



## PATIENT

Zoe Schaap

## SPECIES

Canine

## BREED

Terrier Mix

## SEX

Spayed female

## AGE

10 years

## WEIGHT

8 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Ashley Whitesell

## HOSPITAL NAME

Dickson AC

## REFERRING VET

Dr. Hovis

## INVOICE

68303

## DATE

11/4/25

## PRESENTING CLINICAL SIGNS

History: 10-31-2025 3:57:26am Increased Liver Enzymes 11-02-2025 4:03:13am At Grace Animal Hospital was 38 10-14-2021 and now 330 therefore postpone dental and start denamarin small medium advanced 1/4 once a day amoxicillin 100mg 1/2 and enrofloxacin 22.7mg 1/2 Will have fluoxetine 10mg and gabapentin 100mg on board

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction and appeared normal. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 3.4 cm. The right kidney measured 3.44 cm.

### Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.43 cm at the cranial pole and 0.31 cm at the caudal pole. The left adrenal gland measured 0.47 cm at the caudal pole and 0.35 cm at the cranial pole.

### Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

### Liver

The **liver** was slightly subnormal, yet no vascular anomalies were noted. Some age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt



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evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

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### ***Gastrointestinal***

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

## SEX

Spayed female

### ***Pancreas***

## AGE

10 years

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

## WEIGHT

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### **ULTRASONOGRAPHIC FINDINGS**

- Structurally unremarkable abdomen and structurally unremarkable liver.

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the liver enzyme elevations this is considered a reactive hepatopathy. If dental disease is significant this may be reactive hepatic state. FNA of the liver from an intercostal approach SDEP 9 or 10 position would be optimal for this patient as the liver size is slightly subnormal. There is no contraindication to anesthetic procedure based on the sonographic presentation.

## IMAGING PERFORMED BY

Ashley Whitesell

The hepatic clinical sonographic presentation is most consistent with Reactive Hepatopathy which is the most common cause of liver enzyme elevation in dogs and cats. The presumption is that gut and other organ antigen stimuli may be causing a low-grade immune response through portal system with which the liver is reacting to causing low-grade enzyme elevations. US-guided FNA could be performed to assess if low grade lymphoplasmacytic inflammation is present that would support this theory. If FNA is performed, please ask the cytologist to emphasize the primary inflammatory cell type. Empirical treatment measures to address this issue can include diet change to hydrolyzed diet, probiotics, deworming, nutraceuticals (SAME, Actigall...), dental exam and cleaning, and potentially antibiotics such as Clavamox. Metronidazole and Tylosin have traditionally been utilized for this purpose but new studies show that both these antibiotics can disrupt the normal intestinal bacterial flora (intestinal dysbiosis) for weeks and up to 4-6 months. Therefore, Metronidazole and Tylosin should be utilized as a last resort if other efforts have not been effective and sonographic organ appearance remains benign.

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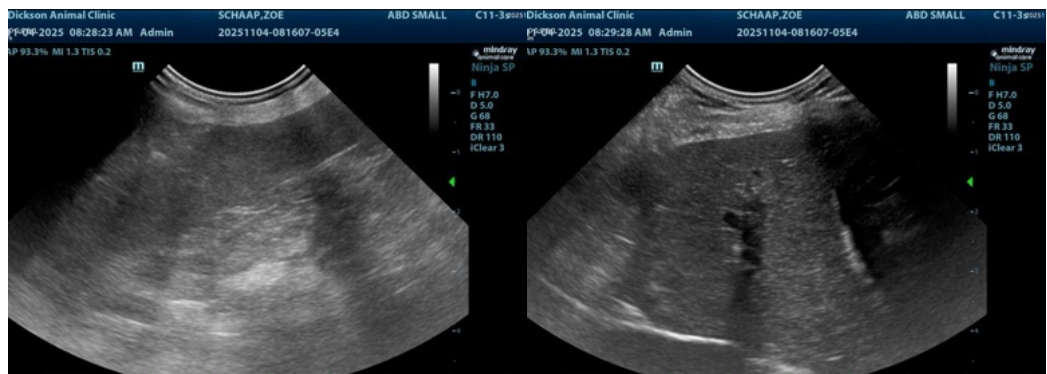
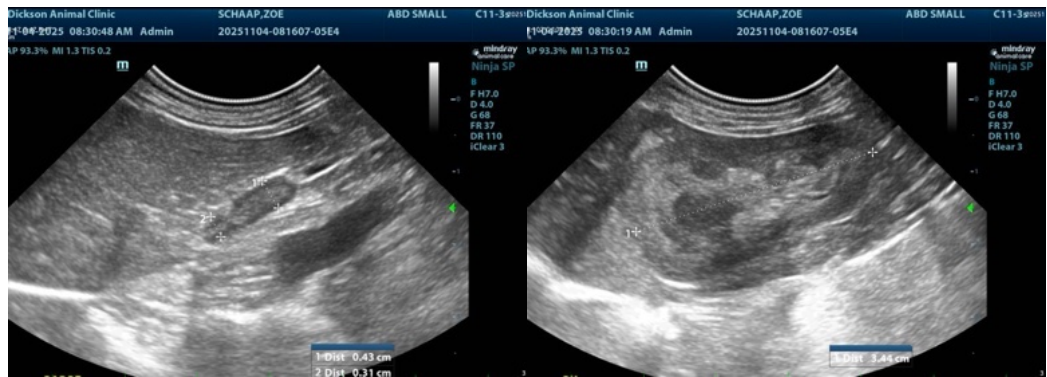
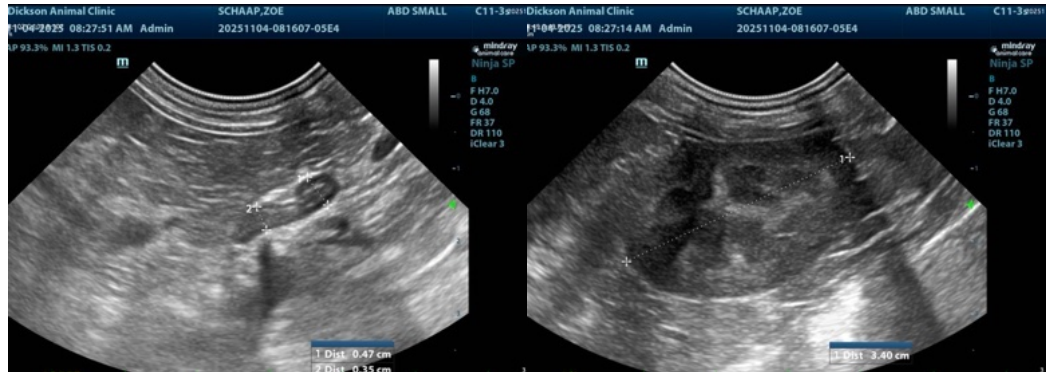
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP (CFM), Cert. IVUSS, CEO of SonoPath.com

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