

## **Knowledge list Avian/Exotic Pharmacology and Commonly Used Drugs**

For each species on the “Species List”, the following pharmacology topics should be mastered. Knowledge of potential drug side effects and safe handling practices should be mastered for each species on the “Species List”. These parameters are meant to be for captive avian and exotic pets, in contrast to zoo exhibits and the differences should be clearly understood for these parameters.

- Drug Action
  - Pharmacokinetic factors of a drug
  - Absorption
  - Distribution
  - Excretion
  - Drug metabolism
  
- Routes of Administration
  - Oral
  - Parenteral administration
  - Subcutaneous
  - Intramuscular
  - Intradermal
  - Intravenous
  
- Neuropharmacology
  - Central Nervous System (CNS)—two primary divisions
    - Autonomic nervous system or involuntary system
    - Somatic (motor) nervous system or voluntary system
    - Automatic Nervous System
    - Acetylcholine (Ach)
    - Norepinephrine (NE)
  - Sympathetic nervous system
    - Alpha receptors
    - Beta1 receptors
    - Beta2 receptors
    - Parasympathetic nervous system
    - Effector tissue
    - Agonists—causative agent
    - Antagonist—reversal, contrary action
  
- Autonomic Drugs
  - Cholinomimetic Agents
    - Cholinesterase inhibitors
    - Anticholinesterases
    - Edrophonium chloride
    - Physostigmine
    - Pyridostigmine
    - Neostigmine

- Organophosphates
    - Echothiophate iodide
- Anticholinergics
- Neuromuscular Blockers
- Sympathomimetics
- Sympatholytics
- Alpha-adrenergic blocking agents
- Beta-adrenergic blocking agents
- Tranquilizers
  - Phenothiazines
  - Benzodiazepines
- Sedatives
  - Alpha2 Adrenergic Agonists
- Hypnotic agents
- Anticonvulsants
  - Benzodiazepines
    - Barbiturates
    - N-Methyl-D-aspartate Antagonists (NMDA)
    - Alpha2 Antagonist
- Opioids
  - Mu (OP3) & Kappa (OP2) Agonist
  - Kappa (OP2) Antagonist
- Opioid Antagonist
- Analgesics
- Antipyretics
- Anti-inflammatory
- Corticosteroids
- Nonsteroidal Anti-Inflammatory Drugs (NSAID)
  - Salicylate analgesics
  - Propionic acid derivatives
  - Fenamic acids
- Diuretic and Cardiovascular Drugs
  - Diuretics
  - Cardiac glycosides
  - Antiarrhythmia drugs
  - Calcium channel blockers
  - Angiotensin Converting Enzyme Inhibitors
- Anthelmintics
  - Piperazine
  - Benzimidazoles
  - Organophosphates
  - 2PAM (Pralidoxime)

- Tetrahydropyrimidines
- Imidazothiazoles
- Milbemycins
- Ivermectins
- Anticestodal drugs
  
- External Parasite Treatment
  - Chlorinated hydrocarbons
  - Organophosphates
  - Pyrethrins
  - Imidacloprid
  - Fipronil
  - Moxidectin
  - Selamectin
  
- Antimicrobial Agents
  - Bacteriostatic
  - Bactericidal
  - Antifungal Agents
  
- Hormones and Synthetic Substitutes
- Gastrointestinal Drugs
- Antiemetics
- Emetics
- Antidiarrheal Agents
- Cathartic (laxatives)
- Ulcer Management Drugs

### **Commonly Used Drugs**

- Parasiticides
  - Carbaryl 5% Powder
  - Fenbendazole
  - Ivermectin
  - Levamisole
  - Metronidazole
  - Oxfendazole
  - Permethrin
  - Praziquantel
  - Sulfa-dimethoxine
  
- Antimicrobial Drugs
  - Amikacin
  - Amoxicillin

- Amoxicillin/Clavulanate
- Ampicillin
- Carbenicillin
- Cefazolin
- Cephalexin
- Cefoxitin
- Cefotaxime
- Ceftazidime
- Chloramphenicol
- Chlortetracycline
- Ciprofloxacin
- Clarithromycin
- Clindamycin
- Clotrimazole
- Doxycycline
- Enrofloxacin
- Erythromycin
- Itraconazole
- Gentamicin
- Ketaconazole
- Lincomycin
- Metronidazole
- Neomycin
- Piperacillin
- Oxytetracycline
- Procaine G
- Silver sulfadiazine
- Tetracycline
- Ticarcillin
- Trimethoprim-sulfadimethoxine
- Tylosin
- Vancomycin
  
- Anti-fungal agents
  - Fluconazole
  - Griseofulvin
  - Ketoconazole
  - Itraconazole
  
- Analgesics/Anesthetics/Sedatives/Reversal Agents
  - Alfaxalone
  - Acepromazine
  - Atipamezole
  - Buprenorphine
  - Butorphenol
  - Carprofen

- Diazepam
- Dexmedetomidine
- Flunixin meglumine
- Isoflurane
- Ketamine
- Ketoprofen
- Meloxicam
- Meperidine
- Midazolam
- Morphine
- Naloxone
- Oxymorphone
- Propofol
- Sevoflurane
- Tiletamine
- Telazol
- Zolazepam
- Xylazine
  
- Emergency drugs
  - Atropine
  - Calcium
  - Dexamethasone sodium phosphate
  - Diazepam
  - Doxapram
  - Epinephrine
  - Flumazenil
  - Furosemide
  - Glycopyrolate
  - Lidocaine
  - Sodium bicarbonate
  - Vasopressin
  - Yohimbine
  
- Common Miscellaneous Drugs
  - Acyclovir
  - Allopurinol
  - Calcitonin
  - Calcium-EDTA
  - Calcium glubionate
  - Calcium gluconate
  - Cimetidine
  - Cisapride
  - Dexamethasone
  - Digoxin
  - Fenbendazole

- Furosemide
- Iron dextran
- Itraconazole
- Ketoconazole
- Lactobacilli
- Loperamide HCL
- Levamisole
- Metoclopramide
- Naloxone
- Nystatin
- Oxytocin
- Praziquantel
- Prednisone
- Prednisolone
- Probenecid
- Vitamins A, B1, B12, C, D, E, K1
- Xenodyne