



## PATIENT

Timothy Scotter

## SPECIES

Canine

## BREED

Bichon Frise Mix

## SEX

MN

## AGE

13 years 3 months

## WEIGHT

20.8 lbs

## INTERPRETED BY

Beth Johnson, DVM  
DACVIM

## IMAGING PERFORMED BY

Dr. Lucas Budden

## HOSPITAL NAME

Frontier Veterinary  
Hospital

## REFERRING VET

Dr. Lucas Budden

## INVOICE

11699

## DATE

4/14/2026

## PRESENTING CLINICAL SIGNS

Chronic ALP elevation. Ultrasound to assess liver/GB for cause. Current medications:none.

Abnormal PE/Chem/CBC/UA Results: Physical exam: BCS 7/9, pot belly appearance, multiple SC masses on ventrum (palpate as lipomas), possible hepatomegaly on abdominal palpation, moderate dental tartar, grade 2/6 left systolic HM, normal peripheral LNs Lab work: senior panel 8/18/25 ALT high to 97, ALP high 1425, Glucose high 146, Triglyceride high 553, PSL high at 192, Remainder of CBC/CHEM normal, Thyroid normal 1.5, Urine collection: natural voiding USG 1.044, Protein 3+, pH 5, Calcium oxalate crystals 11-20, Squamous epithelia 0-1, Fecal negative, Accuplex all negative CBC/Chem/fecal 3/19/26 ALT high 243, ALP high 1746, Platelet count high 409, Remainder of CBC/CHEM normal, Fecal negative.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses are observed. There appears to be a moderate to large amount of mineral/sand debris extending along the inner dependent wall into the proximal urethra. Reassessment of a fully distended urinary bladder is recommended. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. In the face of urinary signs and/or suspected urinary bladder pathology, reassessment after complete filling is recommended.

Prostate is normal in size, echotexture, and echogenicity for a neutered male.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. Pinpoint non-obstructive mineral densities are noted bilaterally, as well as small cortical cysts noted bilaterally. There is no evidence of pyelectasia or infarcts observed. Left kidney measures 5.0 cm, and the right kidney measures 5.2 cm.

### Adrenal Glands

The right adrenal gland is normal in size (0.5 cm at cranial pole and 0.5 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.6 cm at cranial pole and 0.7 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

### Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

### Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mildly heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.



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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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### Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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The visible small intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction or foreign material. The speckling is most significant in the duodenum where it takes on an almost lymphangiectasia appearance characterized by hyperechoic striations perpendicular to the lumen.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

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### Pancreas

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

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### Free Abdomen

There is no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

## PRIMARY FINDINGS

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- Mucosal speckling – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state. Within the duodenum, small bowel findings are most consistent with lacteal dilation. These findings can be observed with protein-losing enteropathies caused by either primary lymphangiectasia or primary infiltrative inflammatory disease with secondary lymphangiectasia. Infiltrative neoplasia is possible but considered less likely. Histopathology is necessary to definitively determine underlying cause.

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- Concurrent chronic low grade smoldering pancreatitis can't be ruled out and should be suspected in the face of appropriate clinical signs.
- Mildly heterogenous liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

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- Moderately gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial



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abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

## SECONDARY FINDINGS

- Moderate age-related kidney changes with bilateral cortical cysts and punctate non-obstructive nephroliths.
- Urinary bladder mineral/sand debris.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If not recently evaluated urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

Differentials for a primary cholestatic liver enzyme pattern (increased ALP) are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism as well as many chronic non-hepatobiliary diseases such as chronic infections/inflammation from dental disease, IBD, neoplasia, hyperlipidemia, hypothyroidism, chronic pancreatitis, chronic stress, etc.

- Adrenocortical testing such as a low dose dexamethasone suppression test could be considered if clinical signs of hyperadrenocorticism are present.
- Given the gallbladder debris described above, empirical hepatic nutraceuticals, including ursodiol, could be considered while monitoring for improvement.
- A fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate.
- Otherwise, recommendations include addressing any other concurrent disease and monitoring. If values are progressive, recheck imaging is recommended.

The gastrointestinal track changes are of unknown, if any relation to the reported liver enzymes and should be interpreted in combination with any clinical history of gastrointestinal signs including unintentional weight loss, vomiting, diarrhea, etc.

A routine fecal/giardia exam is recommended if not recently evaluated.

A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.



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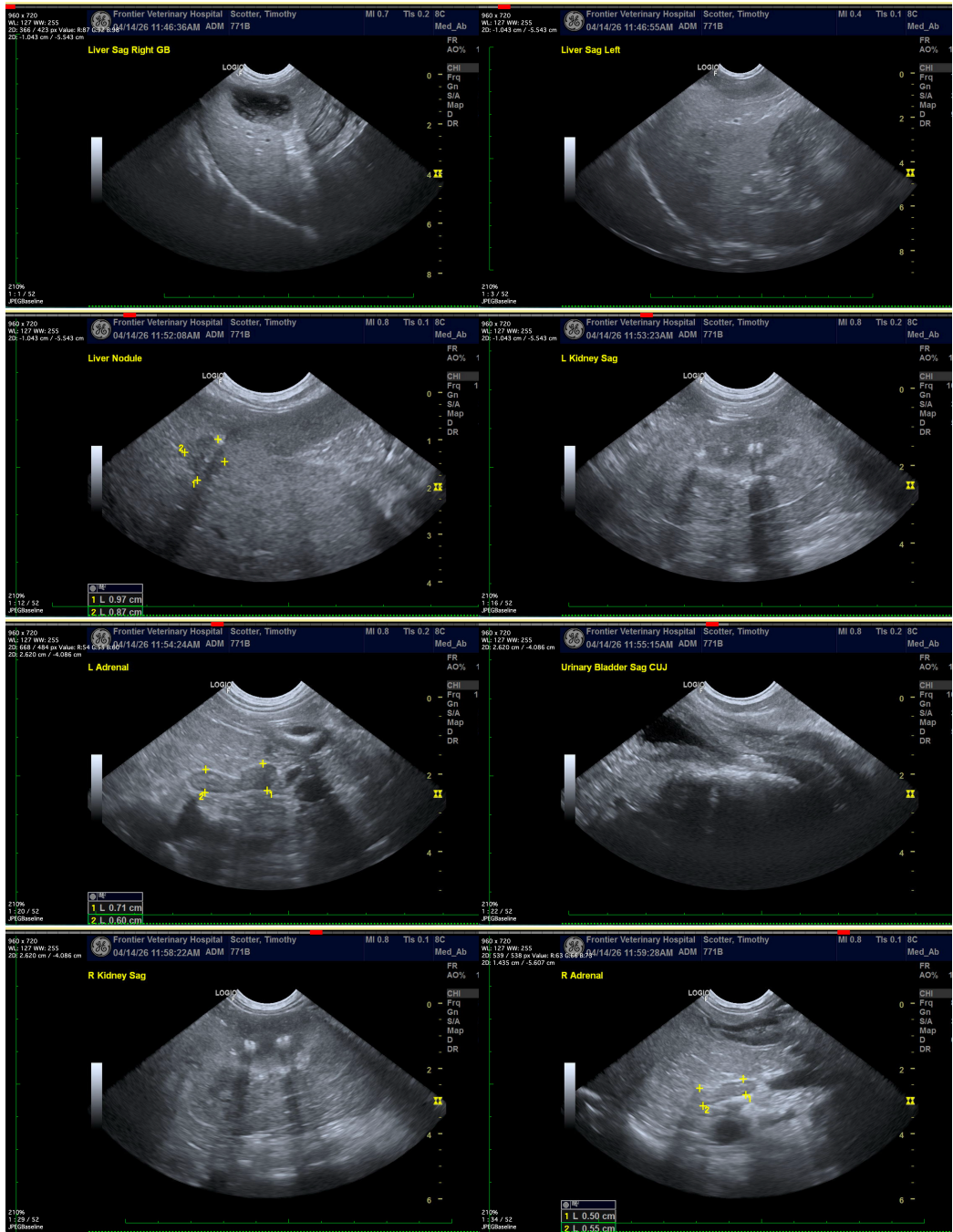
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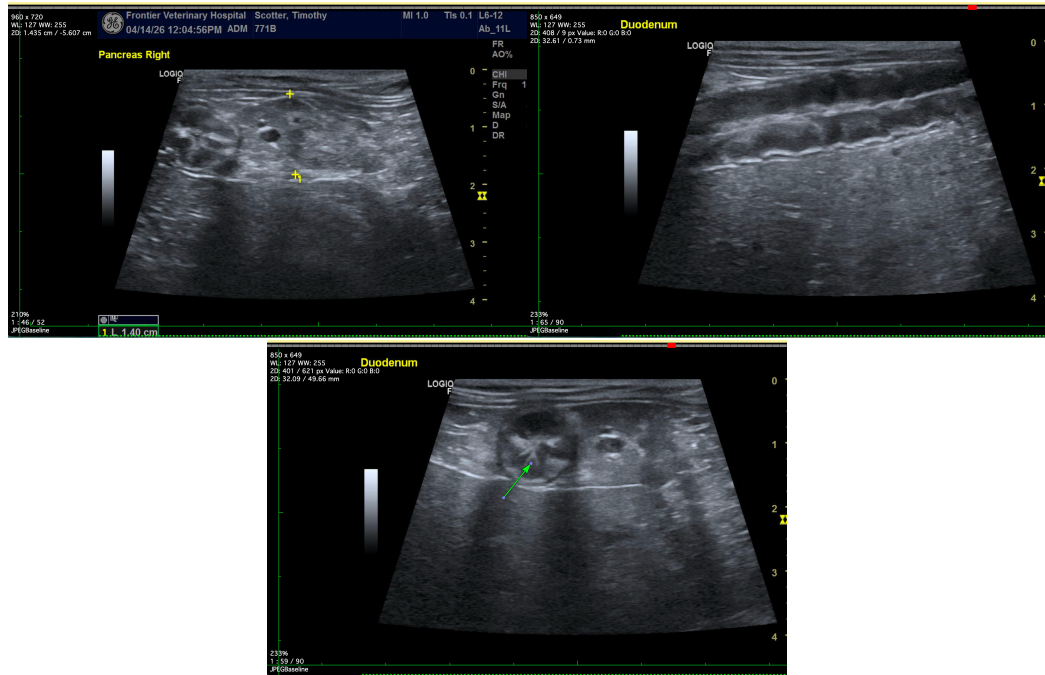
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Beth Johnson, DVM, DACVIM  
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