

Med Considerations for Cats and Dogs

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It is not uncommon to fill prescriptions for pets or for pet owners to ask questions about over-the-counter (OTC) treatments for common pet ailments (e.g., allergies, aches and pains, motion sickness, gastrointestinal problems). This FAQ answers common questions about prescription and OTC drug product use in dogs and cats.

Question	Answer/Pertinent Information		
What are potential concerns with using human meds in dogs or cats?	<ul style="list-style-type: none"> • Using human meds for pets is “extra-label” or off-label use and requires a prescription or vet’s recommendation. • Species, breed, and pet size can impact meds.⁸ • Animals metabolize drugs differently than humans. For example:⁸ <ul style="list-style-type: none"> ○ Dogs have more blood/kg and faster glomerular filtration compared to humans. ○ Cats have limited or deficient metabolic pathways used to eliminate drugs (e.g., glucuronidation). • Drugs that are safe to use in humans can potentially lead to toxicity in pets.⁸ • Human meds that may be safe for use in pets may be dosed differently than in humans.⁸ 		
What are some dosing examples of OTC meds used for pets?	Medication	Example Oral Dosing in Dogs¹⁰	Example Oral Dosing in Cats¹⁰
	Antihistamines		
	Cetirizine	1 mg/kg (or 10 to 20 mg) every 12 to 24 hours ⁵	1 mg/kg (or 5 mg) every 12 to 24 hours ⁵
	Chlorpheniramine	<20 kg: 4 mg every 8 hours; ⁵ >20 kg: 0.25 to 0.5 mg/kg (or 8 mg) every 8 hours ⁵	1 to 2 mg every 8 to 12 hours
	Diphenhydramine	2 mg/kg three times daily	2 mg/kg two to three times daily
	Dimenhydrinate	2 to 4 mg/pound every 8 hours	12.5 mg every 8 hours
	Fexofenadine	2 to 5 mg/kg every 12 to 24 hours ⁵	10 to 15 mg every 12 to 24 hours ⁵
	Loratadine	0.125 to 0.25 mg/kg once to twice daily	N/A
	Gastrointestinal Medications		
	Famotidine	0.5 mg/kg once daily	
	Ranitidine (Canada)	1 mg/kg twice daily	
	Loperamide	0.08 to 0.2 mg/kg every 8 to 12 hours (see breed-specific caution , below)	N/A
	Omeprazole	0.5 to 1 mg/kg once daily	0.7 mg/kg once daily
	Simethicone	25 to 200 mg daily	0.3 to 0.5 mL of the infant drops two or three times daily
	Cough Medications		
	Dextromethorphan	0.5 to 2 mg/kg every 6 to 8 hours	
	Guaifenesin	3 to 5 mg/kg every 8 hours	

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<p>What are some cautions to consider before using OTC and human prescription meds for pets?</p>	<ul style="list-style-type: none">• Acetaminophen is contraindicated in cats because they can't metabolize it.⁴ Acetaminophen can be used judiciously in dogs (e.g., careful dosing, consideration of periodic lab monitoring with chronic use).⁴• Nonsteroidal anti-inflammatory drugs (NSAIDs) may not be safe. For example:<ul style="list-style-type: none">○ Aspirin is metabolized very slowly in in cats; it can accumulate and cause toxicity.^{5,10} This goes for other products that contain salicylates (e.g., <i>Pepto-Bismol</i> [bismuth subsalicylate], topical analgesics [methyl salicylate], sunscreen [homosalate, octisalate]).¹⁰○ In dogs and cats, even low doses of certain NSAIDs (e.g., ibuprofen, naproxen) can lead to serious gastrointestinal bleeding and/or kidney problems.^{8,10}○ Counsel clients whose dogs are prescribed an NSAID to use the acronym “BEST” friend to know when to call the vet. Watch for Behavior changes, Eating less, Skin Redness or Scabs, Tarry stools, nausea, or vomiting.¹²• Loperamide should not be used for some herding dog breeds (e.g., Collies, Australian Shepherds, Old English Sheepdogs, German Shepherds) without genetic testing.^{5,17} These breeds may experience toxicity (excess salivation, ataxia, inability to stand or walk) if they have the ABCB-1 gene deletion and thus do not make functional p-glycoprotein.⁵• Phenazopyridine (US only) is contraindicated in cats, due to risk of methemoglobinemia and irreversible oxidative changes in hemoglobin, leading to anemia.²• Topical anesthetics (e.g., lidocaine, benzocaine) are hazardous if ingested or inappropriately applied to pets.<ul style="list-style-type: none">○ Local anesthetics can affect the central nervous system (CNS), autonomic ganglia, neuromuscular junctions, and all muscles, including the heart.³○ If ingested, local anesthetics may cause CNS stimulation and increase seizure potential.³ In addition, cats are at higher risk of developing methemoglobinemia with certain local anesthetics.³• Oral steroids: Prednisone or prednisolone can be used in dogs. Prednisolone is preferred in cats. Cats are not able to convert prednisone to prednisolone (active form) well and prednisolone has better absorption than prednisone.¹⁸
<p>What are some problematic inactive medication ingredients to be aware of with pets?</p>	<ul style="list-style-type: none">• Animals are very susceptible to the effects of alcohol. Alcohol can lead to serious effects, including dangerous drops in blood glucose, blood pressure, and body temperature if consumed by pets.⁹ Look for alcohol as an inactive ingredient in liquid medications before suggesting them for a pet or filling a pet prescription.¹⁰• Xylitol (also known as birch sugar) is a sugar substitute. Xylitol can be harmful to dogs (Note: xylitol does not seem to be dangerous for cats) by causing hypoglycemia and liver failure.^{1,16} Examples of products that may contain xylitol include suspensions (e.g., <i>Childrens Allegra Allergy</i> suspension [US], some human meloxicam suspensions), liquids (e.g., some gabapentin formulations [US]), and some chewables.^{7,10}

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What are some examples of alternative products or supplements that can be harmful to pets?	<ul style="list-style-type: none">• Avoid giving human glucosamine products to cats or dogs. The dose may be too high, the glucosamine may be in a form that is harder to digest, and the product may contain unsafe inactive ingredients (e.g., xylitol).^{14,15}• Ma Huang and Guarana: alone or combined can lead to severe hyperactivity, tremors, seizures, vomiting, and tachycardia.⁵ Fatalities have been reported in dogs.²¹• Kratom: may cause agitation and tachycardia, or opioid-like effects at larger doses (vomiting, sedation, stupor).⁵• Pennyroyal (a natural flea treatment): can be lethal, especially for small animals.^{5,19}• Tea tree oil (especially toxic to cats due to their deficient glucuronic acid conjugation): can cause severe neurologic problems and liver damage if consumed or topically absorbed.²⁰
What are some examples of human prescription meds that are dosed differently in dogs and cats?	<ul style="list-style-type: none">• Keep in mind, pets may need very different med doses than used for humans. See examples below:<ul style="list-style-type: none">○ The starting levothyroxine dose in dogs is ~20 mcg/kg/day, given once daily or divided twice daily.^{5,11}<ul style="list-style-type: none">▪ 65 pound dog x 1 kg/2.2 pounds = 29.5 kg▪ 29.5 kg x 20 mcg/kg = 590 mcg/day▪ This is much higher than typical human doses.○ Other meds that may require higher doses for dogs than humans include seizure meds and some antibiotics (e.g., ciprofloxacin).⁸○ Amlodipine is often used to treat high blood pressure in cats.⁵ An amlodipine dose for cats may be 0.625 to 1.25 mg/day or lower.⁵ This is much lower than typical human doses.○ Verify insulin doses carefully. Pet insulin is less concentrated than human insulins. For example, <i>Vetsulin</i> and <i>ProZinc</i> are both 40 units/mL compared to most 100 unit/mL human insulins (e.g., <i>Lantus</i>).^{6,13}
What are some safeguards when dispensing controlled substances for pets?	<ul style="list-style-type: none">• Stay alert for red flags that an owner may be misusing or diverting controlled substance Rx's prescribed for their pets. Examples of red flags might include:<ul style="list-style-type: none">○ multiple veterinary prescribers○ several pets getting controlled substances○ owners and pets prescribed the same controlled substance○ early refills. Note you may have to check manually for these as some systems do not check for "refill too soon" rejects on pet prescriptions.• You may be required to report controlled substance prescriptions dispensed to pets to Rx drug monitoring programs in your state or province.

Question	Answer/Pertinent Information
How are pet prescriptions different than human prescriptions?	<ul style="list-style-type: none"> • The pet is the patient, the pet owner is the client.⁸ • Brand names for pet meds may differ from same-ingredient human meds. Examples include <i>Thyro-Tabs</i> (levothyroxine), <i>Clavamox</i> (amoxicillin/clavulanate), and <i>Metacam</i> (meloxicam). • Veterinary abbreviations may differ. For example, you may see “SID” as a dosing abbreviation on pet prescriptions. SID means once daily.⁸ • Liquid Rx strengths are rarely written as “x mg/5 mL.” So instead of amoxicillin 250 mg/5 mL, expect to see amoxicillin 50 mg/mL.⁸
What are some tips to prevent errors between pet and human Rxs ?	<ul style="list-style-type: none"> • Follow your pharmacy’s policy when setting up pet profiles, such as adding: <ul style="list-style-type: none"> ○ “cat” or “dog” to the name. ○ a species code (e.g., K9, feline). ○ the pet’s date of birth instead of the owner’s. ○ “for veterinary use” in the dosing instructions. • Verify you have selected the correct patient profiles before entering Rxs. Pet’s and their owner’s profile will have the same last name, address, and phone number. • Generally, avoid dispensing pet Rxs under the owner’s name. This can lead to confusion or possible fraud if the Rx is accidentally billed to the owner’s insurance. • Confirm med histories. There have been cases where outpatient pet meds autopopulated the electronic med list of the pet owner when admitted to the hospital.
Which resources are available to help answer questions about meds and pets?	<ul style="list-style-type: none"> • Plumb’s Veterinary Drugs. (print edition or digital [subscription required]) (Includes drug monographs discussing pharmacology, uses and indications, pharmacokinetics, contraindications and precautions, adverse effects, acute toxicity, drug interactions, dosing information, laboratory concerns, and monitoring parameters.). • The Merck Veterinary Manual (https://www.merckvetmanual.com/) (disease state management including pharmacotherapy (including some dosing information), toxicology, and information for pet owners on routine care and diseases). • The American Society for the Prevention of Cruelty to Animals (ASPCA) Animal Poison Control Center. http://www.aspc.org/pet-care/poison-control/. (Provides links to veterinary medicine toxicology resources). • Animal Poison Control Center 888-426-4435 (U.S. and Canada). Note that the Animal Poison Control Center hotline may charge a consultation fee. Pharmacists may want to consider keeping a list of local emergency animal clinics that are open after hours for referral to pet owners.

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