



## PATIENT

Harree Carpenter

## PRESENTING CLINICAL SIGNS

## SPECIES

Canine

Patient presents for annual exam- Patient has no abnormalities noted on physical exam. BAR, mm pink, CRT <2sec, heart and lungs auscultate WNL, mild dental disease. EENT WNL. Patient is eating and drinking normally. No vomiting or diarrhea. No weight loss. Laboratory findings showed a mild elevation in ALT 664, Alkphos 172,

## BREED

Dachshund

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

## SEX

Neutered Male

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

## AGE

14 Years

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. There is no evidence of pyelectasia, mineral or infarcts observed. The right kidney measures 4.68 cm. An approximately 1.0 cm cortical cyst is noted in the caudal pole of the right kidney. The left kidney measures 4.3 cm with an approximately 1.0 cm cortical cyst.

## WEIGHT

15.6 Pounds

### Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 0.62 cm at the cranial pole and 0.60 cm at the caudal pole. The left adrenal gland measures 0.62 cm at the cranial pole and 0.71 cm at the caudal pole.

## INTERPRETED BY

Beth Johnson, DVM  
DACVIM

### 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). A 0.7-0.8 cm hypo- to anechoic lesion/nodule is noted near the head of the spleen, non-capsule disrupting. Splenic vasculature appears normal.

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

### Liver

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

## HOSPITAL NAME

Desert Hills AH

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.

## REFERRING VET

Dr. Michelle Caldwell

### Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

## INVOICE

42794

## DATE

11/15/22



## PATIENT

Harree Carpenter

## SPECIES

Canine

## BREED

Dachshund

## SEX

Neutered Male

## AGE

14 Years

## WEIGHT

15.6 Pounds

## INTERPRETED BY

Beth Johnson, DVM  
DACVIM

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

## HOSPITAL NAME

Desert Hills AH

## REFERRING VET

Dr. Michelle Caldwell

## INVOICE

42794

## DATE

11/15/22

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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

### **Pancreas**

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

### **Free Abdomen**

There is no evidence of free peritoneal effusion noted in these images.

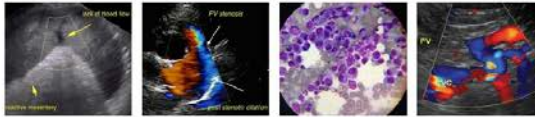
There is no apparent lymphadenopathy noted in these images.

## PRIMARY FINDINGS

- **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.
- **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 abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- **Hyperechoic pancreas** – This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.
- **Mild bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

## SECONDARY FINDINGS

- Age related kidney changes with bilateral cortical cysts
- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.



**PATIENT**

Harree Carpenter

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**SPECIES**

Canine

This patient does have ultrasonographic changes that can be seen with hyperadrenocorticism. However, the liver enzyme pattern elevation is more consistent with a hepatocellular injury than liver enzyme changes seen solely with hyperadrenocorticism. That combined with a lack of reported clinical signs for hyperadrenocorticism makes testing and/or treatment at this time unnecessary. If clinical signs develop in the future, then further evaluation for possible hyperadrenocorticism could be considered.

**BREED**

Dachshund

In the meantime, bile acids are recommended if total bilirubin is normal. Testing for Leptospirosis is recommended. A fine needle aspirate of the liver could be considered for further evaluation of inflammatory cell type, looking for evidence of infiltrative neoplasia, etc. Given the hyperechoic pancreas, other diagnostic considerations could include A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory.

**SEX**

Neutered Male

In the meantime, empirical management with hepatic nutraceuticals +/- broad-spectrum antibiotics could be considered with monitoring for improvement. If liver enzymes improve, antibiotics should be continued until they either plateau or normalize. However, without obvious improvement, antibiotics should not be continued long-term.

**AGE**

14 Years

**WEIGHT**

15.6 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING BY**

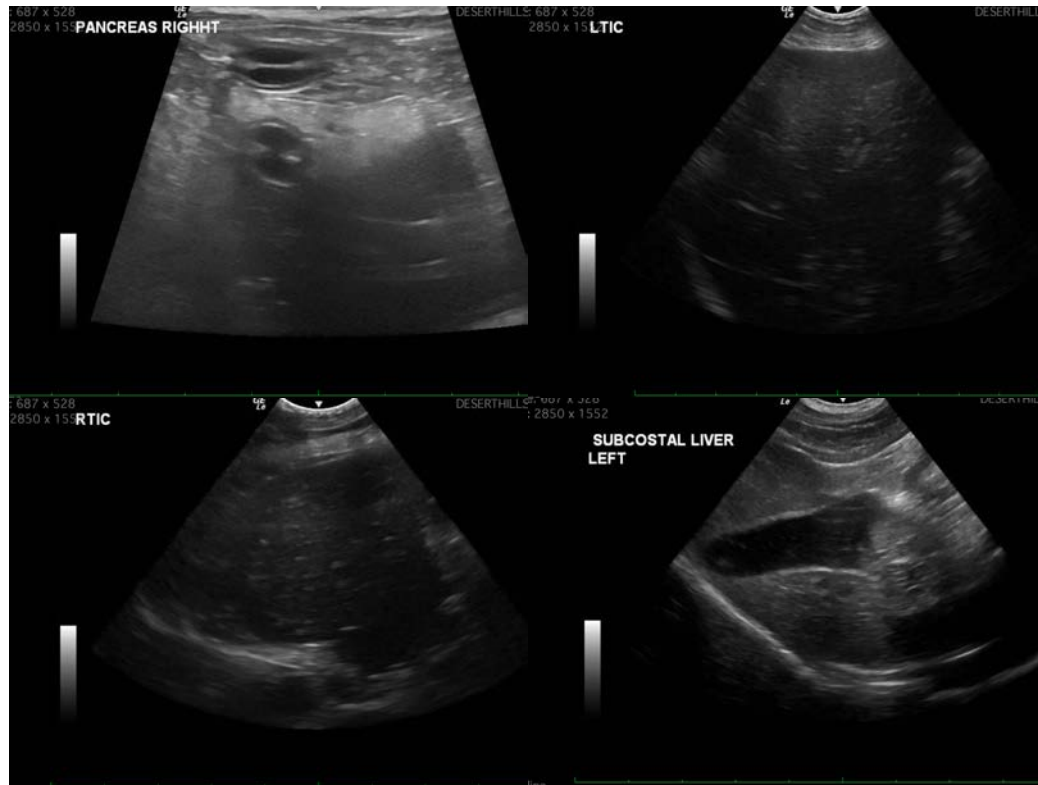
Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Desert Hills AH

**REFERRING VET**

Dr. Michelle Caldwell



**INVOICE**

42794

**DATE**

11/15/22



**PATIENT**

Harree Carpenter

**SPECIES**

Canine

**BREED**

Dachshund

**SEX**

Neutered Male

**AGE**

14 Years

**WEIGHT**

15.6 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Desert Hills AH

**REFERRING VET**

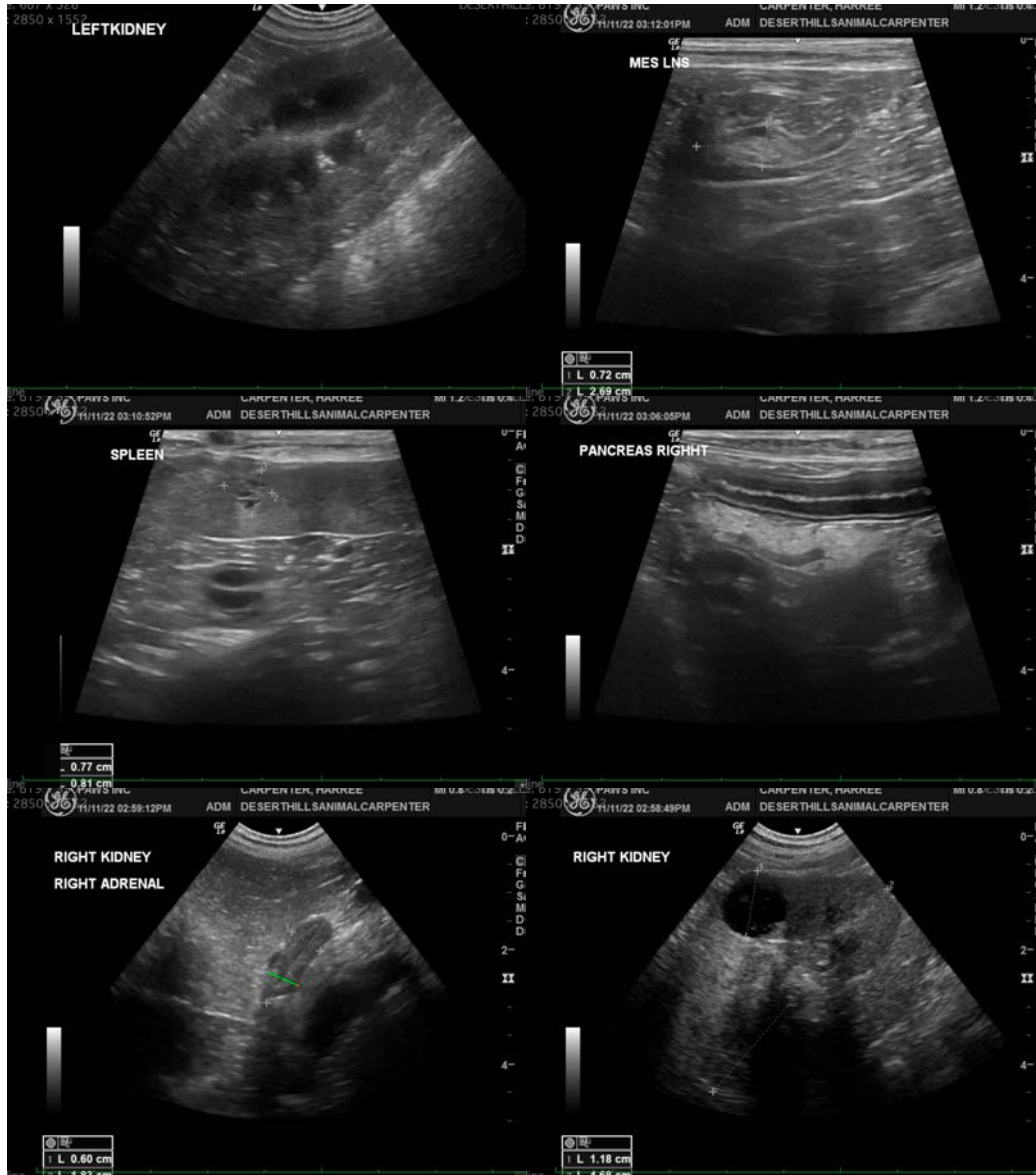
Dr. Michelle Caldwell

**INVOICE**

42794

**DATE**

11/15/22





**PATIENT**

Harree Carpenter

**SPECIES**

Canine

**BREED**

Dachshund

**SEX**

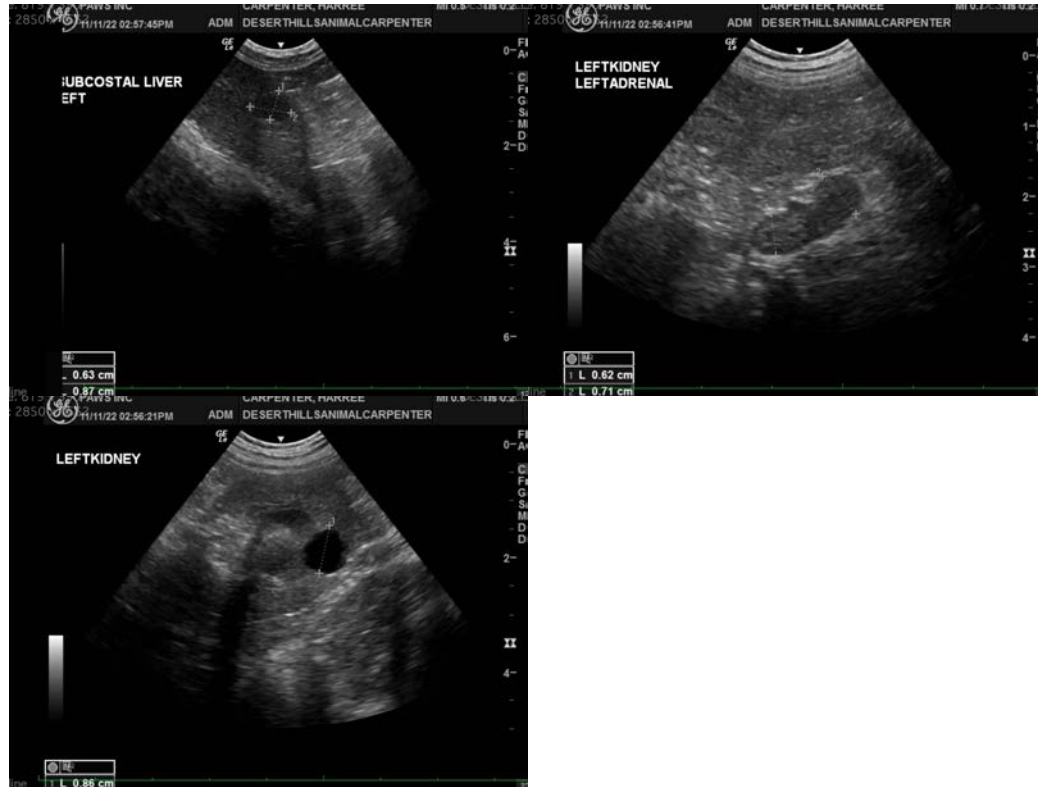
Neutered Male

**AGE**

14 Years

**WEIGHT**

15.6 Pounds



**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

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.

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

**Beth Johnson, DVM, DACVIM**  
Beth.Johnson@sonopath.com

**HOSPITAL NAME**

Desert Hills AH

**REFERRING VET**

Dr. Michelle Caldwell

**INVOICE**

42794

**DATE**

11/15/22