

Chapter 35, Antianginal and Vasodilating Drugs

1. When caring for a client with angina, the nurse instructs the client to place the nitroglycerin tablet between the cheek and the gums. Which form of nitroglycerin is the nurse administering?
 - A) Sublingual
 - B) Transdermal
 - C) Buccal
 - D) Translingual

Answer: C

Rationale: The nurse is administering the buccal route of administration. When administering buccal nitroglycerin, the nurse should instruct the client to place the tablet between the cheek and gums or the lips and gums above the incisors. The nurse should instruct the client to allow the tablet to dissolve and not to chew the tablet. Nitrates can also be given by the sublingual, transdermal, and translingual routes. When administering nitroglycerin sublingually, it should be placed under the tongue. In the transdermal route, the patch is applied directly onto the skin. In the translingual route, a spray is directed under or onto the tongue.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 2

Cognitive Level: Understand

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, *Nitrates—Stopping a Pain Attack*

2. A client is being discharged after being treated with nitroglycerin for an acute anginal attack. The nurse should include which instruction when providing the client with discharge instructions concerning how to properly administer nitroglycerin ointment at home?
 - A) Apply a thick layer of the ointment.
 - B) Rub the ointment onto the skin.
 - C) Use an applicator for applying the ointment.
 - D) Apply on the same site during every application.

Answer: C

Rationale: The nurse should instruct the client to use an applicator to apply a thin layer of the nitroglycerin ointment. The ointment should not come in contact with the skin of the person applying it, as it gets easily absorbed. The nurse must instruct the client not to rub the ointment while applying as it delivers large amounts of the drug into the system. The client should not apply the ointment on the same site during every application. The application site should be rotated to prevent inflammation of the area.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 450, Administering Nitroglycerin Ointment

3. The nurse is preparing to teach discharge instructions to a client with angina. Which instruction should the nurse **prioritize** giving the client when teaching about the prescribed oral nitroglycerin?
- A) Store the nitroglycerin capsules in a plastic container.
 - B) Place the nitroglycerin capsules along with other tablets.
 - C) Recap the container tightly after taking out the capsules.
 - D) Do not store nitroglycerin in a dark container.

Answer: C

Rationale: The nurse should instruct the client to recap the container tightly after taking out the nitroglycerin capsule. This is to ensure that the potency of nitroglycerin is not lost on exposure to air. Nitroglycerin should be stored in a dark container and protected from direct light exposure. The nurse should instruct the client to never store nitroglycerin under bright sunlight or in a plastic container. Nitroglycerin deteriorates when stored in plastic containers and on exposure to air and light. The nurse should instruct the client not to store nitroglycerin along with other drugs, as it loses its potency.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 452, General Instructions

4. A client arrives at the urgent care center reporting chest pain and is diagnosed with angina pectoris. Which drug would the nurse expect to be prescribed?
- A) Nicardipine
 - B) Hydralazine
 - C) Minoxidil
 - D) Nimodipine

Answer: A

Rationale: Nicardipine is the drug used in the treatment of angina. Nicardipine is a calcium channel blocker used as an antianginal drug. Hydralazine and minoxidil are vasodilators primarily used to treat hypertension. Nimodipine is a calcium channel blocker used to treat subarachnoid hemorrhage.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 2

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 454, Summary Drug Table

5. A nurse is assessing a client with angina who has received diltiazem. Which finding should the nurse **prioritize** and notify the health care provider for further instructions?
- A) Systolic pressure is 110 mm Hg
 - B) Significant weight loss
 - C) Lightheadedness
 - D) Pulse rate is 45 beats per minute

Answer: D

Rationale: The nurse should withhold the drug and notify the health care provider when the client's pulse rate is 45 beats per minute. When calcium channel blockers are administered, there may be a fall in the pulse rate. When the pulse rate falls below 50 beats per minute, the nurse should notify the health care provider. When the systolic pressure falls below 90 mm Hg, the nurse should notify the primary health care provider. Weight gain, and not weight loss, occurs with the use of calcium channel blockers. The nurse should report weight gain. Lightheadedness is a common central nervous system adverse reaction occurring after taking the drug, and the nurse should instruct the client to lie down until the symptoms pass.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Reduction of Risk Potential

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Ongoing Assessment

6. A client receiving amlodipine for angina is now reporting dizziness. Which intervention should the nurse **prioritize** to help alleviate the condition?
- A) Apply a cold cloth over the forehead.
 - B) Instruct the client to lie down.
 - C) Instruct the client to drink more water.
 - D) Reduce the dosage of amlodipine.

Answer: B

Rationale: Dizziness is a common central nervous system adverse effect seen with calcium channel blocker use. The nurse should instruct the client to lie down until the dizziness passes. Applying a cold cloth over the forehead will not relieve the dizziness. The dosage should not be reduced or altered unless instructed by the health care provider. Increasing the fluid consumption will also not help in alleviating dizziness.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Reduction of Risk Potential

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 451, Injury Risk

7. A nurse is teaching a client who is diagnosed with angina how to properly administer transdermal nitroglycerin. The nurse instructs the client to apply the patch for how long?
- A) 4–6 hours
 - B) 6–8 hours
 - C) 10–12 hours
 - D) 12–14 hours

Answer: C

Rationale: The transdermal nitroglycerin patch should be applied every day for 10–12 hours. If the patch is applied for a shorter time, the therapeutic dosage may not be delivered. Applying the patch for a longer time will result in the development of tolerance to the antianginal effects. Applying the patch in the morning and leaving it on for 10–12 hours, followed by a patch-free period of 10–12 hours, delays the development of tolerance.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 451, Administering Transdermal Nitroglycerin

8. After teaching a group of nursing students about antianginal drugs, the instructor determines that the teaching was successful when the students correctly choose which drugs as a calcium channel blocker?
- A) Minoxidil
 - B) Hydralazine
 - C) Isosorbide
 - D) Nifedipine

Answer: D

Rationale: Nifedipine is a calcium channel blocker used to treat angina. Minoxidil and hydralazine are peripheral vasodilators. Isosorbide is a nitrate.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 1

Cognitive Level: Remember

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 454, Summary Drug Table

9. The nurse is teaching a client and caregiver the proper technique for administering the prescribed nitroglycerin ointment. Which method should the nurse point out is the **best** way to determine the amount of ointment to apply?
- A) A teaspoon
 - B) Length of a finger
 - C) Paper applicator
 - D) A ruler

Answer: C

Rationale: The topical ointment is supplied with a paper applicator with markings to indicate dosage to determine the amount of drug to be used. No other method is appropriate.

Question format: Multiple Choice

Chapter: 35

Learning Objective: 2

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Administering Nitroglycerin Ointment

10. The nurse instructs a client suffering from frequent anginal attacks to keep a record of each attack. What information(s) would the nurse instruct the client to record? Select all that apply.
- A) Blood pressure
 - B) Date of attack
 - C) Time of attack
 - D) Drug used to relieve the acute pain
 - E) Dose of drug used to relieve the acute pain

Answer: B, C, D, E

Rationale: Clients should keep a record of the frequency of acute anginal attacks including date of attack, time of attack, and drug and dose used to relieve the acute pain. The client should bring this record to each health care provider visit.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Physiological Adaptation

Integrated Process: Teaching/Learning
Reference: p. 452, Educating the Client and Family

11. A nursing instructor overhears a group of nursing students comparing various drugs used for cardiac disorders. The instructor determines the previous class was successful when the students correctly determine antianginals provide which action(s)? Select all that apply.
- A) Relief of pain of acute anginal attacks
 - B) Reduction in serum triglyceride levels
 - C) Prevention of anginal attacks
 - D) Elevation of high-density lipoproteins (HDLs)
 - E) Treatment of chronic stable angina pectoris

Answer: A, C, E

Rationale: Antianginal drugs are used to relieve the pain of acute anginal attacks, prevent anginal attacks, and treat chronic stable angina pectoris. Antihyperlipidemics are used to correct elevated HDLs and triglycerides.

Question format: Multiple Select

Chapter: 35

Learning Objective: 2

Cognitive Level: Understand

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 447, Uses

12. A nurse is preparing to administer nitrate to a client. The nurse will carefully monitor the client for severe hypotension if the client is also prescribed which additional medication(s)? Select all that apply.
- A) Alcohol
 - B) Beta₂ agonists
 - C) HMG-CoA reductase inhibitors
 - D) Angiotensin-converting enzyme inhibitors
 - E) Phosphodiesterase inhibitors

Answer: A, E

Rationale: Alcohol and phosphodiesterase inhibitors when administered with nitrates can cause severe hypotension and possible cardiovascular collapse. Angiotensin-converting enzyme inhibitors (ACEIs) are antihypertensive medications. HMG-CoA reductase inhibitors (statins) are antihyperlipidemic drugs. Beta₂ agonists are bronchodilators. There are no recognized interactions between nitrates and these medications.

Question format: Multiple Select

Chapter: 35

Learning Objective: 2

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 448, Interactions

13. A client is admitted to the emergency department with reports of anginal pain. Which assessment(s) should the nurse **prioritize**? Select all that apply.
- A) Blood pressure
 - B) Apical pulse
 - C) Oxygen saturation
 - D) Radial pulse
 - E) Respiratory rate

Answer: A, B, D, E

Rationale: The nurse's priority physical assessment of a client with angina should include blood pressure, respiratory rate, and apical and radial pulses. The physical assessment may also include weight, inspection of the extremities for edema, and auscultation of the lungs, depending on the type of heart failure. The oxygen saturation can be included later in the assessment if deemed appropriate.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 449, Preadministration Assessment

14. The nurse is preparing to complete a preadministration assessment on a client who has presented to the clinic with reports of chest pain. Which information should the nurse **prioritize** in this assessment? Select all that apply.
- A) Family history of similar pain
 - B) Events that relieve anginal pain
 - C) Events that trigger anginal pain
 - D) Description of the pain
 - E) Whether the pain radiates

Answer: B, C, D, E

Rationale: A client history regarding anginal pain should include a description of the pain, the location of the pain, whether the pain radiates and to where it radiates, does it start suddenly or is it gradual, how long does it last, what events appear to trigger the pain, what makes it feel worse, and what events appear to relieve the pain. Obtaining the family history is not a priority in gathering information that can be used to help provide this client with the appropriate treatment.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Physiological Adaptation

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Box 35.1 Angina-Specific Pain Assessment

15. A nurse has completed a teaching session with a client who is prescribed nitrate therapy. The nurse determines the session is successful when the client correctly chooses which factor(s) related to the potential of headaches and nitrate therapy? Select all that apply.
- A) Should decrease with continued therapy
 - B) May be relieved with the use of aspirin or acetaminophen
 - C) Should be avoided by altering the dosage schedule
 - D) Are a serious adverse reaction and should be reported immediately
 - E) May be a marker of the drug's effectiveness

Answer: A, B, E

Rationale: Headaches are a common adverse reaction of nitrates but should decrease with continued therapy. Headaches should be reported if they become severe or persist. Headaches may be a marker of the nitrate's effectiveness, and clients should not alter the dosing schedule to avoid headaches. Headaches may be treated with acetaminophen or aspirin.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Reduction of Risk Potential

Integrated Process: Teaching/Learning

Reference: p. 452, General Instructions

16. A client is prescribed oral nitrate for occasional anginal pain. The nurse should point out that nitrates must be stored in which manner(s)? Select all that apply.
- A) In its original container
 - B) With the container lid tightly sealed
 - C) With other medications in the container
 - D) In a plastic pill box so doses are not missed
 - E) Away from light exposure

Answer: A, B, E

Rationale: The proper storage of oral nitroglycerin includes keeping tablets and capsules in their original container, never mixing oral nitroglycerin with other drugs in a container, never storing oral nitroglycerin in a plastic container, keeping the drug away from light, and always replacing the container tightly and as soon as the drug is removed.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 452, General Instructions

17. After teaching a client how to properly use translingual nitroglycerin spray, the nurse determines that the teaching was successful when the client makes which statement(s)? Select all that apply.
- A) "I need to shake the canister before use."
 - B) "I will place one to two metered doses under my tongue at the start of an attack."
 - C) "I'm not to use this form to prevent an attack."
 - D) "I should not exceed three metered doses in 15 minutes."
 - E) "I can spray the drug onto or under the tongue."

Answer: B, D, E

Rationale: Nitroglycerin translingual spray can be used prophylactically 5–10 minutes prior to engaging in activities that precipitate an anginal attack. The client should not shake the canister before use. At the onset of an anginal attack, the client should spray one or two metered doses onto or under the tongue and not exceed three metered doses within 15 minutes. The client should clean the canister as directed on the package.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Analyze

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 453, Translingual (Aerosol Spray) Nitrates

18. The nurse is preparing to administer an antianginal drug to a client. Which assessment(s) should the nurse **prioritize** before administering this drug? Select all that apply.
- A) Pain
 - B) Physical appearance
 - C) Lung sounds
 - D) Heart sounds
 - E) Vital signs

Answer: A, B, C, E

Rationale: Before administering an antianginal agent, the nurse would assess the client's pain, history of medication allergies and disease processes, physical appearance, and lungs for adventitious sounds and obtain a baseline electrocardiogram and vital signs. It is not necessary to assess heart sounds as they will not provide necessary information before giving the nitrate.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Reduction of Risk Potential

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 449, Preadministration Assessment

19. The nurse is preparing to administer an antianginal medication. The nurse should question administering the medication and contact the health care provider **first** if which assessment(s) is noted? Select all that apply.
- A) Heart rate above 50 bpm
 - B) Heart rate below 50 bpm
 - C) Systolic blood pressure below 90 mm Hg
 - D) Diastolic blood pressure below 90 mm Hg
 - E) Respiratory rate below 20 breaths per minute

Answer: B, C

Rationale: A nurse would withhold the antianginal medication and contact the health care provider if a client's heart rate was below 50 bpm or systolic blood pressure drops below 90 mm Hg. It should be safe to administer the antianginal if the heart rate is above 50 bpm, diastolic blood pressure is below 90 mm Hg, or respiratory rate is below 20 breaths per minute.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Ongoing Assessment

20. The nurse is conducting an ongoing administration assessment on a client who was administered diltiazem. Which assessment finding(s) should the nurse **prioritize**? Select all that apply.
- A) Crackles
 - B) Bradycardia
 - C) Wheezing
 - D) Dyspnea
 - E) Peripheral edema

Answer: A, D, E

Rationale: A client receiving a calcium channel blocker should be monitored for signs of heart failure (dyspnea, weight gain, peripheral edema, abnormal lung sounds such as crackles or rales, and jugular vein distention). The health care provider should be notified immediately if any of these signs develop. Bradycardia is a recognized adverse reaction to diltiazem; however, it is more important to address the heart failure first. Wheezing is a potential adverse reaction to nifedipine.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Reduction of Risk Potential

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Ongoing Assessment

21. A nurse is preparing to administer nitroglycerin intravenously. Which factor(s) should the nurse employ when preparing this administration? Select all that apply.
- A) Use glass bottles.
 - B) Use non-polyvinyl chloride (PVC) infusion sets.
 - C) Administer the drug as an IV bolus.
 - D) Dilute the drug with normal saline.
 - E) Use a gravity flow rate of infusion.

Answer: A, B, D

Rationale: When administering IV nitroglycerin, the nurse should dilute it with normal saline or 5% dextrose in water, administer the drug by continuous infusion using an infusion pump for accuracy (and not gravity fed), and use glass IV bottles and non-PVC infusion sets. The dose is regulated based on client response and cardiologist's instructions and not in a bolus infusion.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 451, Administering IV Nitroglycerin

22. A client is prescribed verapamil as treatment for angina. Which information should the nurse point out in the teaching plan for this client? Select all that apply.
- A) Capsules may be opened and sprinkled on food.
 - B) Drug should be administered without regard to meals.
 - C) Tablet coverings can be expelled in the stool.
 - D) Capsules should be swallowed whole.
 - E) Drug should be administered with a meal.

Answer: A, C, E

Rationale: Verapamil frequently causes GI upset and should be administered with a meal. Capsules may be opened and sprinkled on food or mixed in liquids for clients who have difficulty swallowing. Sometimes the capsule coverings are expelled in the stool. Extended-release tablets should be swallowed whole.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Basic Care and Comfort

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, *Beta- and Calcium Channel Blockers—Preventing an Attack*

23. The nurse determines a client has a nursing diagnosis of acute pain related to angina. When teaching the client about antianginal drugs, the nurse would point out which information about the pain? Select all that apply.
- A) Will only occur during prolonged exercise
 - B) May be less intense
 - C) May not be completely relieved
 - D) May be less frequent
 - E) Will worsen with continued use

Answer: B, C, D

Rationale: Although some clients experience complete angina pain relief, it may not be completely relieved in all clients. In some clients, pain may be less intense or less frequent or may only occur during prolonged exercise. If the pain worsens with continued use, it is a medical emergency and the client should present to the closest emergency department for treatment as it could be an indication of a myocardial infarction.

Question format: Multiple Select

Chapter: 35

Learning Objective: 4

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 452, Pain

24. A nursing instructor has completed a teaching session explaining antianginal drugs. The instructor determines the session is successful when the student correctly chooses which drug(s) can be administered for the prevention of angina pectoris? Select all that apply.
- A) Diltiazem
 - B) Isosorbide mononitrate
 - C) Topical nitroglycerin
 - D) Oral nitroglycerin
 - E) Amlodipine

Answer: B, C, D

Rationale: All nitrates, such as isosorbide mononitrate, topical nitroglycerin, and oral nitroglycerin, are indicated for the prevention of angina pectoris. Diltiazem and amlodipine are used to treat chronic stable angina.

Question format: Multiple Select

Chapter: 35

Learning Objective: 2

Cognitive Level: Understand

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Teaching/Learning

Reference: p. 454, Summary Drug Table

25. A nurse is preparing to teach a client about the prescribed verapamil. The nurse would alert the client to the possibility of which adverse reaction(s) as **most** common? Select all that apply.
- A) Constipation
 - B) Tachycardia
 - C) Tachypnea
 - D) Hypotension
 - E) Headache

Answer: A, E

Rationale: The most common adverse reactions associated with verapamil are constipation and headache. Hypotension is associated with nitrate therapy. Diltiazem and verapamil are used to treat paroxysmal supraventricular tachycardia. Tachycardia is a potential adverse reaction of hydralazine and minoxidil. Dyspnea instead of tachypnea is a potential adverse reaction of vasodilating drugs.

Question format: Multiple Select

Chapter: 35

Learning Objective: 5

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 454, Summary Drug Table

26. The nursing instructor is illustrating the proper technique for applying nitroglycerin ointment. Which instruction(s) should the instructor point out as essential to the correct application? Select all that apply.
- A) Wear disposable gloves.
 - B) Apply 2 inches of ointment to client's skin.
 - C) Use the same application site each time ointment is applied.
 - D) Cleanse the area of skin before application.
 - E) Use the upper arms and legs for application.

Answer: A, D, E

Rationale: The nurse should wear disposable gloves while administering ointment and use application paper to measure according to the dosage prescribed and apply ointment to the client's chest, abdomen, or upper arms and legs. The site is then covered to protect the medication and allow slow absorption. The application site should be rotated and cleansed with each application.

Question format: Multiple Select

Chapter: 35

Learning Objective: 2

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 450, Administering Nitroglycerin Ointment

27. The nurse is caring for a client diagnosed with coronary artery disease and a history of angina receiving the medication nitroglycerin ointment 2%, 2 in every 8 hours. The nurse should perform which assessment(s) for safe administration of the nitroglycerin? Select all that apply.
- A) Remove previous nitroglycerin ointment and applicator paper and fold in half before disposing in trash.
 - B) Apply new nitroglycerin ribbon of 2 inches on applicator paper and apply in the same location as the previous dose.
 - C) Do not massage area of nitroglycerin ointment, and secure the applicator paper with tape with date, time, and initials.
 - D) Wear gloves when removing old application and applying new application to prevent the development of headache.
 - E) Squeeze the nitroglycerin tube gently and smear a very thin layer to the 2-inch mark on the applicator paper.

Answer: A, C, D

Rationale: The nurse should wear gloves when applying or removing nitroglycerin, or cleaning the skin to prevent experiencing a headache that results from vasodilation of cerebral vessels when the nurse encounters the drug on their skin. When removing the applicator paper, the nurse should fold it in half to prevent people from touching it. Rotating sites will lead to better absorption of the medication. The applicator paper may be secured with paper tape with the date, time, and initial and the nurse should chart the administration. Massaging the drug delivery system may result in increased dose and absorption. Smearing a very thin layer will result in less than the prescribed amount of nitroglycerin.

Question format: Multiple Select

Chapter: 35

Learning Objective: 3

Cognitive Level: Apply

Client Needs: Physiological Integrity: Pharmacological Therapies

Integrated Process: Clinical Problem-solving Process (Nursing Process)

Reference: p. 453, Topical Ointment or Transdermal System