University of Central Florida (UCF) HSC3147 Introduction to Pharmacology Practice Exam (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

Questions

1. Which is NOT a unit of measure in the apothecary system?

   A. Pound

   B. Gram

   C. Fluid ounce

   D. Scruple

2. Topical anti-infectives are indicated for superficial wounds but not for deep penetrating wounds.

   A. True

   B. False

   C. Only if prescribed by a doctor

   D. Only for minor skin irritation

3. Which is not a common use for expectorants?

   A. Relieving cough associated with bronchitis

   B. Thinning mucus

   C. Preventing cough due to irritants

   D. Facilitating mucus clearance

4. What forms do vaginal medications typically come in?

   A. Inhalers, creams, and powders

   B. Suppositories, douches, and tablets

   C. Pills, syringes, and foams

   D. Ointments, films, and gels

5. When ordering Voltaren 0.05 g, and the available tablets are 50 mg, how many tablets are to be given?

   A. 0.5 tab

   B. 1 tab

   C. 2 tabs

   D. 5 tabs

6. Which of the following is NOT an option for immunization?

A. Live attenuated vaccines

B. Inactivated vaccines

C. Gene therapy vaccines

D. Subunit vaccines

7. What is a recommended method for aiding in taking oral medications?

A. Mix the medication in thick liquids

B. Place the medication on the front of the tongue

C. Chew the tablets for improved absorption

D. Drink only water to wash down medications

8. Which of the following medications is commonly measured in units?

A. Acetaminophen

B. Ibuprofen

C. Heparin

D. Amoxicillin

9. Which of the following is a common side effect of CNS stimulants?

A. Increasing appetite

B. Fatigue

C. Insomnia

D. Muscle tension

10. Are antibiotics used as chemotherapeutic agents the same as those used for treating infections?

A. True

B. False

C. Only in some cases

D. It depends on the antibiotic

Answers

1. B
2. A
3. C
4. B
5. B
6. C
7. A
8. C
9. C
10. B

Explanations

1. Which is NOT a unit of measure in the apothecary system?

A. Pound

B. Gram

C. Fluid ounce

D. Scruple

The apothecary system is a historical system of measurement that was primarily used by pharmacists and in medicine before the metric system became more widely adopted. It includes specific units that are unique to this system. In the apothecary system, common units of measure include the pound, scruple, and fluid ounce, all of which have defined values specific to this system. The pound is a unit of weight, the scruple is a smaller unit of weight (equal to 20 grains), and the fluid ounce measures volume. The gram, however, is a unit of measure that belongs to the metric system, which is used globally today in scientific and medical contexts for its simplicity and standardization. Since the question asks for the option that is NOT a unit in the apothecary system, the gram is the correct answer because it does not belong to that historical framework of measurement.

2. Topical anti-infectives are indicated for superficial wounds but not for deep penetrating wounds.

A. True

B. False

C. Only if prescribed by a doctor

D. Only for minor skin irritation

Topical anti-infectives are specifically designed to be applied to the skin and are effective in treating localized infections that occur in superficial wounds, such as cuts, scrapes, or minor burns. Their formulation allows for direct application to the skin, where they can exert their antimicrobial effects without needing penetration into deeper tissues. When dealing with deep penetrating wounds, however, the risk of a more systemic infection and the potential for inadequate distribution of the topical agent make these treatments less appropriate. Deeper tissues may require systemic therapy or more extensive intervention to ensure that the infection is adequately treated throughout the tissue layers. This signifies the limitation of topical anti-infectives, emphasizing their utility primarily in superficial wounds, while deeper injuries necessitate a different approach for effective treatment.

3. Which is not a common use for expectorants?

A. Relieving cough associated with bronchitis

B. Thinning mucus

C. Preventing cough due to irritants

D. Facilitating mucus clearance

Expectorants are primarily designed to increase the amount of respiratory tract fluid and reduce the viscosity of mucus, making it easier to expel from the lungs. Their common uses include relieving cough associated with bronchitis, thinning mucus to assist with clearer airways, and facilitating mucus clearance by promoting the expulsion of phlegm. The option identifying preventing cough due to irritants as a non-common use for expectorants is accurate because expectorants do not specifically target the prevention of cough; rather, they help alleviate cough symptoms already present by aiding in mucus clearance. In cases of cough induced by irritants, other classes of medications like antitussives may be more appropriate for suppressing the reflex action of coughing. Thus, the correct answer highlights an understanding of the primary roles of expectorants in pharmacotherapy for respiratory conditions.

4. What forms do vaginal medications typically come in?

A. Inhalers, creams, and powders

B. Suppositories, douches, and tablets

C. Pills, syringes, and foams

D. Ointments, films, and gels

Vaginal medications are designed to be administered locally and can come in various forms that facilitate this delivery. The selected option correctly identifies that vaginal medications often include suppositories, douches, and tablets. Suppositories are solid forms intended to melt at body temperature, allowing the medication to be absorbed through the vaginal tissue. Douches are liquid preparations that typically cleanse or deliver medication in a wash format. Tablets can also be formulated to dissolve and release the active ingredients for local treatment within the vaginal canal. Many of the other options do include forms used in other types of medication but do not specifically align with the typical administration routes for vaginal treatments. For example, inhalers are used for respiratory delivery, while foams and syringes are more common in other medication applications and may not serve the same purpose as those specifically formulated for vaginal use. Therefore, the correct identification of suppositories, douches, and tablets accurately reflects common forms used for vaginal medications.

5. When ordering Voltaren 0.05 g, and the available tablets are 50 mg, how many tablets are to be given?

A. 0.5 tab

B. 1 tab

C. 2 tabs

D. 5 tabs

To determine how many tablets to order when given a specified dosage of Voltaren (diclofenac sodium), it is essential to properly convert the dosages into compatible units. 1. The quantity prescribed is 0.05 g. To convert grams to milligrams, which is a more compatible measurement with the available tablet strength, you multiply by 1,000 (since 1 g = 1,000 mg). Therefore, 0.05 g is equal to 50 mg. 2. The available tablet strength is 50 mg. To find out how many tablets correspond to the 50 mg dosage ordered, you simply divide the total required dosage (50 mg) by the strength of one tablet (50 mg). This calculation results in: 50 mg (ordered dose) ÷ 50 mg (per tablet) = 1 tablet. Therefore, the correct and adequate amount of Voltaren to administer is 1 tablet, which is why this option is the correct choice.

6. Which of the following is NOT an option for immunization?

A. Live attenuated vaccines

B. Inactivated vaccines

C. Gene therapy vaccines

D. Subunit vaccines

Gene therapy vaccines are not considered a traditional option for immunization in the same sense as live attenuated, inactivated, or subunit vaccines. Immunization typically refers to the administration of vaccines to produce immunity against specific diseases. The three other types—live attenuated vaccines, inactivated vaccines, and subunit vaccines—are all established methods used to stimulate an immune response. Live attenuated vaccines contain weakened forms of the pathogen that can safely replicate in the body, thereby eliciting a strong immune response without causing disease. Inactivated vaccines consist of pathogens that have been killed or inactivated, so they cannot replicate but still provoke an immune response. Subunit vaccines include only pieces (subunits) of the pathogen, which can also effectively stimulate an immune response without containing any live components. Gene therapy vaccines, in contrast, are more experimental and involve introducing genetic material into the body, which instructs cells to produce proteins that resemble components of the pathogen. While this approach is part of emerging research in vaccine technology and may lead to new types of immunization strategies, it currently does not fall under the conventional categories of vaccines traditionally used for immunization against infectious diseases.

7. What is a recommended method for aiding in taking oral medications?

A. Mix the medication in thick liquids

B. Place the medication on the front of the tongue

C. Chew the tablets for improved absorption

D. Drink only water to wash down medications

Mixing medication in thick liquids is a recommended method for aiding in taking oral medications because it can help mask the taste and make it easier to swallow. Thick liquids can provide a coating that makes the medication more palatable and can assist in preventing it from sticking to the throat or mouth, which can be a common issue when taking medication. This approach is particularly beneficial for individuals who may have difficulty swallowing pills, such as children or the elderly, as it can enhance their comfort and compliance with medication regimens. Additionally, some medications may be more easily absorbed when taken with certain liquids, although it's important to consider any specific instructions from a healthcare provider or pharmacist regarding interactions with the liquid used.

8. Which of the following medications is commonly measured in units?

A. Acetaminophen

B. Ibuprofen

C. Heparin

D. Amoxicillin

Heparin is commonly measured in units because it is an anticoagulant medication that works by inhibiting blood coagulation. The effectiveness of heparin is not determined in milligrams like many other medications but rather in units, which are calibrated specifically to reflect the anticoagulant effect it exerts. This is crucial for ensuring the safe and effective dosing of heparin, as varying patient responses and potential for serious side effects from overdosing necessitate precise measurements. The use of units standardizes dosing across different formulations and allows for accurate monitoring of therapeutic levels and adjustments based on individual patient factors, such as weight and renal function. In comparison, medications like acetaminophen, ibuprofen, and amoxicillin are typically measured in milligrams or grams, as their dosing does not require the same level of precision as heparin in relation to their pharmacodynamic actions.

9. Which of the following is a common side effect of CNS stimulants?

A. Increasing appetite

B. Fatigue

C. Insomnia

D. Muscle tension

CNS stimulants are medications or substances that enhance the activity of the central nervous system. One of the hallmark side effects associated with the use of these stimulants is insomnia. This occurs because stimulants increase the levels of neurotransmitters such as dopamine and norepinephrine in the brain, which can elevate alertness and wakefulness. While this heightened state can be beneficial for concentration and focus, it can also disrupt normal sleep patterns, leading to difficulties in falling asleep or staying asleep. Understanding the nature of CNS stimulants is crucial in recognizing how they impact the body. Unlike many other classes of drugs that might promote fatigue or increase appetite, CNS stimulants are designed to provide an energizing effect. Insomnia is a common complaint among users, and it's important for healthcare providers to monitor this side effect, as it can lead to further issues such as decreased performance, mood disturbances, and overall quality of life. Thus, identifying insomnia as a side effect is essential for managing the use of CNS stimulants effectively.

10. Are antibiotics used as chemotherapeutic agents the same as those used for treating infections?

A. True

B. False

C. Only in some cases

D. It depends on the antibiotic

Antibiotics used as chemotherapeutic agents are not the same as those used for treating infections. While both types of antibiotics aim to target bacteria, chemotherapeutic agents refer specifically to substances used in cancer treatment and may include antibiotics that have an anti-cancer effect, such as doxorubicin and mitomycin, which can inhibit the growth of certain neoplastic cells rather than common microbial infections. The antibiotics prescribed for infections, such as penicillin or amoxicillin, are typically aimed directly at specific pathogens to eliminate bacteria responsible for infections in the body. In contrast, the antibiotics that serve as chemotherapeutic agents may have mechanisms that don't apply to typical bacterial infections, focusing instead on the mechanisms of cancer cell proliferation. This distinction is crucial in pharmacology and therapeutics, as the therapeutic goals and actions for each class differ significantly despite some overlap in the use of the antibiotic class.