



## PATIENT

Dewey Bard

## PRESENTING CLINICAL SIGNS

### SPECIES

Feline

### BREED

DLH

### SEX

Neutered Male

### AGE

12 Years

### WEIGHT

7 Pounds

### INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

### IMAGING BY

Loetitia Saint-Jacques,  
LVT

### HOSPITAL NAME

Donner Truckee VH

### REFERRING VET

Dr. Jen Anderle

### INVOICE

37487

### DATE

5/6/22

Reason for Visit: Ultrasound Presenting for AUS. Summary for Loetitia: 12.5 yo MN DLH presented yesterday for diarrhea for the past week with some blood in it yesterday. One episode of vomit a few days ago. Had a normal appetite until yesterday morning. O has been trying to feed a bland home cooked diet and has been adding an otc probiotic which she says helped for a little while. Slightly more lethargic. O doesn't think Dewey wouldve eaten anything in the house that he shouldn't have. He had has some nasal congestion recently. COHAT in Jan 2022. Hx occasional nasal congestion and hx mycoplasma infection per O. Indoor. On cosequin and some herbal drops per O. Rx'd SQ LRS, Cerenia, Metronidazole, Hills feline i/d canned yesterday. BW from 5/5/22: CBC: HCT 47.2%, WBC 16.89, Neu 9.52, Lym 2.38, Mono 0.77 (H), Eos 3.86 (H), PLT 128 (L - likely from plt clumping). Chem: Glu 110, Creat 1.5, BUN 20, Phos 4.4, TP 5.8, Alb 2.2 (L), Glob 3.6, ALT 36, ALKP 63, Amyl 471 (L). SDMA: 17 (H). TT4: 2.0 PE: 10-12% dehydrated, only a few teeth remaining following COHAT jan 2022, moderate halitosis, mild nasal congestion BCS 4/9, no other significant findings. 1) Diarrhea for one week, blood present over past 24h r/o IBD vs other inflammatory r/o dietary indiscretion r/o GI parasitism vs other infectious r/o neoplasia 2) Vomited once this week r/o gastroenteritis secondary to dietary indiscretion vs secondary to IBD vs other infectious vs inflammatory r/o neoplasia 3) Hx dental disease and recent COHAT - Halitosis persistent r/o dental abscess vs unhealing extraction site 4) Hx occasional upper respiratory congestion - present today r/o herpesvirus vs other infectious vs allergic 5) Eosinophilia r/o secondary to parasitic infection vs allergic vs eosinophilic IBD 6) Early CKD (IRiS stage 1/4) 7) 10-12% dehydrated r/o secondary to A1 and A2

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A trivial amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass. The proximal urethra measures 0.22 cm.

### Kidneys

The **left** kidney measures 3.37 cm (3.80-4.40 cm). The capsule is smooth. The cortex is mildly hyperechoic and a mild to moderate loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. The surrounding mesentery is mildly to moderately hyperechoic.

The **right** kidney measures 3.32 cm (3.80-4.40 cm). Findings are similar to the left kidney.

### Aortic bifurcation/trifurcation

No abnormalities observed.

### Adrenal Glands

The **left** adrenal gland measures 0.30 cm at the cranial pole and 0.23 cm at the caudal pole. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.



Portable Animal Veterinary Sonography, Inc.

IMAGING PERFORMED BY  
pawsonography@gmail.com 530-786-8340

## PATIENT

Dewey Bard The **right** adrenal gland measures 0.48 cm at the cranial pole and 0.27 cm at the caudal pole.

The cranial pole is mildly rounded and plump however an obvious mass or nodule is not observed. No abnormalities are noted with the gland's overall echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

## SPECIES

Feline **Spleen**

The spleen is within normal limits in size 7.1 mm (normal = 10 mm), echotexture, and echogenicity. Pinpoint hyperechoic foci are dispersed throughout the parenchyma; these are attributed to mineralization. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

## BREED

DLH

## Liver

There are no obvious signs of hepatomegaly. The liver's borders are smooth, but mildly rounded. Its echotexture is homogeneous, however, it is diffusely hyperechoic, i.e. it is isoechoic to the falciform fat. Focal lesions are not observed. No obvious abnormalities are noted with the hepatic vessels.

## SEX

Neutered Male

## AGE

12 Years

The gallbladder wall is mildly thickened (1.6 mm) and hyperechoic. A small amount of echogenic material is present within the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction. The duodenal papilla is mildly to moderately prominent and measures 0.59 cm.

## WEIGHT

7 Pounds

## Gastrointestinal

The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

## INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

The duodenum at the level of the duodenal papilla measures 0.26 cm. Subjectively, the submucosa and muscularis are more prominent than usual.

The small intestinal wall thickness varies between the normal reference range to thicker than normal, i.e., between 0.24 cm to 0.31 cm. Although the definition of the wall layers is preserved, the submucosa and muscularis layers are thicker than usual and the intestines appear "corrugated" at times. The muscularis layer also shows signs of fogging. The mesentery surrounding the small intestines is moderately to severely hyperechoic. Abnormally dilated loops of bowel are not observed.

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

Region of the ileo-cecal-colic junction (ICC junction): The submucosa and muscularis layers of the small intestines are also more prominent to mildly thickened. No abnormalities are observed with the ICC junction per se. The region surrounding the ICC junction is mildly hyperechoic compared to normal.

## HOSPITAL NAME

Donner Truckee VH

The colonic wall is not thickened and mural detail is considered normal.

## REFERRING VET

Dr. Jen Anderle

## Pancreas

The left limb is mildly hypoechoic. It also has a mildly coarse echotexture, consisting of hypoechoic nodules and ill-defined hypoechoic patches of variable size and punctate, hyperechoic foci, scattered throughout the parenchyma. The surrounding mesentery is mildly to moderately hyperechoic. Signs are suggestive of active pancreatitis. Overt changes consistent with neoplasia are not appreciated.

## INVOICE

37487

## DATE

5/6/22



Portable Animal Veterinary Sonography, Inc.

## PATIENT

Dewey Bard The body is mildly hypoechoic. It is mildly to moderately heterogeneous, with hypoechoic nodules of various sizes, as well as hyperechoic foci, scattered throughout the parenchyma. The surrounding mesentery is mildly to moderately hyperechoic. Signs are suggestive of active pancreatitis. Overt changes consistent with neoplasia are not appreciated.

## SPECIES

Feline No overt abnormalities are observed with the echogenicity or echotexture of the right limb. That is, signs of active pancreatitis are not appreciated.

## BREED

Other

## DLH

### Lymph nodes

Lymphadenomegaly of the mesenteric lymph nodes, one of which is hypoechoic with ill-defined hyperechoic areas and irregular contours. It measures 1.64 cm in diameter by 3.92 cm in length. Another mesenteric LN measures 1.10 cm, which is enlarged and it is also hypoechoic compared to normal.

## SEX

Neutered Male The mesentery surrounding the lymph nodes is moderately to markedly hyperechoic. Two other LNs are noted, one of which is hypoechoic, measuring 0.91 cm in diameter. The other is very round and mildly heterogeneous, with areas of increased echogenicity. It measures 1.19 cm in diameter x 1.22 cm in length.

## AGE

12 Years

### Abdominal effusion

A scant amount of anechoic fluid is visualized amongst loops of bowel.

## WEIGHT

7 Pounds

### Heart

A short video clip of the heart (long axis) does not show signs of pericardial or pleural effusion. There is no obvious cardiac dilation or hypertrophy, however, the left atrium appears decreased in size, which is consistent with hypovolemia and severe dehydration observed on physical exam.

## INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

## ULTRASONOGRAPHIC FINDINGS

- The intestinal changes observed are consistent with severe inflammation. Although the definition of the wall layers is preserved, if not exaggerated, one cannot exclude infiltrative disease, such as neoplasia, as the cause of the abnormalities observed. Differential diagnoses include lymphoma or mast cell tumour, both of which can cause eosinophilia. However, severe eosinophilic inflammatory bowel disease cannot be excluded. Other causes may include hypereosinophilic syndrome and Feline Gastrointestinal Eosinophilic Sclerosing Fibroplasia (FGESF), although the latter is quite uncommon.
- Lymphadenomegaly may be due to infiltrative disease associated with neoplasia or severe reactive hyperplasia.
- The pancreatic changes noted with the left limb and body are suggestive of nodular hyperplasia and fibrosis. Fibrosis may occur due to age-related changes, secondary to previous episodes of pancreatitis, as well as amyloid deposition. Their overall echogenicity is hypoechoic, however, and the surrounding mesentery is hyperechoic,

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

## HOSPITAL NAME

Donner Truckee VH

## REFERRING VET

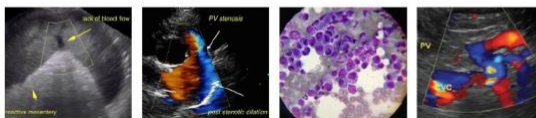
Dr. Jen Anderle

## INVOICE

37487

## DATE

5/6/22



## PATIENT

Dewey Bard therefore, a mild, “smoldering” pancreatitis cannot be excluded. Overt signs of neoplasia are not appreciated.

## SPECIES

Feline

- The mild, but diffuse hyperechogenicity of the liver is likely due to hepatic lipidosis secondary to hyporexia. However, cholangitis/cholangiohepatitis, may be contributing to the hyperechogenicity and Dewey’s history clinical signs.

## BREED

DLH

- The gallbladder wall is mildly thickened and hyperechoic. Cholecystitis cannot be excluded based on these findings, in conjunction with the hepatic changes.
- Based on the above findings, severe “triaditis” cannot be excluded.

## SEX

Neutered Male

- The left atrium appears decreased in size, which is consistent with hypovolemia and severe dehydration observed on physical exam.

## AGE

12 Years

- Mild to moderate renal changes are present, which are suggestive of age related degeneration. Pyelonephritis is considered less likely, but cannot be excluded.
- The splenic changes are attributed to mineralization, which is not considered clinically significant.

## WEIGHT

7 Pounds

- Platelet clumping is the likely cause of the mild thrombocytopenia observed on the CBC.
- The mildly prolonged PTT on the coagulation profile may be due to Hageman factor (factor XII) deficiency, which does not cause clinical hemorrhage. Evaluation of the individual coagulation factors may be performed at Cornell University Diagnostic Laboratory.

## INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Fine needle aspirates of the enlarged lymph nodes are recommended. Administration of vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) is suggested due to the results of the PT/PTT (although the prolonged PTT is most likely due to a Hageman factor deficiency).

If the fine needle aspirates are inconclusive, full thickness gastrointestinal biopsies or endoscopy and biopsies of the upper and lower GI tract are likely required to obtain a definitive diagnosis. Immunohistochemistry and PARR may also be required.

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

## HOSPITAL NAME

Donner Truckee VH

Treatment for dehydration and pancreatitis is recommended, including intravenous fluids and analgesics, such as buprenorphine, as well as supportive care, such as maropitant. Constant rate infusions of analgesics may be necessary depending on Dewey’s response to buprenorphine alone.

## REFERRING VET

Dr. Jen Anderle

Subcutaneous fluids may be required at home for a few days or every few days.

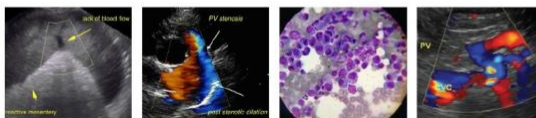
Other diagnostic tests that may be considered, depending on the results of the above, include the following:

## INVOICE

37487

## DATE

5/6/22



## PATIENT

Dewey Bard A TLI, vitamin B12, and folate may be performed as cats suffering from IBD and pancreatitis may suffer from cobalamin deficiencies and exocrine pancreatic insufficiency. If the test is cost prohibitive, supplementation with vitamin B12 is suggested.

## SPECIES

Feline Cholestasis, cholangitis/cholangiohepatitis cannot be excluded, despite the absence of abnormalities with liver enzyme activities on blood work. Secondary ascending bacterial infections are common. Although indiscriminate use of antibiotics is not normally recommended, one could start treatment with a broad-spectrum antibiotic.

## BREED

DLH To avoid oral antibiotics due to Dewey's anorexia, an injection of cefovecin (Convenia) may be tried (not ideal, but it avoids the GI tract). Discussion with the client that this is not necessarily an ideal drug is suggested, however. If an improvement is observed, at least 2 additional doses are recommended 10-12 days apart.

## SEX

Neutered Male If further diagnostics are not pursued, although not ideal, empirical treatment for lymphoma or severe inflammatory bowel disease is suggested. For example, deworm Dewey with a dewormer (if he goes outdoors or lives with pets that go outdoors), and prednisolone (1 mg/kg/day), and then tapered to the minimum effective dose.

## AGE

12 Years A hypoallergenic diet is suggested, however, it may not have to be changed immediately and it should not be changed if he is eating well (to avoid food aversion). However, his weight, body condition and muscle condition scores should be monitored to avoid cachexia and sarcopenia.

## WEIGHT

7 Pounds The evaluation of the blood pressure, ideally in the presence of the client to minimize the effects of stress.

A urinalysis (+/- urine culture and sensitivity) is recommended to exclude a urinary tract infection (+/-pyelonephritis).

## INTERPRETED BY

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

## IMAGING BY

Loetitia Saint-Jacques,  
LVT

## HOSPITAL NAME

Donner Truckee VH

## REFERRING VET

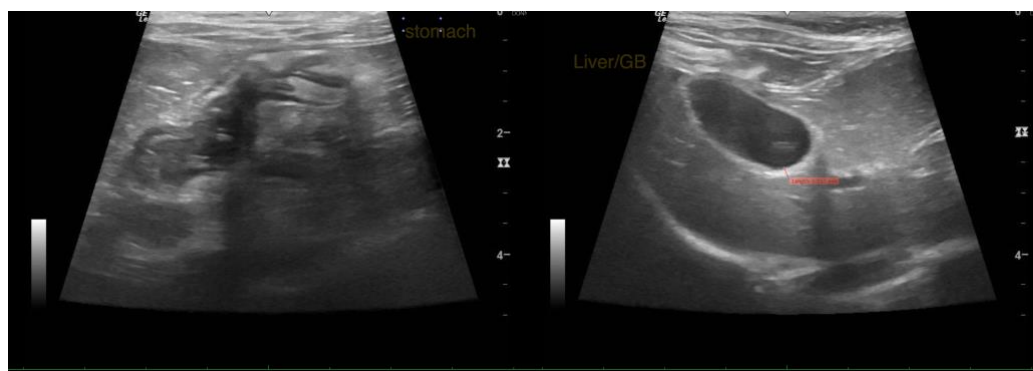
Dr. Jen Anderle

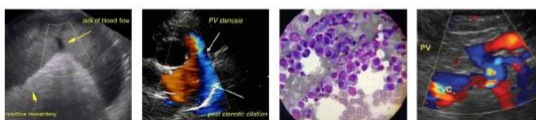
## INVOICE

37487

## DATE

5/6/22





**PATIENT**

Dewey Bard

**SPECIES**

Feline

**BREED**

DLH

**SEX**

Neutered Male

**AGE**

12 Years

**WEIGHT**

7 Pounds

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Donner Truckee VH

**REFERRING VET**

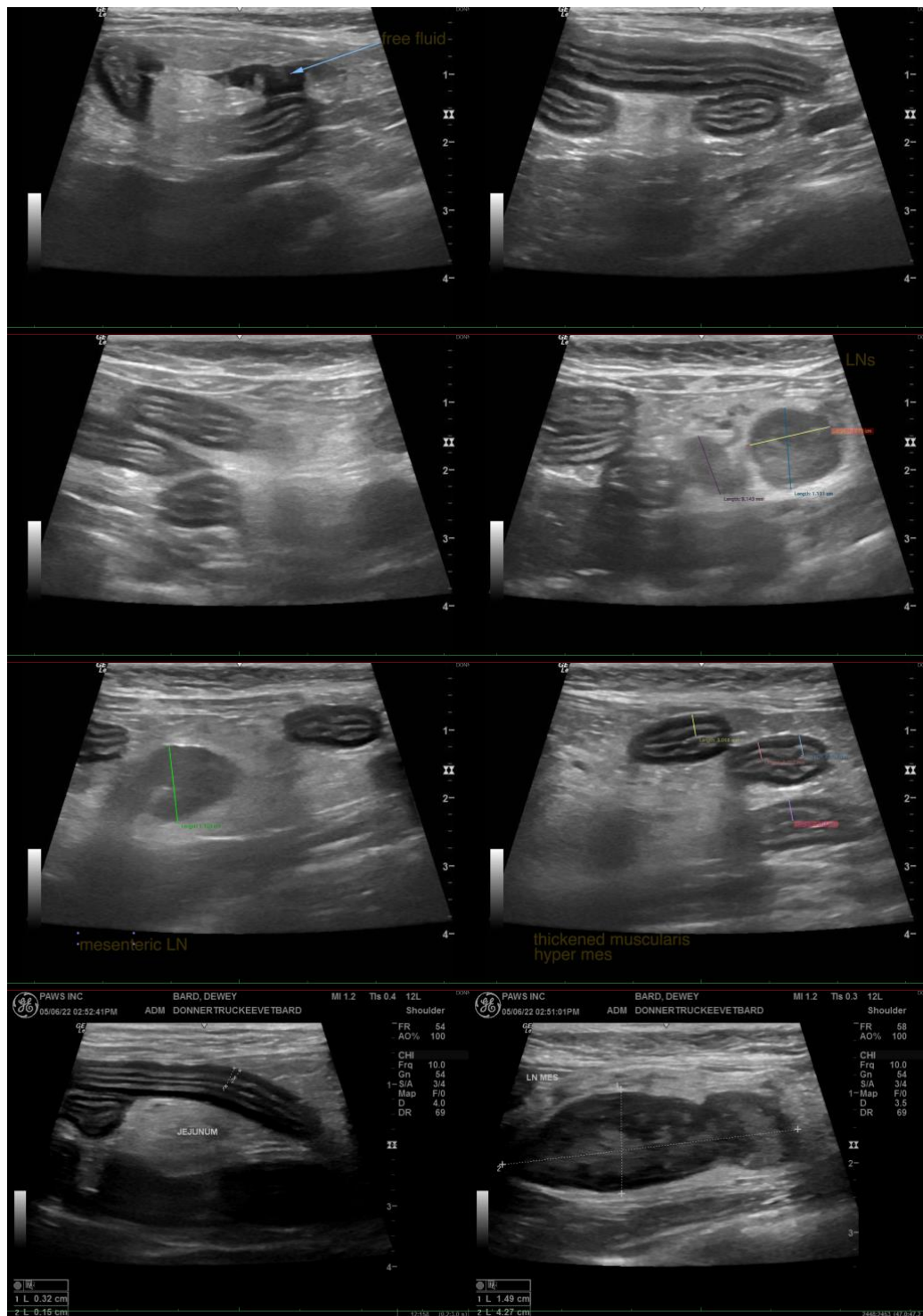
Dr. Jen Anderle

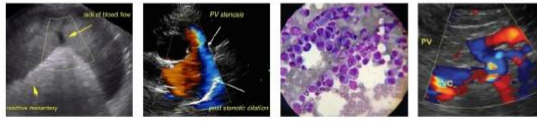
**INVOICE**

37487

**DATE**

5/6/22





**PATIENT**

Dewey Bard

**SPECIES**

Feline

**BREED**

DLH

**SEX**

Neutered Male

**AGE**

12 Years

**WEIGHT**

7 Pounds

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME**

Donner Truckee VH

**REFERRING VET**

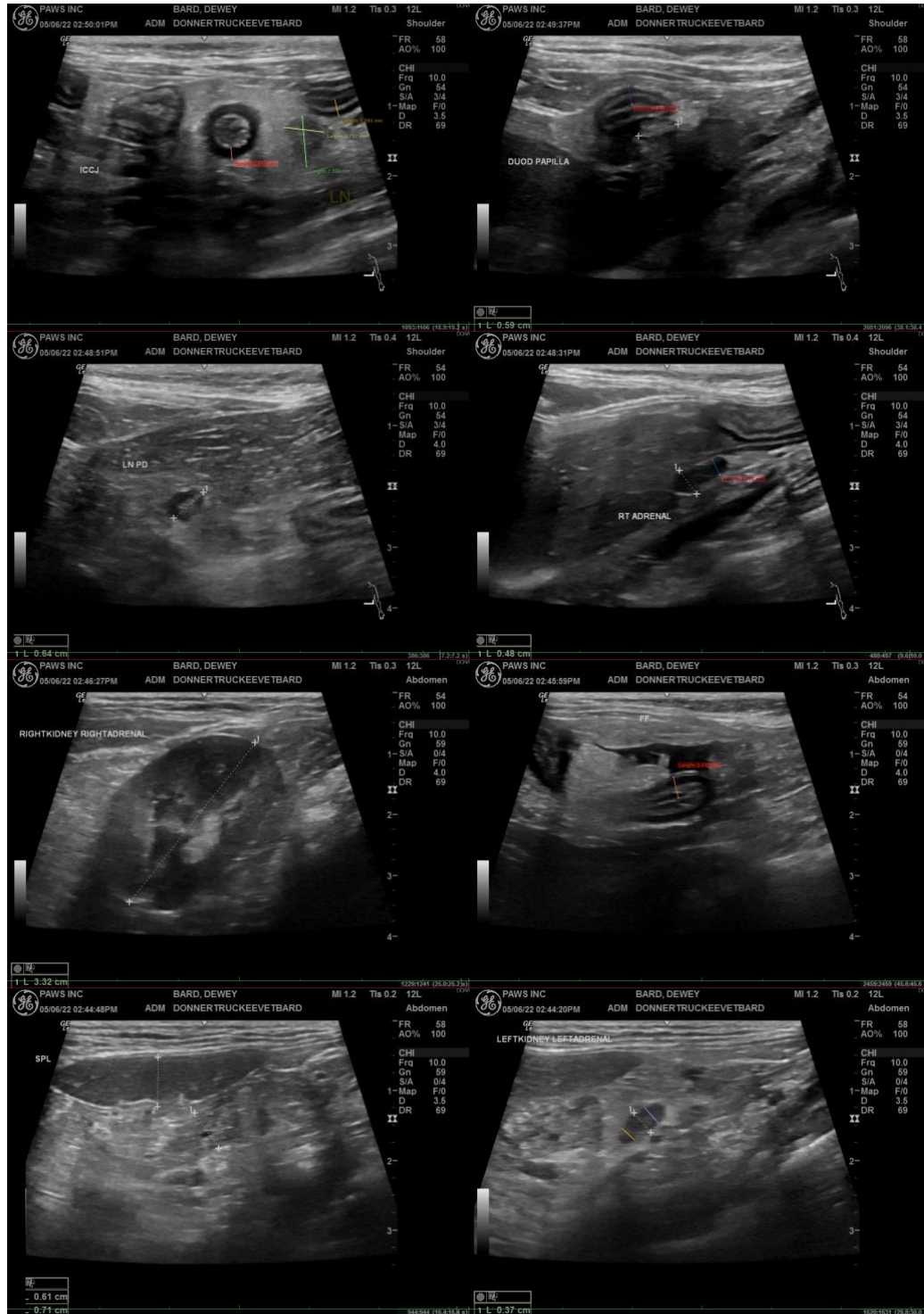
Dr. Jen Anderle

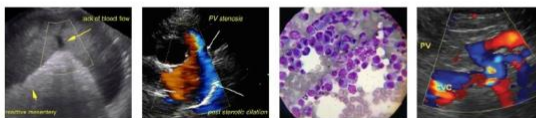
**INVOICE**

37487

**DATE**

5/6/22





Portable Animal Vascular Sonography, Inc.

IMAGING PERFORMED BY  
pawsonography@gmail.com 530-786-8340

**PATIENT**

Dewey Bard

**SPECIES**

Feline

**BREED**

DLH

**SEX**

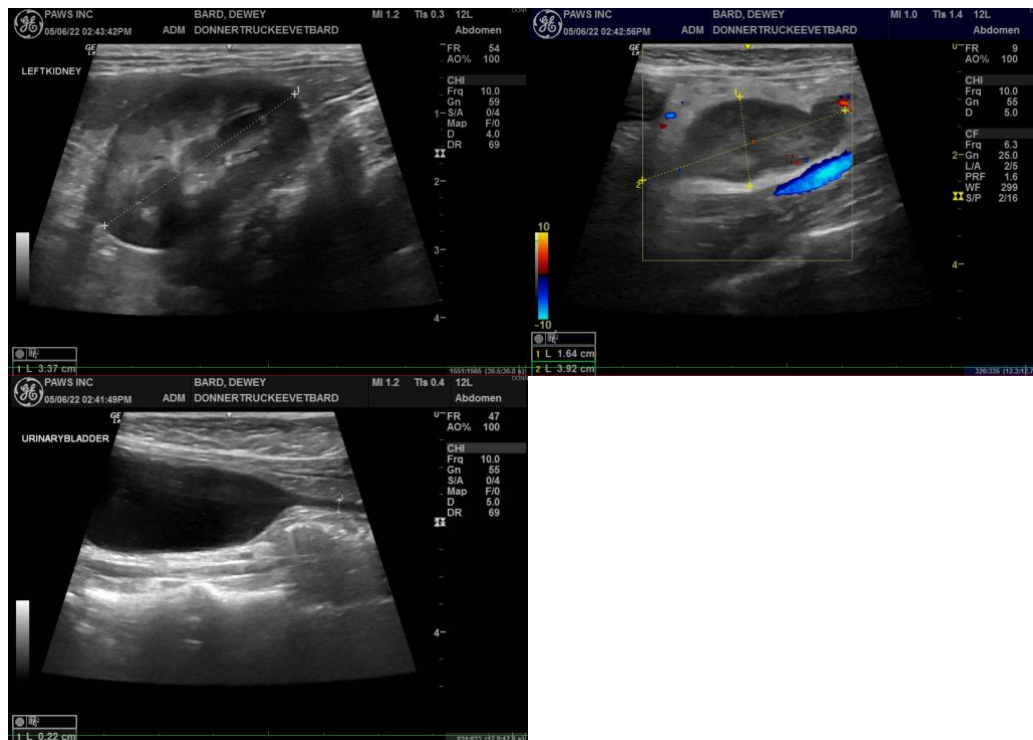
Neutered Male

**AGE**

12 Years

**WEIGHT**

7 Pounds



**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

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.

Lisa Carioto, DVM, DVSc, Diplomate AVIM

**IMAGING BY**

Loetitia Saint-Jacques,  
LVT

[Lisa.Carioto@sonopath.com](mailto:Lisa.Carioto@sonopath.com)

**HOSPITAL NAME**

Donner Truckee VH

**REFERRING VET**

Dr. Jen Anderle

**INVOICE**

37487

**DATE**

5/6/22