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form, and route of administration as brand-name medications. They are FDA-approved and therapeutically equivalent. Generic medications may differ in inactive ingredients (fillers, dyes) but are equally effective and safe.

10. A nurse is caring for a client who is receiving a medication that is highly protein-bound. The client's serum albumin level is 2.0 g/dL. The nurse should monitor for:

- A. Decreased therapeutic effect of the medication
- B. Increased risk of medication toxicity
- C. No change in medication effect
- D. Increased elimination of the medication

Answer: B

Rationale: Albumin is the primary plasma protein that binds medications. When albumin levels are low (hypoalbuminemia), more free (unbound) drug is available in the bloodstream, increasing the risk of toxicity even at normal doses.

11. A nurse is explaining the concept of "loading dose" to a client. Which statement by the nurse is accurate?

- A. "A loading dose is given to maintain therapeutic drug levels."
- B. "A loading dose is given to rapidly achieve therapeutic drug levels."
- C. "A loading dose is given to reduce the risk of adverse effects."
- D. "A loading dose is given to prolong the half-life of the medication."

Answer: B

Rationale: A loading dose is a larger initial dose of a medication given to rapidly achieve therapeutic drug concentrations in the bloodstream. It is often used for drugs with long half-lives (e.g., digoxin, amiodarone) to reach steady-state more quickly. Maintenance doses are given thereafter to maintain therapeutic levels.

Answer: B

Rationale: Red man syndrome is a reaction to rapid infusion of vancomycin; administering it slowly over at least 60 minutes prevents the massive histamine release.

37. A client is prescribed tetracycline for a respiratory infection. Which instruction should the nurse include in the teaching?

- A. Take the medication with a glass of milk
- B. Take an antacid 30 minutes before the dose
- C. Expect the urine to turn a bright orange color
- D. Wear sunscreen and protective clothing when outdoors

Answer: D

Rationale: Tetracyclines cause photosensitivity, making the skin more susceptible to sunburn. Dairy and antacids should be avoided as they interfere with absorption.

38. A nurse is monitoring a client receiving gentamicin. Which laboratory value should the nurse report to the provider immediately?

- A. Creatinine 2.8 mg/dL
- B. Sodium 140 mEq/L
- C. Hematocrit 45%
- D. WBC 8,000/mm³

Answer: A

Rationale: Gentamicin is an aminoglycoside which is nephrotoxic. An elevated creatinine level indicates potential kidney damage.

39. A client has a new prescription for rifampin for the treatment of tuberculosis. Which finding should the nurse tell the client to expect?

- A. Orange-colored urine and sweat
- B. Severe muscle pain

67. A client with type 2 diabetes is prescribed empagliflozin. Which instruction should the nurse include?

- A. "Report any signs of genital yeast infection."
- B. "Take the medication on an empty stomach."
- C. "Stop taking the medication if your blood sugar normalizes."
- D. "Increase your fluid intake to prevent dehydration."

Answer: A

Rationale: Empagliflozin is an SGLT2 inhibitor that increases glucose excretion in the urine, which can lead to genital yeast infections. Clients should report signs of infection (itching, redness, discharge). Adequate hydration is important, but increasing fluid intake excessively is not recommended.

68. A client is prescribed prednisone for an inflammatory condition. Which instruction should the nurse include?

- A. "Do not stop taking this medication abruptly."
- B. "Take the medication at bedtime."
- C. "Increase your intake of potassium-rich foods."
- D. "Expect your blood glucose to decrease."

Answer: A

Rationale: Prednisone is a corticosteroid that must be tapered gradually to prevent adrenal crisis. It should be taken in the morning to mimic the body's natural cortisol rhythm. It can cause hyperglycemia, not hypoglycemia, and may cause potassium loss.

69. A client receiving long-term corticosteroid therapy should be monitored for which adverse effect?

- A. Hyperglycemia
- B. Hypoglycemia
- C. Hypotension
- D. Bradycardia

Answer: A

Rationale: Long-term corticosteroid therapy can cause hyperglycemia (steroid-induced diabetes), as well as weight gain, osteoporosis, immunosuppression, and adrenal suppression. Clients should be monitored for elevated blood glucose levels.

70. A nurse is teaching a client about the adverse effects of exogenous corticosteroid therapy. Which side effect should the nurse include?

- A. Hyperglycemia and delayed wound healing
- B. Hypoglycemia and rapid wound healing
- C. Hypertension and increased appetite
- D. Bradycardia and weight loss

Answer: A

Rationale: Common side effects of exogenous corticosteroid therapy include hyperglycemia and delayed wound healing. Other effects include hypertension, increased appetite, weight gain, and immunosuppression.

71. A client is prescribed methimazole for hyperthyroidism. Which instruction should the nurse include?

- A. "Report sore throat or fever immediately."
- B. "Take the medication with iodine supplements."
- C. "Expect weight gain as a therapeutic effect."
- D. "Stop the medication once your thyroid levels normalize."

Answer: A

Rationale: Methimazole can cause agranulocytosis, a serious adverse effect. Clients should report sore throat, fever, or other signs of infection immediately. The medication should not be stopped abruptly without provider guidance.

- C. Serum lithium level of 1.0 mEq/L
- D. Serum lithium level of 1.2 mEq/L

Answer: A

Rationale: The therapeutic range for lithium is 0.6–1.2 mEq/L. A level of 1.8 mEq/L indicates toxicity. Signs of toxicity include coarse hand tremors, vomiting, diarrhea, ataxia, and confusion. Severe toxicity can lead to seizures and coma.

95. A client is prescribed sertraline for depression. Which instruction should the nurse include?

- A. "It may take 2 to 4 weeks to notice improvement."
- B. "Stop taking the medication if you feel better."
- C. "Take the medication at bedtime to prevent insomnia."
- D. "Avoid foods containing tyramine."

Answer: A

Rationale: SSRIs like sertraline take 2 to 4 weeks to reach full therapeutic effect. Clients should not stop taking the medication abruptly (risk of discontinuation syndrome). Sertraline is typically taken in the morning. Tyramine restrictions are for MAOIs, not SSRIs.

96. A client is prescribed phenelzine. Which dietary instruction should the nurse include?

- A. "Avoid foods containing tyramine, such as aged cheese and cured meats."
- B. "Increase your intake of green leafy vegetables."
- C. "Drink grapefruit juice with the medication."
- D. "Take the medication with a high-protein meal."

Answer: A

Rationale: Phenelzine is an MAOI. Clients must avoid tyramine-rich foods (aged cheese, cured meats, fermented products, tap beer) to prevent hypertensive crisis. Grapefruit juice should be avoided, and the medication should be taken with food.

Answer: A

Rationale: Colchicine commonly causes diarrhea, nausea, vomiting, and abdominal pain. Severe diarrhea may indicate toxicity and should be reported. Clients should be monitored for bone marrow suppression and myopathy.

SECTION 5: RESPIRATORY, GI, & FLUID/ELECTROLYTE PHARMACOLOGY (Questions 121–150)

121. A client is prescribed albuterol. Which instruction should the nurse include?

- A. "Use this medication for acute bronchospasm."
- B. "Use this medication daily for long-term control."
- C. "Take this medication at bedtime."
- D. "Take this medication with food."

Answer: A

Rationale: Albuterol is a short-acting beta2-agonist (SABA) used for acute relief of bronchospasm. It has a rapid onset (5–15 minutes) and duration of 4–6 hours. Long-acting beta2-agonists (LABAs) are used for long-term control.

122. A client is prescribed ipratropium. Which adverse effect should the nurse monitor for?

- A. Dry mouth
- B. Diarrhea
- C. Hypertension
- D. Tachycardia

Answer: A

Rationale: Ipratropium is an anticholinergic bronchodilator that commonly causes dry mouth, dry throat, and nasal dryness. Clients should be instructed to rinse their mouth after use and increase fluid intake (if not contraindicated).

- A. 1 mL
- B. 0.5 mL
- C. 2 mL
- D. 1.5 mL

Answer: A

Rationale: $40 \text{ mg} \div 40 \text{ mg/mL} = 1 \text{ mL}$.

204. A client is prescribed 1,000 mL of D5W IV over 24 hours. The drop factor is 15 gtt/mL. What is the flow rate in gtt/min?

- A. 10 gtt/min
- B. 15 gtt/min
- C. 20 gtt/min
- D. 25 gtt/min

Answer: A

Rationale: Flow rate = $(1000 \text{ mL} \times 15 \text{ gtt/mL}) / (24 \times 60 \text{ minutes}) = 15,000 / 1440 = 10.4 \text{ gtt/min}$, rounded to 10 gtt/min.

205. A nurse is preparing to administer promethazine 25 mg IM. The medication is available as 25 mg/mL. How many mL should the nurse administer?

- A. 1 mL
- B. 0.5 mL
- C. 2 mL
- D. 1.5 mL

Answer: A

Rationale: $25 \text{ mg} \div 25 \text{ mg/mL} = 1 \text{ mL}$.

206. A client is prescribed 250 mL of D5W IV over 30 minutes. The drop factor is 20 gtt/mL. What is the flow rate in gtt/min?

- A. 167 gtt/min
- B. 125 gtt/min
- C. 200 gtt/min
- D. 150 gtt/min

Answer: A

Rationale: Flow rate = $(250 \text{ mL} \times 20 \text{ gtt/mL}) / 30 \text{ minutes} = 5,000 / 30 = 166.7 \text{ gtt/min}$, rounded to 167 gtt/min.

207. A nurse is preparing to administer insulin 15 units regular and 25 units NPH subcutaneously. Which action should the nurse take?

- A. Draw up regular insulin first, then NPH
- B. Draw up NPH insulin first, then regular
- C. Draw up both insulins in separate syringes
- D. Draw up both insulins in the same syringe after mixing

Answer: A

Rationale: When mixing regular and NPH insulin, the nurse should draw up regular insulin (clear) first, then NPH (cloudy) to prevent contamination of the regular insulin vial with NPH. "Clear before cloudy" is the rule.

208. A client is prescribed 500 mL of 0.9% sodium chloride IV over 3 hours. The drop factor is 15 gtt/mL. What is the flow rate in gtt/min?

- A. 42 gtt/min
- B. 28 gtt/min
- C. 35 gtt/min
- D. 50 gtt/min

Answer: A

Rationale: Flow rate = $(500 \text{ mL} \times 15 \text{ gtt/mL}) / (3 \times 60 \text{ minutes}) = 7,500 / 180 = 41.7 \text{ gtt/min}$, rounded to 42 gtt/min.

209. A nurse is preparing to administer ketorolac 30 mg IV. The medication is available as 30 mg/mL. How many mL should the nurse administer?

- A. 1 mL
- B. 0.5 mL
- C. 2 mL
- D. 1.5 mL

Answer: A

Rationale: $30 \text{ mg} \div 30 \text{ mg/mL} = 1 \text{ mL}$.

210. A client is prescribed 1,000 mL of D5NS IV over 8 hours. The drop factor is 10 gtt/mL. What is the flow rate in gtt/min?

- A. 21 gtt/min
- B. 15 gtt/min
- C. 25 gtt/min
- D. 30 gtt/min

Answer: A

Rationale: Flow rate = $(1000 \text{ mL} \times 10 \text{ gtt/mL}) / (8 \times 60 \text{ minutes}) = 10,000 / 480 = 20.8$ gtt/min, rounded to 21 gtt/min.

211. A nurse is preparing to administer naloxone 0.4 mg IV. The medication is available as 0.4 mg/mL. How many mL should the nurse administer?

- A. 1 mL
- B. 0.5 mL
- C. 2 mL
- D. 1.5 mL

Answer: A

Rationale: $0.4 \text{ mg} \div 0.4 \text{ mg/mL} = 1 \text{ mL}$.

221. A nurse is preparing to administer calcium gluconate 1 g IV. The medication is available as 100 mg/mL. How many mL should the nurse administer?

- A. 10 mL
- B. 5 mL
- C. 15 mL
- D. 20 mL

Answer: A

Rationale: $1\text{ g} = 1000\text{ mg}$. $1000\text{ mg} \div 100\text{ mg/mL} = 10\text{ mL}$.

222. A client is prescribed 500 mL of D5NS IV over 5 hours. The drop factor is 15 gtt/mL. What is the flow rate in gtt/min?

- A. 25 gtt/min
- B. 15 gtt/min
- C. 35 gtt/min
- D. 42 gtt/min

Answer: A

Rationale: Flow rate = $(500\text{ mL} \times 15\text{ gtt/mL}) / (5 \times 60\text{ minutes}) = 7,500 / 300 = 25\text{ gtt/min}$.

223. A nurse is preparing to administer magnesium sulfate 4 g IV. The medication is available as 500 mg/mL. How many mL should the nurse administer?

- A. 8 mL
- B. 4 mL
- C. 6 mL
- D. 10 mL

Answer: A

Rationale: $4\text{ g} = 4000\text{ mg}$. $4000\text{ mg} \div 500\text{ mg/mL} = 8\text{ mL}$.