addition, prescribed medications do not always reflect what is being taken.

DIF: Cognitive Level: Remembering REF: p. 110
9. When discussing pharmacological considerations, a 68-year-old client asks, “Why do medications seem to act differently than they did when I was younger?” The nurse bases the response on the concept that:
   a. age-related changes affect the way drugs are metabolized by older adults.
   b. Over-the-counter (OTC) drugs have standardized dosages that are appropriate for all ages.
   c. older adults may need larger doses of medication to bring about the desired effects.
   d. adverse drug reactions occur with similar frequency in older adults as the general population.

ANS: A

Age-related pharmacokinetic and pharmacodynamic changes explain why older adults react differently to medications. OTC drugs can result in altered drug outcomes since that relates to the individual’s response to the medication. Age-related changes may require smaller doses of medication in older patients than in younger patients. The rule is to “start low and go slow.” The older a person is, the more likely he or she is to have an adverse drug reaction.

DIF: Cognitive Level: Remembering REF: p. 101

TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

10. The nurse’s first response when told by a client during an assessment interview that he “can’t take furosemide (Lasix)” is to ask:
   a. “Is your health care provider aware that you are allergic to Lasix?”
   b. “Can you describe what happened when you took Lasix?”
   c. “When was the last time you took Lasix?”
   d. “Have you any questions regarding your reaction to Lasix?”

ANS: B

It is important to document the type of allergic reaction, when the patient had it, how long it lasted, and how it was treated. Determining whether the health care provider is aware of the allergic reaction or when the medication was last taken does not have precedence over assessing the client’s reaction to the medication since neither has a direct bearing on the management of a similar reaction. Evaluating the client’s understanding of the reaction is appropriate but not as an initial response.

DIF: Cognitive Level: Remembering REF: p. 107

TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

11. An 81-year-old patient is being discharged from the hospital to home. She is on seven different medications, which are to be taken at four different times during the day. What would be most useful in helping this patient manage her medications?
   a. The package inserts from all of the medications for the client to read
   b. A pillbox with compartments for each day and each of the doses
   c. A written list of all the client’s medications and administration routine
   d. A suggestion that the client’s daughter administer the medications

ANS: B
Providing a pillbox is an effective method to reinforce exactly which medications are to be
given at what times. It also serves as an effective method to remind patients when they have
missed a dose. Package inserts are often written in language that is not easy for patients to
understand. Another consideration is that the size of the print in package inserts may be too
small for aging eyes. Although providing a written list of the medications is appropriate, it
does not make as much of an impact on the overall management of this patient’s medications
as other options. There is no indication that this patient cannot self-administer the
medications.

DIF: Cognitive Level: Remembering REF: pp. 111–112
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

MULTIPLE RESPONSE

1. A 77-year-old Hispanic Catholic nun (retired) who immigrated to the United States 15 years
ago lives alone but in an apartment complex where her biological sister lives as well. She is
being discharged home after a hospitalization for congestive heart failure with prescriptions
for eight different medications. She is considered at risk for noncompliance due to
contributing factors that include: (Select all that apply.)
   a. language barrier.
   b. living alone.
   c. large number of medications.
   d. ethnic background.
   e. religious background.
ANS: A, B, C
Language barriers, living alone, and a large number of medications are all factors that have
been shown to contribute to noncompliance in older adults. There is no evidence that ethnic or
religious background contributes to noncompliance.

DIF: Cognitive Level: Remembering REF: p. 106
TOP: Integrated Process: Teaching/Learning
MSC: Client Needs: Health Promotion and Maintenance

2. An older client prescribed a transdermal morphine patch for severe chronic pain is being
educated on the appropriate administration of the medication. The nurse shows an
understanding of essential information regarding this route of drug administration when
stating: (Select all that apply.)
   a. “This is an effective route for delivering small doses of medication over long
periods of time.”
   b. “Since you have problems with digestion, this is a good way to take your
medication.”
   c. “Please show me how you would apply your patch.”
   d. “Be careful to put the patch only on your chest but change locations with each
application.”
   e. “Be sure to avoid placing the patch on injured skin.”
ANS: A, B, C, E
Aging does increase the risk of developing an allergic reaction due to its effect on the immune system and decreased gastric motility. Transdermal medications bypass the gastrointestinal tract and so do not cause digestion problems, and their effectiveness is not affected by digestive problems. Demonstrating the application process is an excellent way to evaluate the client's understanding and technique. Transdermal patches can be applied to areas other than the chest, such as the arms, backs, legs, and abdomen, but damaged skin should be avoided.

DIF: Cognitive Level: Remembering  
REF: p. 103  
TOP: Integrated Process: Teaching/Learning  
MSC: Client Needs: Health Promotion and Maintenance

3. An antihypertensive medication has been prescribed for an older patient with hypertension. The patient tells a clinic nurse that he would like to take an herbal substance to help lower his blood pressure instead of the prescription medication. Which of the following should the nurse do? *(Select all that apply.)*  
a. Tell the patient that herbal substances are less effective than prescription medications  
b. Encourage the patient to discuss the use of an herbal substance with his primary care provider  
c. Explore with the patient which herbal substance he is planning on taking  
d. Educate the patient on possible interactions of the herbal substance with his other medications  
e. Instruct the patient not to take the herbal substance, as it is dangerous

ANS: B, C, D  
The popularity of medicinal herbs and supplements continues to rise. A major concern with the use of herbs and supplements is the potential interactions with prescribed medications. It is important that the patient share his or her use of herbs and substances with all providers and that the provider review the herbs and the prescribed medications to ensure compatibility.

DIF: Cognitive Level: Applying  
REF: p. 106  
TOP: Integrated Process: Teaching/Learning  
MSC: Client Needs: Pharmacological and Parenteral Therapies

4. An older patient is prescribed warfarin for stroke prevention. A nurse is providing patient education. Which of the following foods should the patient be taught to avoid? *(Select all that apply.)*  
a. Milk  
b. Whole grains  
c. Kale  
d. Spinach  
e. Red meats

ANS: C, D  
It is important to avoid “leafy green vegetables” when taking Coumadin.

DIF: Cognitive Level: Remembering  
REF: p. 106  
TOP: Integrated Process: Teaching/Learning  
MSC: Client Needs: Health Promotion and Maintenance