HESI Pharmacology Exam Practice QUESTIONS AND ANSWERS GRADED A LATEST VERSION

A healthcare provider prescribes cephalexin monohydrate (Keflex) for a client with a postoperative infection. It is most important for the nurse to assess for what additional drug allergy before administering this prescription?
A) Penicillins.
B) Aminoglycosides.
C) Erythromycins.
D) Sulfonamides. - CORRECT ANSWERS A) Penicillins.

Cross-allergies exist between penicillins (A) and cephalosporins, such as cephalexin monohydrate (Keflex), so checking for penicillin allergy is a wise precaution before administering this drug.

Which nursing intervention is most important when caring for a client receiving the antimetabolite cytosine arabinoside (Arc-C) for chemotherapy?
A) Hydrate the client with IV fluids before and after infusion.
B) Assess the client for numbness and tingling of extremities.
C) Inspect the client's oral mucosa for ulcerations.
D) Monitor the client's urine pH for increased acidity. - CORRECT ANSWERS C) Inspect the client's oral mucosa for ulcerations.

Cytosine arabinoside (Arc-C) affects the rapidly growing cells of the body, therefore stomatitis and mucosal ulcerations are key signs of antimetabolite toxicity (C). (A, B, and D) are not typical interventions associated with the administration of antimetabolites.

When assessing an adolescent who recently overdosed on acetaminophen (Tylenol), it is most important for the nurse to assess for pain in which area of the body?
A) Flank.
B) Abdomen.
C) Chest.
D) Head. - CORRECT ANSWERS B) Abdomen.

Acetaminophen toxicity can result in liver damage; therefore, it is especially important for the nurse to assess for pain in the right upper quadrant of the abdomen (B), which might indicate liver damage. (A, C, and D) are not areas where pain would be anticipated.

An adult client is given a prescription for a scopolamine patch (Transderm Scop) to prevent motion sickness while on a cruise. Which information should the nurse provide to the client?
A) Apply the patch at least 4 hours prior to departure.
B) Change the patch every other day while on the cruise.
C) Place the patch on a hairless area at the base of the skull.
D) Drink no more than 2 alcoholic drinks during the cruise. - CORRECT ANSWERS A) Apply the patch at least 4 hours prior to departure.

Scopolamine, an anticholinergic agent, is used to prevent motion sickness and has a peak onset in 6 hours, so the client should be instructed to apply the patch at least 4 hours before departure (A) on the cruise ship. The duration of the transdermal patch is 72 hours, so (B) is not needed. Scolopamine blocks muscarinic receptors in the inner ear and to the vomiting center, so the best application site of the patch is behind the ear, not at the base of the skull (C). Anticholinergic medications are CNS depressants, so the client should be instructed to avoid alcohol (D) while using the patch.

The nurse is reviewing the use of the patient-controlled analgesia (PCA) pump with a client in the immediate postoperative period. The client will receive morphine 1 mg IV per hour basal rate with 1 mg IV every 15 minutes per PCA to total 5 mg IV maximally per hour. What assessment has the highest priority before initiating the PCA pump?
A) The expiration date on the morphine syringe in the pump.
B) The rate and depth of the client's respirations.
C) The type of anesthesia used during the surgical procedure.
D) The client's subjective and objective signs of pain. - CORRECT ANSWERS B) The rate and depth of the client's respirations.

A life-threatening side effect of intravenous administration of morphine sulfate, an opiate narcotic, is respiratory depression (B). The PCA pump should be stopped and the healthcare provider notified if the client's respiratory rate falls below 12 breaths per minute, and the nurse should anticipate adjustments in the client's dosage before the PCA pump is restarted. (A, C, and D) provide helpful information, but are not as high a priority as the assessment described in (B).

A medication that is classified as a beta-1 agonist is most commonly prescribed for a client with which condition?
A) Glaucoma.
B) Hypertension.
C) Heart failure.
D) Asthma. - CORRECT ANSWERS C) Heart failure.

Beta-1 agonists improve cardiac output by increasing the heart rate and blood pressure and are indicated in heart failure (C), shock, atrioventricular block dysrhythmias, and cardiac arrest. Glaucoma (A) is managed using adrenergic agents and beta-adrenergic blocking agents. Beta-1 blocking agents are used in

the management of hypertension (B). Medications that stimulate beta-2 receptors in the bronchi are effective for bronchoconstriction in respiratory disorders, such as asthma (D).

A female client with rheumatoid arthritis take ibuprofen (Motrin) 600 mg PO 4 times a day. To prevent gastrointestinal bleeding, misoprostol (Cytotec) 100 mcg PO is prescribed. Which information is most important for the nurse to include in client teaching?
A) Use contraception during intercourse.
B) Ensure the Cytotec is taken on an empty stomach.
C) Encourage oral fluid intake to prevent constipation.
D) Take Cytotec 30 minutes prior to Motrin. - CORRECT ANSWERS A) Use contraception during intercourse.

Cytotec, a synthetic form of a prostaglandin, is classified as pregnancy Category X and can act as an abortifacient, so the client should be instructed to use contraception during intercourse (A) to prevent loss of an early pregnancy. (B) is not necessary. A common side effect of Cytotec is diarrhea, so constipation prevention strategies are usually not needed (C). Cytotec and Motrin should be taken together (D) to provide protective properties against gastrointestinal bleeding.

A client with heart failure is prescribed spironolactone (Aldactone). Which information is most important for the nurse to provide to the client about diet modifications?
A) Do not add salt to foods during preparation.
B) Refrain for eating foods high in potassium.
C) Restrict fluid intake to 1000 ml per day.
D) Increase intake of milk and milk products. - CORRECT ANSWERS B) Refrain for eating foods high in potassium.

Spironolactone (Aldactone), an aldosterone antagonist, is a potassium-sparing diuretic, so a diet high in potassium should be

avoided (B), including potassium salt substitutes, which can lead to hyperkalemia. Although (A) is a common diet modification in heart failure, the risk of hyperkalemia is more important with Aldactone. Restriction of fluids (C) or increasing milk and milk products (D) are not indicated with this prescription.

In evaluating the effects of lactulose (Cephulac), which outcome should indicate that the drug is performing as intended?
A) An increase in urine output.
B) Two or three soft stools per day.
C) Watery, diarrhea stools.
D) Increased serum bilirubin. - CORRECT ANSWERS B) Two or three soft stools per day.

Lactulose is administered to reduce blood ammonia by excretion of ammonia through the stool. Two to three stools a day indicate that lactulose is performing as intended (B). (A) would be expected if the patient received a diuretic. (C) would indicate an overdose of lactulose and is not expected. Lactulose does not affect (D).

The healthcare provider prescribes naproxen (Naproxen) twice daily for a client with osteoarthritis of the hands. The client tells the nurse that the drug does not seem to be effective after three weeks. Which is the best response for the nurse to provide?
A) The frequency of the dosing is necessary to increase the effectiveness.
B) Therapeutic blood levels of this drug are reached in 4 to 6 weeks.
C) Another type of nonsteroidal antiinflammatory drug may be indicated.
D) Systemic corticosteroids are the next drugs of choice for pain relief. - CORRECT ANSWERS C) Another type of nonsteroidal antiinflammatory drug may be indicated.

Individual responses to nonsteroidal antiinflammatory drugs are variable, so (C) is the best response. Naproxen is usually prescribed every 8 hours, so (A) is not indicated. The peak for naproxen is one to two hours, not (B). Corticosteroids are not indicated for osteoarthritis (D).

Which instruction(s) should the nurse give to a female client who just received a prescription for oral metronidazole (Flagyl) for treatment of trichomonas vaginalis? (Select all that apply.)
A) Increase fluid intake, especially cranberry juice.
B) Do not abruptly discontinue the medication; taper use.
C) Check blood pressure daily to detect hypertension.
D) Avoid drinking alcohol while taking this medication.
E) Use condoms until treatment is completed.
F) Ensure that all sexual partners are treated at the same time. - CORRECT ANSWERS A) Increase fluid intake, especially cranberry juice.
D) Avoid drinking alcohol while taking this medication.
E) Use condoms until treatment is completed.
F) Ensure that all sexual partners are treated at the same time.

Correct selections are (A, D, E, and F). Increased fluid intake and cranberry juice (A) are recommended for prevention and treatment of urinary tract infections, which frequently accompany vaginal infections. It is not necessary to taper use of this drug (B) or to check the blood pressure daily (C), as this condition is not related to hypertension. Flagyl can cause a disulfiram-like reaction if taken in conjunction with ingestion of alcohol, so the client should be instructed to avoid alcohol (D). All sexual partners should be treated at the same time (E) and condoms should be used until after treatment is completed to avoid reinfection (F).

A client receiving albuterol (Proventil) tablets complains of nausea every evening with her 9 p.m. dose. What action should the nurse take to alleviate this side effect?

A) Change the time of the dose.
B) Hold the 9 p.m. dose.
C) Administer the dose with a snack.
D) Administer an antiemetic with the dose. - CORRECT ANSWERS C) Administer the dose with a snack.

Administering oral doses with food (C) helps minimize GI discomfort. (A) would be appropriate only if changing the time of the dose corresponds to meal times while at the same time maintaining an appropriate time interval between doses. (B) would disrupt the dosing schedule, and could result in a nontherapeutic serum level of the medication. (D) should not be attempted before other interventions, such as (C), have been proven ineffective in relieving the nausea.

A client receiving Doxorubicin (Adriamycin) intravenously (IV) complains of pain at the insertion site, and the nurse notes edema at the site. Which intervention is most important for the nurse to implement?
A) Assess for erythema.
B) Administer the antidote.
C) Apply warm compresses.
D) Discontinue the IV fluids. - CORRECT ANSWERS D) Discontinue the IV fluids.

Doxorubicin is an antineoplastic agent that causes inflammation, blistering, and necrosis of tissue upon extravasation. First, all IV fluids should be discontinued at the site (D) to prevent further tissue damage by the vesicant. Erythema is one sign of infiltration and should be noted, but edema and pain at the infusion site require stopping the IV fluids (A). Although an antidote may be available (B), additional fluids contribute to the trauma of the subcutaneous tissues. Depending on the type of vesicant, warm or cold compresses (C) may be prescribed after the infusion is discontinued.

A client with congestive heart failure (CHF) is being discharged with a new prescription for the angiotensin-converting enzyme (ACE) inhibitor captopril (Capoten). The nurse's discharge instruction should include reporting which problem to the healthcare provider?
A) Weight loss.
B) Dizziness.
C) Muscle cramps.
D) Dry mucous membranes. - CORRECT ANSWERS B) Dizziness.

Angiotensin-converting enzyme (ACE) inhibitors are used in CHF to reduce afterload by reversing vasoconstriction common in heart failure. This vasodilation can cause hypotension and resultant dizziness (B). (A) is desired if fluid overload is present, and may occur as the result of effective combination drug therapy such as diuretics with ACE inhibitors. (C) often indicates hypokalemia in the client receiving diuretics. Excessive diuretic administration may result in fluid volume deficit, manifested by symptoms such as (D).

The nurse is preparing the 0900 dose of losartan (Cozaar), an angiotensin II receptor blocker (ARB), for a client with hypertension and heart failure. The nurse reviews the client's laboratory results and notes that the client's serum potassium level is 5.9 mEq/L. What action should the nurse take first?
A) Withhold the scheduled dose.
B) Check the client's apical pulse.
C) Notify the healthcare provider.
D) Repeat the serum potassium level. - CORRECT ANSWERS A) Withhold the scheduled dose.

The nurse should first withhold the scheduled dose of Cozaar (A) because the client is hyperkalemic (normal range 3.5 to 5 mEq/L).

Although hypokalemia is usually associated with diuretic therapy in heart failure, hyperkalemia is associated with several heart failure medications, including ARBs. Because hyperkalemia may lead to cardiac dysrhythmias, the nurse should check the apical pulse for rate and rhythm (B), and the blood pressure. Before repeating the serum study (D), the nurse should notify the healthcare provider (C) of the findings.

The nurse is assessing the effectiveness of high dose aspirin therapy for an 88-year-old client with arthritis. The client reports that she can't hear the nurse's questions because her ears are ringing. What action should the nurse implement?
A) Refer the client to an audiologist for evaluation of her hearing.
B) Advise the client that this is a common side effect of aspirin therapy.
C) Notify the healthcare provider of this finding immediately.
D) Ask the client to turn off her hearing aid during the exam. - CORRECT ANSWERS C) Notify the healthcare provider of this finding immediately.

Tinnitus is an early sign of salicylate toxicity. The healthcare provider should be notified immediately (C), and the medication discontinued. (A and D) are not needed, and (B) is inaccurate.

The healthcare provider prescribes digitalis (Digoxin) for a client diagnosed with congestive heart failure. Which intervention should the nurse implement prior to administering the digoxin?
A) Observe respiratory rate and depth.
B) Assess the serum potassium level.
C) Obtain the client's blood pressure.
D) Monitor the serum glucose level. - CORRECT ANSWERS B) Assess the serum potassium level.

Hypokalemia (decreased serum potassium) will precipitate digitalis toxicity in persons receiving digoxin (B). (A and C) will not

affect the administration of digoxin. (D) should be monitored if he/she is a diabetic and is perhaps receiving insulin.

A client who has been taking levodopa PO TID to control the symptoms of Parkinson's disease has a new prescription for sustained release levodopa/carbidopa (Sinemet 25/100) PO BID. The client took his levodopa at 0800. Which instruction should the nurse include in the teaching plan for this client?
A) Take the first dose of Sinemet today, as soon as your prescription is filled.
B) Since you already took your levodopa, wait until tomorrow to take the Sinemet.
C) Take both drugs for the first week, then switch to taking only the Sinemet.
D) You can begin taking the Sinemet this evening, but do not take any more levodopa. - CORRECT ANSWERS D) You can begin taking the Sinemet this evening, but do not take any more levodopa.

Carbidopa significantly reduces the need for levodopa in clients with Parkinson's disease, so the new prescription should not be started until eight hours after the previous dose of levodopa (D), but can be started the same day (B). (A and C) may result in toxicity.

A client with a dysrhythmia is to receive procainamide (Pronestyl) in 4 divided doses over the next 24 hours. What dosing schedule is best for the nurse to implement?
A) q6h.
B) QID.
C) AC and bedtime.
D) PC and bedtime. - CORRECT ANSWERS A) q6h.

Pronestyl is a class 1A antidysrhythmic. It should be taken around-the-clock (A) so that a stable blood level of the drug can

be maintained, thereby decreasing the possibility of hypotension (an adverse effect) occurring because of too much of the drug circulating systemically at any particular time of day. (B, C, and D) do not provide an around-the-clock dosing schedule. Pronestyl may be given with food if GI distress is a problem, but an around-the-clock schedule should still be maintained.

A client is receiving ampicillin sodium (Omnipen) for a sinus infection. The nurse should instruct the client to notify the healthcare provider immediately if which symptom occurs?
A) Rash.
B) Nausea.
C) Headache.
D) Dizziness. - CORRECT ANSWERS A) Rash.

Rash (A) is the most common adverse effect of all penicillins, indicating an allergy to the medication which could result in anaphylactic shock, a medical emergency. (B, C, and D) are common side effects of penicillins that should subside after the body adjusts to the medication. These would not require immediate medical care unless the symptoms persist beyond the first few days or become extremely severe.

A client is being treated for hyperthyroidism with propylthiouracil (PTU). The nurse knows that the action of this drug is to
A) decrease the amount of thyroid-stimulating hormone circulating in the blood.
B) increase the amount of thyroid-stimulating hormone circulating in the blood.
C) increase the amount of T4 and decrease the amount of T3 produced by the thyroid.
D) inhibit synthesis of T3 and T4 by the thyroid gland. - CORRECT ANSWERS D) inhibit synthesis of T3 and T4 by the thyroid gland.

PTU is an adjunct therapy used to control hyperthyroidism by inhibiting production of thyroid hormones (D). It is often prescribed in preparation for thyroidectomy or radioactive iodine therapy. Thyroid-stimulating hormone (TSH) is produced by the pituitary gland, and PTU does not affect the pituitary (A and B). PTU inhibits the synthesis of all thyroid hormones--both T3 and T4(C).

A client has myxedema, which results from a deficiency of thyroid hormone synthesis in adults. The nurse knows that which medication should be contraindicated for this client?
A) Liothyronine (Cytomel) to replace iodine.
B) Furosemide (Lasix) for relief of fluid retention.
C) Pentobarbital sodium (Nembutal Sodium) for sleep.
D) Nitroglycerin (Nitrostat) for angina pain. - CORRECT ANSWERS C) Pentobarbital sodium (Nembutal Sodium) for sleep.

Persons with myxedema are dangerously hypersensitive to narcotics, barbiturates (C), and anesthetics. They do tolerate liothyronine (Cytomel) (A) and usually receive iodine replacement therapy. These clients are also susceptible to heart problems such as angina for which nitroglycerin (Nitrostat) (D) would be indicated, and congestive heart failure for which furosemide (Lasix) (B) would be indicated.

Which change in data indicates to the nurse that the desired effect of the angiotensin II receptor antagonist valsartan (Diovan) has been achieved?
A) Dependent edema reduced from +3 to +1.
B) Serum HDL increased from 35 to 55 mg/dl.
C) Pulse rate reduced from 150 to 90 beats/minute.
D) Blood pressure reduced from 160/90 to 130/80. - CORRECT ANSWERS D) Blood pressure reduced from 160/90 to 130/80.

Diovan is an angiotensin receptor blocker, prescribed for the treatment of hypertension. The desired effect is a decrease in blood pressure (D). (A, B, and C) do not describe effects of Diovan.

A client is receiving digoxin for the onset of supraventricular tachycardia (SVT). Which laboratory findings should the nurse identify that places this client at risk?
A) Hypokalemia.
B) Hyponatremia.
C) Hypercalcemia.
D) Low uric acid levels. - CORRECT ANSWERS A) Hypokalemia.

Hypokalemia affects myocardial contractility, so (A) places this client at greatest risk for dysrhythmias that may be unresponsive to drug therapy. Although an imbalance of serum electrolytes, (B and C), can effect cardiac rhythm, the greatest risk for the client receiving digoxin is (A). (D) does not cause any interactions related to digoxin therapy for supraventricular tachycardia (SVT).

Which dosing schedule should the nurse teach the client to observe for a controlled-release oxycodone prescription?
A) As needed.
B) Every 12 hours.
C) Every 24 hours.
D) Every 4 to 6 hours. - CORRECT ANSWERS B) Every 12 hours.

A controlled-release oxycodone provides long-acting analgesia to relieve moderate to severe pain, so a dosing schedule of every 12 hours (B) provides the best around-the-clock pain management. Controlled-release oxycodone is not prescribed for breakthrough pain on a PRN or as needed schedule (A). (C) is inadequate for

continuous pain management. Using a schedule of every 4 to 6 hours (D) may jeopardize patient safety due to cumulative effects.

A postoperative client has been receiving a continuous IV infusion of meperidine (Demerol) 35 mg/hr for four days. The client has a PRN prescription for Demerol 100 mg PO q3h. The nurse notes that the client has become increasingly restless, irritable and confused, stating that there are bugs all over the walls. What action should the nurse take first?
A) Administer a PRN dose of the PO meperidine (Demerol).
B) Administer naloxone (Narcan) IV per PRN protocol.
C) Decrease the IV infusion rate of the meperidine (Demerol) per protocol.
D) Notify the healthcare provider of the client's confusion and hallucinations. - CORRECT ANSWERS C) Decrease the IV infusion rate of the meperidine (Demerol) per protocol.

The client is exhibiting symptoms of Demerol toxicity, which is consistent with the large dose of Demerol received over four days. (C) is the most effective action to immediately decrease the amount of serum Demerol. (A) will increase the toxic level of medication in the bloodstream. Naloxone (B) is an opioid antagonist that is used during an opioid overdose, but it is not beneficial during Demerol toxicity and can precipitate seizures. The healthcare provider should be notified (D), but that is not the initial action the nurse should take; first the amount of drug infusing should be decreased.

A client is being treated for osteoporosis with alendronate (Fosamax), and the nurse has completed discharge teaching regarding medication administration. Which morning schedule would indicate to the nurse that the client teaching has been effective?
A) Take medication, go for a 30 minute morning walk, then eat breakfast.

B) Take medication, rest in bed for 30 minutes, eat breakfast, go for morning walk.
C) Take medication with breakfast, then take a 30 minute morning walk.
D) Go for a 30 minute morning walk, eat breakfast, then take medication. - CORRECT ANSWERS A) Take medication, go for a 30 minute morning walk, then eat breakfast.

Alendronate (Fosamax) is best absorbed when taken thirty minutes before eating in the morning. The client should also be advised to remain in an upright position for at least thirty minutes after taking the medication to reduce the risk of esophageal reflux and irritation. (A) is the best schedule to meet these needs. (B, C, and D) do not meet these criteria.

In teaching a client who had a liver transplant about cyclosporine (Sandimmune), the nurse should encourage the client to report which adverse response to the healthcare provider?
A) Changes in urine color.
B) Presence of hand tremors.
C) Increasing body hirsutism.
D) Nausea and vomiting. - CORRECT ANSWERS B) Presence of hand tremors.

Neurological complications, such as hand tremors (B), occur in about 50% of clients taking cyclosporine and should be reported. Although this drug can be nephrotoxic, (A) typically does not occur. (C and D) are common side effects, but are not usually severe.

While taking a nursing history, the client states, "I am allergic to penicillin." What related allergy to another type of antiinfective agent should the nurse ask the client about when taking the nursing history?
A) Aminoglycosides.

B) Cephalosporins.
C) Sulfonamides.
D) Tetracyclines. - CORRECT ANSWERS B) Cephalosporins.

Cross allergies exist between penicillins and cephalosporins (B). Penicillin allergies are unrelated to allergies associated with (A, C, or D).

A client with hyperlipidemia receives a prescription for niacin (Niaspan). Which client teaching is most important for the nurse to provide?
A) Expected duration of flushing.
B) Symptoms of hyperglycemia.
C) Diets that minimize GI irritation.
D) Comfort measures for pruritis. - CORRECT ANSWERS A) Expected duration of flushing.

Flushing of the face and neck, lasting up to an hour, is a frequent reason for discontinuing niacin. Inclusion of this effect in client teaching (A) may promote compliance in taking the medication. While (B, C, and D) are all worthwhile instructions to help clients minimize or cope with normal side effects associated with niacin (Niaspan), flushing is intense and causes the most concern for the client.

A client is receiving methylprednisolone (Solu-Medrol) 40 mg IV daily. The nurse anticipates an increase in which laboratory value as the result of this medication?
A) Serum glucose.
B) Serum calcium.
C) Red blood cells.
D) Serum potassium. - CORRECT ANSWERS A) Serum glucose.

Solu-Medrol is a corticosteroid with glucocorticoid and mineralocorticoid actions. These effects can lead to hyperglycemia (A), which is reflected as an increase in the serum glucose value. The client taking Solu-Medrol is at risk for hypocalcemia (B) and hypokalemia (D), which result in a decrease, not an increase, in the serum calcium and serum potassium levels. This medication does not adversely affect the RBC count (C).

A client's dose of isosorbide dinitrate (Imdur) is increased from 40 mg to 60 mg PO daily. When the client reports the onset of a headache prior to the next scheduled dose, which action should the nurse implement?
A) Hold the next scheduled dose of Imdur 60 mg and administer a PRN dose of acetaminophen (Tylenol).
B) Administer the 40 mg of Imdur and then contact the healthcare provider.
C) Administer the 60 mg dose of Imdur and a PRN dose of acetaminophen (Tylenol).
D) Do not administer the next dose of Imdur or any acetaminophen until notifying the healthcare provider. - CORRECT ANSWERS C) Administer the 60 mg dose of Imdur and a PRN dose of acetaminophen (Tylenol).

Imdur is a nitrate which causes vasodilation. This vasodilation can result in headaches, which can generally be controlled with acetaminophen (C) until the client develops a tolerance to this adverse effect. (A and B) may result in the onset of angina if a therapeutic level of Imdur is not maintained. Lying down (D) is less likely to reduce the headache than is a mild analgesic.

A client has a continuous IV infusion of dopamine (Intropin) and an IV of normal saline at 50 ml/hour. The nurse notes that the client's urinary output has been 20 ml/hour for the last two hours. Which intervention should the nurse initiate?

A) Stop the infusion of dopamine.
B) Change the normal saline to a keep open rate.
C) Replace the urinary catheter.
D) Notify the healthcare provider of the urinary output. - CORRECT ANSWERS D) Notify the healthcare provider of the urinary output.

The main effect of dopamine is adrenergic stimulation used to increase cardiac output, which should also result in increased urinary output. A urinary output of less than 20 ml/hour is oliguria and should be reported to the healthcare provider (D) so that the dose of dopamine can be adjusted. Depending on the current rate of administration, the dose may need to be increased or decreased. If the dose is decreased, it should be titrated down, rather than abruptly discontinued (A). Fluid intake may need to be increased, rather than (B). The urinary catheter is draining and does not need to be replaced (C).

Upon admission to the emergency center, an adult client with acute status asthmaticus is prescribed this series of medications. In which order should the nurse administer the prescribed medications? (Arrange from first to last.)
A) Prednisone (Deltasone) orally.
B) Gentamicin (Garamycin) IM.
C) Albuterol (Proventil) puffs.
D) Salmeterol (Serevent Diskus). - CORRECT ANSWERS The best sequence of administration is (C, D, A and B). Status asthmaticus is potentially a life-threatening respiratory event, so albuterol (C), a beta2 adrenergic agonist and bronchodilator, should be administered by inhalation first to provide rapid and deep topical penetration to relieve bronchospasms, dilate the bronchioles, and increase oxygenation. In stepwise management of persistent asthma, a long-action bronchodilator, such as salmeterol (Serevent Diskus) (D) with a 12-hour duration of action should be given next. Prednisone (A), an oral corticosteroid,

provides prolonged anti-inflammatory effects and should be given after the client's respiratory distress begins to resolves. Gentamicin (B), an antibiotic, is given deep IM, which can be painful, and may require repositioning the client, so should be last in the sequence.

A peak and trough level must be drawn for a client receiving antibiotic therapy. What is the optimum time for the nurse to obtain the trough level?
A) Sixty minutes after the antibiotic dose is administered.
B) Immediately before the next antibiotic dose is given.
C) When the next blood glucose level is to be checked.
D) Thirty minutes before the next antibiotic dose is given. - CORRECT ANSWERS B) Immediately before the next antibiotic dose is given.

Trough levels are drawn when the blood level is at its lowest, which is typically just before the next dose is given (B). (A, C, and D) do not describe the optimum time for obtaining a trough level of an antibiotic.

The nurse is assessing a client who is experiencing anaphylaxis from an insect sting. Which prescription should the nurse prepare to administer this client?
A) Dopamine.
B) Ephedrine.
C) Epinephrine.
D) Diphenhydramine. - CORRECT ANSWERS C) Epinephrine.

Epinephrine (C) is an adrenergic agent that stimulate beta receptors to increase cardiac automaticity in cardiac arrest and relax bronchospasms in anaphylaxis. Dopamine (A) is a vasopressor used to treat clients with shock. Ephedrine (B) causes peripheral vasoconstriction and is used in the treatment of nasal congestion. Diphenhydramine (D) is an antihistamine

decongestant used in the treatment of mild allergic reactions and motion sickness.

Which medications should the nurse caution the client about taking while receiving an opioid analgesic?
A) Antacids.
B) Benzodiazepines.
C) Antihypertensives.
D) Oral antidiabetics. - CORRECT ANSWERS B) Benzodiazepines.

Respiratory depression increases with the concurrent use of opioid analgesics and other central nervous system depressant agents, such as alcohol, barbiturates, and benzodiazepines (B). (A and D) do not interact with opiates to produce adverse effects. Antihypertensives (C) may cause morphine-induced hypotension, but should not be withheld without notifying the healthcare provider.

After abdominal surgery, a male client is prescribed low molecular weight heparin (LMWH). During administration of the medication, the client asks the nurse why he is receiving this medication. Which is the best response for the nurse to provide?
A) This medication is a blood thinner given to prevent blood clot formation.
B) This medication enhances antibiotics to prevent infection.
C) This medication dissolves any clots that develop in the legs.
D) This abdominal injection assists in the healing of the abdominal wound. - CORRECT ANSWERS A) This medication is a blood thinner given to prevent blood clot formation.

Unfractionated heparin or low molecular weight heparin (LMWH) is an anticoagulant that inhibits thrombin-mediated conversion of fibrinogen to fibrin and is given prophylactically to prevent postoperative venous thrombosis (A) or to treat pulmonary

embolism or deep vein thrombosis following knee and abdominal surgeries. Heparin does not dissolve clots but prevents clot extension or further clot formation (C). The anticoagulant heparin does not prevent infection (B) or influence operative wound healing (D).

An antacid (Maalox) is prescribed for a client with peptic ulcer disease. The nurse knows that the purpose of this medication is to
A) decrease production of gastric secretions.
B) produce an adherent barrier over the ulcer.
C) maintain a gastric pH of 3.5 or above.
D) decrease gastric motor activity. - CORRECT ANSWERS C) maintain a gastric pH of 3.5 or above.

The objective of antacids is to neutralize gastric acids and keep pH of 3.5 or above (C) which is necessary for pepsinogen inactivity. (A) is the purpose of H2 receptor antagonists (cimetidine, ranitidine). (B) is the purpose of sucralfate (Carafate). (D) is the purpose of anticholinergic drugs which are often used in conjunction with antacids to allow the antacid to remain in the stomach longer.

A category X drug is prescribed for a young adult female client. Which instruction is most important for the nurse to teach this client?
A) Use a reliable form of birth control.
B) Avoid exposure to ultra violet light.
C) Refuse this medication if planning pregnancy.
D) Abstain from intercourse while on this drug. - CORRECT ANSWERS A) Use a reliable form of birth control.

Drugs classified in the category X place a client who is in the first trimester of pregnancy at risk for teratogenesis, so women in the childbearing years should be counseled to use a reliable form of

birth control (A) during drug therapy. (B) is not a specific precaution with Category X drugs. The client should be encouraged to discuss plans for pregnancy with the healthcare provider, so a safer alternative prescription (C) can be provided if pregnancy occurs. Although the risk of birth defects during pregnancy explains the restriction of these drugs during pregnancy, (D) is not indicated.

A client is taking hydromorphone (Dilaudid) PO q4h at home. Following surgery, Dilaudid IV q4h PRN and butorphanol tartrate (Stadol) IV q4h PRN are prescribed for pain. The client received a dose of the Dilaudid IV four hours ago, and is again requesting pain medication. What intervention should the nurse implement?
A) Alternate the two medications q4h PRN for pain.
B) Alternate the two medications q2h PRN for pain.
C) Administer only the Dilaudid q4h PRN for pain.
D) Administer only the Stadol q4h PRN for pain. - CORRECT ANSWERS C) Administer only the Dilaudid q4h PRN for pain.

Dilaudid is an opioid agonist. Stadol is an opioid agonist-antagonist. Use of an agonist-antagonist for the client who has been receiving opioid agonists may result in abrupt withdrawal symptoms, and should be avoided (C). (A, B, and D) do not reflect good nursing practice.

Following the administration of sublingual nitroglycerin to a client experiencing an acute anginal attack, which assessment finding indicates to the nurse that the desired effect has been achieved?
A) Client states chest pain is relieved.
B) Client's pulse decreases from 120 to 90.
C) Client's systolic blood pressure decreases from 180 to 90.
D) Client's SaO2 level increases from 92% to 96%. - CORRECT ANSWERS A) Client states chest pain is relieved.

Nitroglycerin reduces myocardial oxygen consumption which decreases ischemia and reduces chest pain (A). (B and D) would also occur if the angina was relieved, but are not as significant as the client's subjective report of decreased pain. (C) may indicate a reduction in pain, or a potentially serious side effect of the medication.

A client with coronary artery disease who is taking digoxin (Lanoxin) receives a new prescription for atorvastatin (Lipitor). Two weeks after initiation of the Lipitor prescription, the nurse assesses the client. Which finding requires the most immediate intervention?
A) Heartburn.
B) Headache.
C) Constipation.
D) Vomiting. - CORRECT ANSWERS D) Vomiting.

Vomiting, anorexia and abdominal pain are early indications of digitalis toxicity. Since Lipitor increases the risk for digitalis toxicity, this finding requires the most immediate intervention by

A client with giardiasis is taking metronidazole (Flagyl) 2 grams PO. Which information should the nurse include in the client's instruction?
A) Notify the clinic of any changes in the color of urine.
B) Avoid overexposure to the sun.
C) Stop the medication after the diarrhea resolves.
D) Take the medication with food. - CORRECT ANSWERS D) Take the medication with food.

Flagyl, an amoebicide and antibacterial agent, may cause gastric distress, so the client should be instructed to take the medication on a full stomach (D). Urine may be red-brown or dark from Flagyl, but this side effect is not necessary to report (A). Photosensitivity (B) is not a side effect associated with Flagyl.

Despite the resolution of clinical symptoms, antiinfective medications should be taken for their entire course because stopping the medication (C) can increase the risk of resistant organisms.

A client asks the nurse if glipizide (Glucotrol) is an oral insulin. Which response should the nurse provide?
A) "Yes, it is an oral insulin and has the same actions and properties as intermediate insulin."
B) "Yes, it is an oral insulin and is distributed, metabolized, and excreted in the same manner as insulin."
C) "No, it is not an oral insulin and can be used only when some beta cell function is present."
D) "No, it is not an oral insulin, but it is effective for those who are resistant to injectable insulins." - CORRECT ANSWERS C) "No, it is not an oral insulin and can be used only when some beta cell function is present."

An effective oral form of insulin has not yet been developed (C) because when insulin is taken orally, it is destroyed by digestive enzymes. Glipizide (Glucotrol) is an oral hypoglycemic agent that enhances pancreatic production of insulin. (A, B, and D) do not provide accurate information.

Which antidiarrheal agent should be used with caution in clients taking high dosages of aspirin for arthritis?
A) Loperamide (Imodium).
B) Probanthine (Propantheline).
C) Bismuth subsalicylate (Pepto Bismol).
D) Diphenoxylate hydrochloride with atropine (Lomotil). - CORRECT ANSWERS C) Bismuth subsalicylate (Pepto Bismol).

Bismuth subsalicylate (Pepto Bismol) contains a subsalicylate that increases the potential for salicylate toxicity when used

concurrently with aspirin (acetylsalicylic acid, another salicylate preparation). (A, B, and D) do not pose the degree of risk of drug interaction with aspirin as Pepto Bismol would.

A client is admitted to the hospital for diagnostic testing for possible myasthenia gravis. The nurse prepares for intravenous administration of edrophonium chloride (Tensilon). What is the expected outcome for this client following administration of this pharmacologic agent?
A) Progressive difficulty with swallowing.
B) Decreased respiratory effort.
C) Improvement in generalized fatigue.
D) Decreased muscle weakness. - CORRECT ANSWERS D) Decreased muscle weakness.

Administration of edrophonium chloride (Tensilon), a cholinergic agent, will temporarily reduce muscle weakness (D), the most common complaint of newly-diagnosed clients with myasthenia gravis. This medication is used to diagnose myasthenia gravis due to its short duration of action. This drug would temporarily reverse (A and B), not increase these symptoms. (C) is not a typical complaint of clients with myasthenia gravis, but weakness of specific muscles, especially after prolonged use, is a common symptom.

A client with osteoarthritis receives a new prescription for celecoxib (Celebrex) orally for symptom management. The nurse notes the client is allergic to sulfa. Which action is most important for the nurse to implement prior to administering the first dose?
A) Review the client's hemoglobin results.
B) Notify the healthcare provider.
C) Inquire about the reaction to sulfa.
D) Record the client's vital signs. - CORRECT ANSWERS B) Notify the healthcare provider.

Celebrex contains a sulfur molecule, which can lead to an allergic reaction in individuals who are sensitive to sulfonamides, so the healthcare provider should be notified of the client's allergies (B). Although (A, C, and D) are important assessments, it is most important to notify the healthcare provider for an alternate prescription.

The nurse is transcribing a new prescription for spironolactone (Adactone) for a client who receives an angiotensin-converting enzyme (ACE) inhibitor. Which action should the nurse implement?
A) Verify both prescriptions with the healthcare provider.
B) Report the medication interactions to the nurse manager.
C) Hold the ACE inhibitor and give the new prescription.
D) Transcribe and send the prescription to the pharmacy. - CORRECT ANSWERS A) Verify both prescriptions with the healthcare provider.

The concomitant use of an angiotensin-converting enzyme (ACE) inhibitor and a potassium-sparing diuretic such as spironolactone, should be given with caution because the two drugs may interact to cause an elevation in serum potassium levels. Although the client is currently receiving an ACE inhibitor, verifying both prescriptions (A) alerts the healthcare provider about the client's medication regimen and provides the safest action before administering the medication. (B) is not necessary at this time. Holding the prescribed antihypertensive medication (C) places the client at risk. The nurse should inform the healthcare provider of the client's medication history before proceeding with the fulfillment of the prescription (D).

An adult client has prescriptions for morphine sulfate 2.5 mg IV q6h and ketorolac (Toradol) 30 mg IV q6h. Which action should the nurse implement?
A) Administer both medications according to the prescription.

B) Hold the ketorolac to prevent an antagonistic effect.
C) Hold the morphine to prevent an additive drug interaction.
D) Contact the healthcare provider to clarify the prescription. - CORRECT ANSWERS A) Administer both medications according to the prescription.

Morphine and ketorolac (Toradol) can be administered concurrently (A), and may produce an additive analgesic effect, resulting in the ability to reduce the dose of morphine, as seen in this prescription. Toradol is an antiinflammatory analgesic, and does not have an antagonistic effect with morphine (B), like an agonist-antagonist medication would have. An additive analgesic effect is desirable (C), because it allows a reduced dose of morphine. This prescription does not require any clarification, and can be administered safely as written (D).

Which method of medication administration provides the client with the greatest first-pass effect?
A) Oral.
B) Sublingual.
C) Intravenous.
D) Subcutaneous. - CORRECT ANSWERS A) Oral.

The first-pass effect is a pharmacokinetic phenomenon that is related to the drug's metabolism in the liver. After oral (A) medications are absorbed from the gastrointestinal tract, the drug is carried directly to the liver via the hepatic portal circulation where hepatic inactivation occurs and reduces the bioavailability of the drug. Alternative method of administration, such as sublingual (B), IV (C), and subcutaneous (D) routes, avoid this first-pass effect.

The nitrate isosorbide dinitrate (Isordil) is prescribed for a client with angina. Which instruction should the nurse include in this client's discharge teaching plan?

A) Quit taking the medication if dizziness occurs.
B) Do not get up quickly. Always rise slowly.
C) Take the medication with food only.
D) Increase your intake of potassium-rich foods. - CORRECT ANSWERS B) Do not get up quickly. Always rise slowly.

An expected side effect of nitrates is orthostatic hypotension and the nurse should address how to prevent it--by rising slowly (B). Dizziness is expected, and the client should not quit taking the medication without notifying the healthcare provider (A). (C and D) are not indicated when taking this medication.

Which client should the nurse identify as being at highest risk for complications during the use of an opioid analgesic?
A) An older client with Type 2 diabetes mellitus.
B) A client with chronic rheumatoid arthritis.
C) A client with a open compound fracture.
D) A young adult with inflammatory bowel disease. - CORRECT ANSWERS D) A young adult with inflammatory bowel disease.

The principal indication for opioid use is acute pain, and a client with inflammatory bowel disease (D) is at risk for toxic megacolon or paralytic ileus related to slowed peristalsis, a side effect of morphine. Adverse effects of morphine do not pose as great a risk for (A, B, and C) as the client with bowel disease.

A client is receiving clonidine (Catapres) 0.1 mg/24hr via transdermal patch. Which assessment finding indicates that the desired effect of the medication has been achieved?
A) Client denies recent episodes of angina.
B) Change in peripheral edema from +3 to +1.
C) Client denies recent nausea or vomiting.
D) Blood pressure has changed from 180/120 to 140/70. - CORRECT ANSWERS D) Blood pressure has changed from 180/120 to 140/70.

Catapres acts as a centrally-acting analgesic and antihypertensive agent. (D) indicates a reduction in hypertension. Catapres does not affect (A, B, or C), so these findings do not indicate desired outcomes of Catapres.

Which symptoms are serious adverse effects of beta-adrenergic blockers such as propranolol (Inderal)?
A) Headache, hypertension, and blurred vision.
B) Wheezing, hypotension, and AV block.
C) Vomiting, dilated pupils, and papilledema.
D) Tinnitus, muscle weakness, and tachypnea. - CORRECT ANSWERS B) Wheezing, hypotension, and AV block.

(B) represents the most serious adverse effects of beta-blocking agents. AV block is generally associated with bradycardia and results in potentially life-threatening decreases in cardiac output. Additionally, wheezing secondary to bronchospasm and hypotension represent life-threatening respiratory and cardiac disorders. (A, C, and D) are not associated with beta-blockers.

A client is admitted to the coronary care unit with a medical diagnosis of acute myocardial infarction. Which medication prescription decreases both preload and afterload?
A) Nitroglycerin.
B) Propranolol (Inderal).
C) Morphine.
D) Captopril (Capoten). - CORRECT ANSWERS A) Nitroglycerin.

Nitroglycerin (A) is a nitrate that causes peripheral vasodilation and decreases contractility, thereby decreasing both preload and afterload. (B) is a beta adrenergic blocker that decreases both heart rate and contractility, but only decreases afterload. Morphine (C) decreases myocardial oxygen consumption and

preload. Capoten (D) is an angiotensin converting enzyme (ACE) inhibitor that acts to prevents vasoconstriction, thereby decreasing blood pressure and afterload.

A 43-year-old female client is receiving thyroid replacement hormone following a thyroidectomy. What adverse effects associated with thyroid hormone toxicity should the nurse instruct the client to report promptly to the healthcare provider?
A) Tinnitus and dizziness.
B) Tachycardia and chest pain.
C) Dry skin and intolerance to cold.
D) Weight gain and increased appetite. - CORRECT ANSWERS B) Tachycardia and chest pain.

Thyroid replacement hormone increases the metabolic rate of all tissues, so common signs and symptoms of toxicity include tachycardia and chest pain (B). (A, C, and D) do not indicate a thyroid hormone toxicity.

The nurse is teaching a client with cancer about opioid management for intractable pain and tolerance related side effects. The nurse should prepare the client for which side effect that is most likely to persist during long-term use of opioids?
A) Sedation.
B) Constipation.
C) Urinary retention.
D) Respiratory depression. - CORRECT ANSWERS B) Constipation.

The client should be prepared to implement measures for constipation (B) which is the most likely persistent side effect related to opioid use. Tolerance to opiate narcotics is common, and the client may experience less sedation (A) and respiratory depression (D) as analgesic use continues. Opioids increase the