Professional Certificate in Veterinary Pharmacy Management

Pharmacology for Veterinary Pharmacy Technicians

A

Adverse drug reaction (ADR)
An unwanted or harmful reaction experienced after the administration of a medication. ADRs can range from mild side effects to severe allergic reactions.

Analgesic
Medications that provide pain relief without causing loss of consciousness. Examples include nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids.

Antibiotic
Medications that fight bacterial infections by either killing bacteria or inhibiting their growth. Examples include penicillin and tetracycline.

Anticoagulant
Medications that prevent blood clot formation. They are commonly used in conditions such as thrombosis and heart disease. Examples include heparin and warfarin.

Anticonvulsant
Medications used to prevent or control seizures. They are commonly prescribed for epilepsy and other neurological disorders. Examples include phenobarbital and gabapentin.

Antifungal
Medications that treat fungal infections by either killing fungi or inhibiting their growth. Examples include fluconazole and terbinafine.

Anti-inflammatory
Medications that reduce inflammation and swelling. They are commonly used to treat conditions such as arthritis and allergies. Examples include corticosteroids and NSAIDs.

Antimicrobial
A general term for medications that kill or inhibit the growth of microorganisms such as bacteria, viruses, and fungi.

Antiparasitic
Medications that treat parasitic infections in animals. They can target various parasites such as worms, ticks, and mites. Examples include ivermectin and praziquantel.

Antipyretic
Medications that reduce fever. They are commonly used to alleviate symptoms of infections and

inflammatory conditions. Examples include acetaminophen and ibuprofen.

Antiseptic
Substances that inhibit the growth of microorganisms on living tissues. They are commonly used to clean wounds and prevent infections. Examples include alcohol and povidone-iodine.

B

Bioavailability
The rate and extent to which an administered drug reaches the systemic circulation. It is affected by factors such as drug formulation and route of administration.

Bioequivalence
The similarity in the rate and extent of absorption of two formulations of the same drug. Bioequivalent products are expected to have the same therapeutic effects.

Biosafety
Practices and procedures designed to prevent the exposure of personnel and the environment to potentially hazardous biological agents such as pathogens and toxins.

C

Contraindication
A specific situation in which a drug should not be used due to the potential harm it may cause. Contraindications are based on factors such as patient characteristics and medical conditions.

Controlled substance
A drug that is regulated by the government due to its potential for abuse and dependence. Controlled substances are categorized into different schedules based on their abuse potential.

Cytotoxic
Medications that are toxic to cells or inhibit their growth. They are commonly used in cancer treatment to kill cancer cells.

D

Depot injection
An injection of a drug formulation that releases the medication slowly over an extended period. Depot injections are often used to maintain therapeutic levels of a drug.

Dispensing
The process of preparing and providing medications to patients based on a prescription. Dispensing involves labeling, packaging, and providing information about the medication.

E

Extemporaneous compounding

The preparation of customized medications for individual patients based on a prescription. Extemporaneous compounding is often required for veterinary patients with specific needs.

F

Formulary
A list of medications approved for use within a healthcare facility or organization. Formularies often include information on drug dosages, indications, and restrictions.

G

Generic drug
A medication that contains the same active ingredient as a brand-name drug and is bioequivalent in terms of dose, strength, and route of administration. Generic drugs are typically less expensive than brand-name drugs.

Geriatric patient
An older patient in veterinary medicine, typically over the age of 7-8 years depending on the species. Geriatric patients may require special considerations in drug selection and dosing.

H

Half-life
The time it takes for the concentration of a drug in the body to decrease by half. The half-life of a drug influences its dosing frequency and duration of action.

Herb-drug interaction
An interaction between a medication and an herbal supplement that alters the pharmacokinetics or pharmacodynamics of the drug. Herb-drug interactions can affect drug efficacy and safety.

Hypersensitivity
An exaggerated immune response to a substance that is normally harmless. Hypersensitivity reactions can range from mild allergies to severe anaphylaxis.

I

Immune system
The body's defense mechanism against infections and diseases. The immune system recognizes and destroys pathogens to maintain health and prevent illness.

Immunosuppressant
Medications that suppress the immune system to treat autoimmune diseases, prevent rejection of transplanted organs, and manage allergies. Examples include corticosteroids and cyclosporine.

Infusion
The slow administration of a drug or fluid into the body over a specified period. Infusions are commonly

used for medications that require a constant rate of delivery.

Injectable
A medication that is administered by injection, bypassing the digestive system. Injectable medications can be given intramuscularly, subcutaneously, or intravenously.

J

K

L

Liposome
A vesicle composed of lipids that can encapsulate drugs for targeted delivery. Liposomes improve drug solubility and stability and can enhance drug uptake by cells.

M

Metabolism
The process by which the body breaks down drugs into smaller molecules to facilitate their elimination. Drug metabolism primarily occurs in the liver.

N

Narrow therapeutic index (NTI)
A small difference between the minimum effective dose and the minimum toxic dose of a drug. Medications with a narrow therapeutic index require careful dosing to avoid adverse effects.

O

Over-the-counter (OTC)
Medications that can be purchased without a prescription. OTC drugs are typically used to treat minor ailments and symptoms.

P

Pharmacodynamics
The study of how drugs exert their effects on the body, including the mechanisms of action, receptor interactions, and physiological responses to drugs.

Pharmacokinetics
The study of how drugs are absorbed, distributed, metabolized, and excreted by the body. Pharmacokinetics influences the concentration of a drug at its site of action.

Pharmacology
The study of how drugs interact with living organisms to produce therapeutic effects. Pharmacology encompasses drug actions, mechanisms, and effects on the body.

Pharmacy technician
A healthcare professional who assists pharmacists in dispensing medications, managing inventory, and providing customer service. Pharmacy technicians play a crucial role in pharmacy operations.

Prescription
A written or electronic order from a licensed healthcare provider for the dispensing of a medication. Prescriptions include information on drug name, dosage, frequency, and duration of treatment.

Prophylaxis
The prevention of disease or infection using medications or other interventions. Prophylaxis is commonly used to protect animals from parasites, infections, and other health risks.

Q

Quality control
The process of ensuring the safety, efficacy, and purity of medications through testing and monitoring. Quality control measures are essential to maintain medication quality and patient safety.

R

Receptor
A protein molecule on a cell surface or within a cell that binds to specific molecules such as drugs or hormones. Receptor activation triggers cellular responses.

Route of administration
The method by which a drug is delivered into the body, such as oral, intravenous, or topical. The route of administration affects drug absorption, distribution, and onset of action.

S

Side effect
An unintended and often undesirable effect of a medication in addition to its therapeutic effects. Side effects can range from mild to severe and may require medical attention.

Subcutaneous
A route of drug administration in which the medication is injected into the tissue layer beneath the skin. Subcutaneous injections are commonly used for vaccines and medications that require slow absorption.

T

Therapeutic index
The ratio of the minimum toxic dose to the minimum effective dose of a drug. A high therapeutic index indicates a wide margin of safety, while a low index suggests a narrow margin of safety.

Topical
A route of drug administration in which the medication is applied to the skin or mucous membranes.

Topical medications are used to treat localized conditions such as skin infections and eye disorders.

U

V

Veterinary pharmacy
A specialized field of pharmacy that focuses on the compounding, dispensing, and monitoring of medications for animals. Veterinary pharmacists work with veterinarians to ensure optimal drug therapy for animal patients.

W

X

Y

Z