# Bile acids algorithm



### Increased bile acids and/or hepatic enzymes?

# **Evaluate for extrahepatic diseases**



#### **Possible causes**

- Pancreatitis
- Gastrointestinal disease
- Endocrine
- Hyperadrenocorticism
- Hyperthyroidism
- Diabetes mellitus
- Extrahepatic neoplasia
- Hypoperfusion (congestive heart failure, shock)
- Trauma
- Drug induced (ALP/GGT)
- steroids, phenobarbital
- Muscular disease (ALT/AST)
- Osteolytic disease/bone (ALP)



#### **Consider performing**

- Spec cPL® Test/Spec fPL® Test
- Diagnostic imaging
- Endocrine testing

## Investigate underlying hepatobiliary disease



#### **Possible causes**

- Inflammation (chronic hepatitis, cholangiohepatitis)
- Infection (leptospirosis, bacterial cholangiohepatitis)
- Toxicity (NSAID, phenobarbital, sago palm)
- Vascular anomaly (portosystemic shunt, microvascular dysplasia)
- Neoplasia (primary or metastatic)
- Cholestatic liver disease
  - Lipidosis
  - Vacuolar hepatopathy
- Cirrhosis
- Biliary disease
  - Mucocoele
- Cholelith
- Biliary neoplasia
- Cholecystitis
- Breed-related increase (Maltese)

#### Consider performing

- Coagulation profile (PT/aPTT)
- Ammonia
- Diagnostic imaging
- Cytology
- Biopsy
  - Special testing as indicated (liver copper concentrations, liver culture)
- · Infectious disease testing

The information contained herein is 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. Diagnosis and treatment decisions are the ultimate responsibility of the primary care veterinarian.



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