

Applied Pharmacology for Veterinary Technicians
6th edition Martini Johnson Test Bank

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Chapter 02: Routes and Techniques of Drug Administration
Martini-Johnson: Applied Pharmacology for Veterinary Technicians, 6th Edition

MULTIPLE CHOICE

1. A(n) _____ is an agent that produces superficial irritation that is intended to relieve some other irritation.
- elixir
 - emulsion
 - liniment
 - counterirritant

ANS: D

Counterirritants are applied to a localized area (skin) to produce superficial irritation, like hot or cold sensation, in order to reduce irritation (inflammation) in deeper tissue.

2. A(n) _____ will usually separate after long periods of shelf life and must be shaken well before use to provide a uniform dose.
- elixir
 - antimicrobial
 - suspension
 - anthelmintic

ANS: C

A suspension is a mixture of two or more substances; a mixture of a liquid with solid particles which may separate over time. The mixture will need to be shaken to resuspend the solution.

3. This type of dosage form contains a powder form of a drug enclosed by a gelatin or glycerin outer layer.
- Enteric coating
 - Tablet
 - Capsule
 - Bolus

ANS: C

Capsules are containers that house liquid and powder forms of medication and may be made of gelatin and glycerin. They are commonly used in patients when the medication has an unpalatable taste.

4. Which of the following is a uniform suspension that uses an ingredient that binds two or more liquids that normally do not mix?
- Elixer
 - Emulsion
 - Syrup
 - Aqueous solution

ANS: B

An emulsion consists of an oily substance, water, and an additive that stabilizes the mixture to prevent or slow the water and oil from separating.

5. This type of syringe is constructed in such a way that the needle screws onto the tip of the syringe.
- Slip tip
 - Eccentric tip
 - Catheter tip
 - Luer-Lok tip

ANS: D

Luer-Lok syringes have threading around the tip of the syringe for the needle to be twisted or screwed onto the syringe tip and locked into place.

6. All the following are sites for IV administration in small animals, except _____.
- jugular vein
 - carotid artery
 - lateral saphenous vein
 - phalic vein

ANS: B

Intravenous administration is when a substance is given into a vein, not an artery.

7. An indwelling catheter should be replaced every ____ hours.
- 48
 - 24
 - 60
 - 72

ANS: D

Catheter complications are related more to the lack of sterile technique in placement than in the length of time it has been placed. Generally, peripheral catheters can be left in for approximately 3–5 days depending on the catheter type. Maintenance of catheters should include removing the bandage, visualizing insertion site, flushing the catheter, and observing catheter function as well as pain experienced by patient.

8. If an IV catheter is not used continuously, it can be flushed with saline every ____ to ____ hours.
- 6; 12
 - 4; 6
 - 8; 12
 - 8; 10

ANS: B

If the IV catheter is not being used for IV fluids, it should be flushed every 4–6 hours to prevent clotting.

9. Cerumen is a substance that is commonly found in what anatomic part of the body?
- Urinary bladder
 - Ear
 - Rectum
 - Crown of the tooth

ANS: B

Cerumen is also known as earwax; it is found in the ear canal and provides protection to the eardrum.

10. Any patient receiving IV fluid therapy should be monitored every ____ to ____ minutes.
- 1; 2
 - 15; 30
 - 90; 120
 - 60; 120

ANS: B

Patients receiving IV fluids are monitored every 15–30 minutes to ensure the appropriate drip rate is being given, the IV catheter is properly placed, and the IV line is not kinked or chewed out. Monitoring fluid therapy also includes assessment of hydration, body weight, urine production, auscultation of respiratory rate, effort, crackles, wheezes, etc.

11. IV tubing should be changed after a ____ to ____ hour period.
- 12; 24
 - 12; 48
 - 12; 36
 - 48; 72

ANS: D

IV tubing used for fluid administration is changed every 48–72 hours to minimize fluid contamination.

12. When an intramuscular injection is given in the pelvic limb of a dog or cat, the area near the _____ nerve should be avoided.
- radial
 - sciatic
 - median
 - both B and C

ANS: B

When administering an intramuscular injection into the semimembranosus/semitendinosus, caution must be used to avoid hitting the sciatic nerve; the needle should be directed away from the sciatic nerve.

13. Which of the following statements concerning implants is not true?
- A subcutaneous injectable dosage form that is a solid.
 - An injectable dosage form that is given intramuscular and gets absorbed by the body over an extended period of time.
 - Growth hormones are commonly manufactured in this form for use in cattle.
 - An injectable dosage form that is given subcutaneous and releases medication over weeks to months.

ANS: B

Implants are injectable sterile, solid dosage forms that are given subcutaneously and releases medication slowly into the bloodstream over an extended period of time. They are commonly used in cattle.

14. Which of the following statements is true concerning multidose syringes?
- a. Each dose must be reloaded into the syringe.
 - b. They are inaccurate and time-consuming.
 - c. They allow the user to set a dose and give repeated injections to many animals.
 - d. This type of syringe cannot be disinfected for reuse.

ANS: C

Multidose syringes are used primarily in large animal when several animals or a herd require the same medication. It allows the user to set the dose for the medication and give repeated injections to different animals needing the same medication. Multidose syringes can be disassembled and disinfected for reuse.

15. A common needle gauge used in large animals, for venipuncture or injections is a _____ gauge needle.
- a. 22
 - b. 25
 - c. 27
 - d. 18

ANS: D

The gauge refers to the inside diameter of the shaft of the needle. The larger the gauge number, the smaller the diameter. Therefore, an 18-gauge needle is larger than a 25 gauge needle.

16. Which of the following clinical signs indicate an allergic reaction has occurred when parenteral medications are administered?
- a. Infection of the injection site
 - b. Raised bumps on the skin's surface
 - c. Necrosis
 - d. All of the above

ANS: B

Clinical signs of an allergic reaction, after a parenteral injection, include swelling around the face or extremities, raised bumps or swelling on the skin's surface, edema, and salivation. Complications that can occur include irritation, necrosis, and infection of the injection site which differs from allergic reactions.

17. An agency that regulates controlled substances in the United States is
- a. FDA.
 - b. DEA.
 - c. Code of Federal Regulations.
 - d. USDA.

ANS: B

The DEA (Drug Enforcement Agency) regulates scheduled/controlled drugs. A veterinarian who orders, dispenses, prescribes, or administers controlled substances must be registered with the DEA.

18. This route of drug administration is delivered as an aerosol or fine mist.
- a. Per os
 - b. Enteral

- c. Nebulization
- d. Parenteral

ANS: C

Nebulization allows the medication to be administered slowly, directly into the lungs as a fine mist or aerosol. Nebulization helps to loosen secretions in the lungs.

19. This form of drug administration provides local effects instead of systemic effects.
- a. Topical
 - b. Subcutaneous
 - c. Intramuscular
 - d. Oral

ANS: A

Topical administration of medications such as creams, ointments, and drops usually provide local effects rather than systemic effects.

20. Which of the following is not a part of a needle?
- a. Hub
 - b. Shaft
 - c. Barrel
 - d. Bevel

ANS: C

A needle consists of a hub, shaft, bevel, point, and lumen. The barrel is part of a syringe; it is a tube in which the plunger fits into tightly. The barrel is the area that holds liquid medication.

21. What is a Frick speculum?
- a. A tube that passes directly into the stomach
 - b. An instrument used to administer medication via the nasogastric route
 - c. An instrument used to administer medications via the orogastric route
 - d. An instrument used to help with the passage of a stomach tube

ANS: D

A Frick speculum is a hollow, usually metal, cylinder used to facilitate passage of a stomach tube through the mouth and into the stomach. Its use prevents the animal from biting down and damaging the tube.

22. A(n) _____ is an alcohol-based solution, given orally, that contains sweeteners, flavoring, or a medicinal agent.
- a. elixir
 - b. emulsion
 - c. suspension
 - d. ointment

ANS: A

An elixir is an alcohol-based solution that contains ingredients such as sweeteners, flavoring, or a medicinal agent that is used orally or topically.

23. Which dosage form is a topical liquid medicinal preparation that is rubbed into the skin to reduce pain or stiffness?
- a. Syrup
 - b. Liniment
 - c. Emulsion
 - d. Ointment

ANS: B

A liniment is a topical medicinal preparation that is applied to the skin as a counterirritant or to relieve pain or stiffness.

24. A controlled drug that is classified as C-I has a high or low abuse potential?
- a. High
 - b. Low

ANS: A

The higher the value of the Roman numeral, the lesser the abuse potential of the drug. Therefore, a drug classified as C-I has the highest abuse potential.

25. Which of the following is a term that describes a drug that is administered as an injection other than through the digestive tract?
- a. Topical
 - b. Enteral
 - c. Nonparenteral
 - d. Parenteral

ANS: D

Parenteral routes of administration include subcutaneous, intravenous, intramuscular, intradermal, and intraperitoneal. Nonparenteral routes of administration are oral, topical, or aerosol. Enteral routes of administration refer to delivery of nutrients via the gastrointestinal tract.