

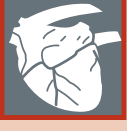



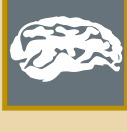














The Practical Approach to Drug Monitoring

If your patients are on any of these commonly prescribed medications, this table will help to identify the appropriate blood-monitoring protocol.

Primary Usage	Drug	Drug Interactions/ Cautions	Conditions to Watch for/Complicating Disease Factors	Monitoring Schedule		
				Baseline	Ongoing	
Arthritis, pain relief 	NSAIDs* • Deramaxx® (deracoxib) • Etogesic® (etodolac) • Metacam® (meloxicam) • Novox® (carprofen) • Previcox™ (firocoxib) • Rimadyl® (carprofen) • Zubrin™ (tepoxalin) Other _____	Aspirin, Medrol®, prednisone, prednisolone, Tylenol®, phenobarbital, enalapril, phenylpropanolamine	Renal failure, hepatic failure and diabetes mellitus, GI ulceration and bleeding 	Preanesthetic Panel**	NSAID Monitoring Panel****	• Every 14 days until stable • Every 6 months
Heart disease 	Digoxin Other _____	May alter or be altered by many drugs; consult with doctor.	GI upset, anorexia and weight loss; potential complications include fatal abnormal heart rhythms and kidney damage 	Preanesthetic Panel** Na ⁺ , K ⁺ , Cl ⁻	ALKP, ALT, BUN, CREA, Na ⁺ , K ⁺ , Cl ⁻ ----- Digoxin level	• Every month until stable • Every 3–6 months ----- • Every 14 days until stable • Every 3 months
	Enacard® (enalapril) Benazepril Other _____	May lower furosemide requirement. NSAIDs may cause increased dosage.	Low blood pressure, elevated serum potassium and kidney damage 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻	ALKP, ALT, BUN, CREA, Na ⁺ , K ⁺ , Cl ⁻	• Every month until stable • Every 6 months
	Lasix®, Salix® (furosemide) Other _____	May alter the effects of, or be affected by, theophylline, prednisone, Medrol®, NSAIDs, enalapril, digoxin.	Increased thirst and urination, dehydration, electrolyte imbalances, GI upset, restlessness and weakness 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻	ALKP, ALT, BUN, CREA, CBC, Na ⁺ , K ⁺ , Cl ⁻	• Every month until stable • Every 6 months
Epilepsy, seizures 	Phenobarbital* Other _____	May affect or alter the function of many drugs; consult with doctor. <i>NOTE: Blood tests should be taken as close to normal time of administration as possible—up to two hours before to two hours after.</i>	Lethargy or depression; anxiety or agitation; increased thirst, appetite and urination 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻	ALKP, ALT, BUN, CREA, Bile Acids ----- Phenobarbital	• Every month until stable • Every 6 months ----- • At 14 days until stable • Every 6 months
	Potassium Bromide Other _____	Salt-restricted or high-salt diets, diuretics and CNS depressants	Profound sedation, ataxia, stupor, GI upset 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻	30 days potassium bromide levels, ALT, ALKP, BUN, CREA, Na ⁺ , K ⁺ , Cl ⁻ , Spec cPL® Test*****	• Repeat every 30 days until seizures are under control, then every 6 months once stabilized. <i>These times may vary based on individual needs and treatment responses.</i>
Hypothyroidism  Hyperthyroidism	Soloxine® (levothyroxine) Other _____	May alter the effects of many drugs; consult with doctor. <i>NOTE: Blood tests should be taken 4–6 hours after administration.</i>	May alter insulin and digoxin requirements. May affect many laboratory tests; consult with doctor. 	Preanesthetic Panel**, CHOL, total T ₄ during diagnosis	Total T ₄ , ALKP, ALT, BUN, CREA, CBC	• Every month until stable • Every 6 months
	Tapazole® (methimazole) Other _____	No significant drug interactions have been reported.	Not for patients with liver disease or clotting disorders, anorexia, GI upset, bleeding, low white blood cell count and platelet counts 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻ , total T ₄	Total T ₄ , ALKP, ALT, BUN, CREA, CBC	• Every 14 days until stable • Every 3–6 months
Allergies 	Antihistamines • Diphenhydramine • Hydroxyzine Other _____	CNS depressants, barbiturates, anesthetics, tranquilizers, heparin, warfarin	Caution with glaucoma, prostatic hypertrophy, hyperthyroidism and heart disease 	Preanesthetic Panel**	ALKP, ALT, BUN, CREA	• Every month until stable • Every 6 months
	Corticosteroids • Prednisone • Prednisolone • Methylprednisolone Other _____	Do not give with NSAIDs, aspirin or Tylenol®.	Increased appetite and weight gain, thirst and urination, GI ulcers, activation or worsening of diabetes mellitus, hypothyroidism, pancreatitis, muscle wasting and behavioral changes; potentially fatal iatrogenic Cushing's syndrome 	Preanesthetic Panel**, CBC	ALKP, ALT, BUN, CREA, GLU, CBC	• Every month until stable • Every 6 months
Urethral incontinence 	Phenylpropanolamine Other _____	Do not use with ephedrine. Use caution with NSAIDs, aspirin and Tylenol®.	Caution with glaucoma, prostatic hypertrophy, hyperthyroidism, diabetes mellitus, heart disease 	Preanesthetic Panel**	ALKP, ALT, BUN, CREA	• Every month until stable • Every 6 months
Cushing's syndrome 	Anipryl® (selegiline) Other _____	Amitraz (Mitaban®, Preventic® collar), Elavil® (amitriptyline), Prozac®, ephedrine	Restlessness/agitation, vomiting, disorientation, anorexia, anemia 	GHP***, CBC, Na ⁺ , K ⁺ , Cl ⁻ , total T ₄ , cortisol	ALKP, ALT, BUN, CREA, cortisol	• Every 7–14 days until stable • Every 3 months



*Annually, each pet receiving a long-term medication should have a comprehensive diagnostic workup consisting of a CBC, GHP, electrolytes, urinalysis and UPC ratio to diagnose emerging conditions that may not be apparent on a routine monitoring panel.

**Preanesthetic Panel: ALKP, ALT, BUN, CREA, GLU, TP

***GHP: General Health Profile: ALB, ALKP, ALT, AMYL, BUN, CA, CHOL, CREA, GLU, PHOS, TBIL, TP, GLOB

****NSAID Monitoring Panel: ALKP, ALT, AST, BUN, CREA

*****Potassium bromide has been linked with increased incidence of pancreatitis.

These guidelines are intended to provide general guidance only. As with any diagnosis or treatment, you should use clinical discretion with each patient based on a complete evaluation of the patient, including history, physical presentation and complete laboratory data. With respect to any drug therapy or monitoring program, you should refer to product inserts for a complete description of dosages, indications, interactions and cautions.

This drug-monitoring chart was researched and created by Dr. Ernest Ward, Jr., Seaside Animal Care, Calabash, NC.

Practice what's possible®

IDEXX
LABORATORIES

© 2007 IDEXX Laboratories, Inc. All rights reserved • 09-63220-07
Spec cPL and Practice what's possible are registered trademarks of IDEXX Laboratories, Inc. in the United States and/or other countries. All other product names are trademarks of their respective holders.