



## PATIENT

Ramsay Johnson

## SPECIES

Canine

## BREED

Pit Bull

## SEX

Neutered male

## AGE

6 years

## WEIGHT

129 lbs.

## INTERPRETED BY

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

## IMAGING PERFORMED BY

Rachel Runnells, RVT

## HOSPITAL NAME

SVS Imaging KC

## REFERRING VET

Dr. Breinin

## INVOICE

12880

## DATE

12/27/21

## PRESENTING CLINICAL SIGNS

Previous seizures. Was on phenobarb and keppra, then able to discontinue phenobarb. Hx of resolved liver issues at another vet. Has been stumbling when rising. Some vomiting and diarrhea in last week. Today not visual OD. Started zonisamide last week.

Abnormal PE/Chem/CBC/UA Results: ALT was 295 on 11/3/21, current bloodwork from today pending. Radiographs show spondylosis, brochointerstitial pattern, slight cardiomegaly.

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT		1.7	1.1	1.2	22.4	45.4	0.40
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	90	1.0	0.87		4.0	4.0	

## Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. Trace mitral valve Insufficiency was present. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was subnormal for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. No evidence of arrhythmia was noted.



**PATIENT**

Ramsay Johnson

**SPECIES**

Canine

**BREED**

Pit Bull

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

129 lbs.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING  
PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Breinin

**INVOICE**

12880

**DATE**

12/27/21

**Urinary System**

The urinary bladder, trigone, and cystourethral junction exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths, sediment or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 7.7 cm in length. The right kidney measured 8.1 cm in length.

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.64 cm width at the caudal pole and 0.47 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.47 cm width at the caudal pole and 0.43 cm width at the cranial pole.

**Spleen**

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

**Liver/ Gallbladder**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. Normal hepatoportal vascular volume was noted. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. Mild non-shadowing ingesta / chyme was present. This is suggestive of probable recent meal ingestion.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.



**PATIENT**

Ramsay Johnson

**Free Abdomen**

**SPECIES**

No omental masses, lymphadenopathy or peritoneal effusion were present.

Canine

**ULTRASONOGRAPHIC FINDINGS**

**BREED**

**Primary Findings**

Pit Bull

- Overtly normal cardiac structure
- Mild subnormal LV systolic function
- Trace MR / TR - not clinically significant
- Sonographically unremarkable abdomen

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

129 lbs.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of structural cardiomyopathy with mildly depressed LV function suspected to be owing to cardiovascular depressing effects of anesthesia. Ideally, cardiac assessment without anesthesia is recommended, if possible, yet given patient disposition, this may not be a consideration at this time. Assessment of systemic blood pressure is recommended. No Indication for cardiac medications based on this study.

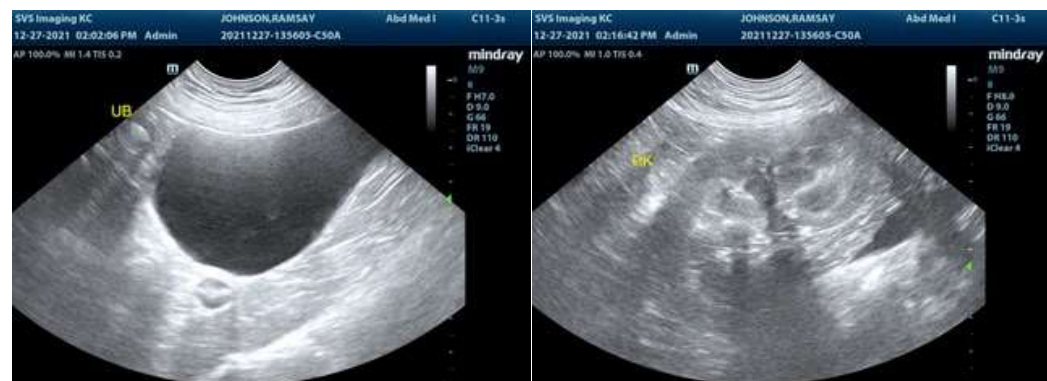
**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

No evidence of abdominal visceral pathology, specifically no evidence of significant hepatopathy or portosystemic vascular anomaly. The potential for low-grade hepatopathy, given the previous history of mild liver enzyme elevation, is possible. Correlation with pending bloodwork including T4 levels is suggested.

**IMAGING PERFORMED BY**

Rachel Runnells, RVT



**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Breinin

**INVOICE**

12880

**DATE**

12/27/21



**PATIENT**

Ramsay Johnson

**SPECIES**

Canine

**BREED**

Pit Bull

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

129 lbs.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

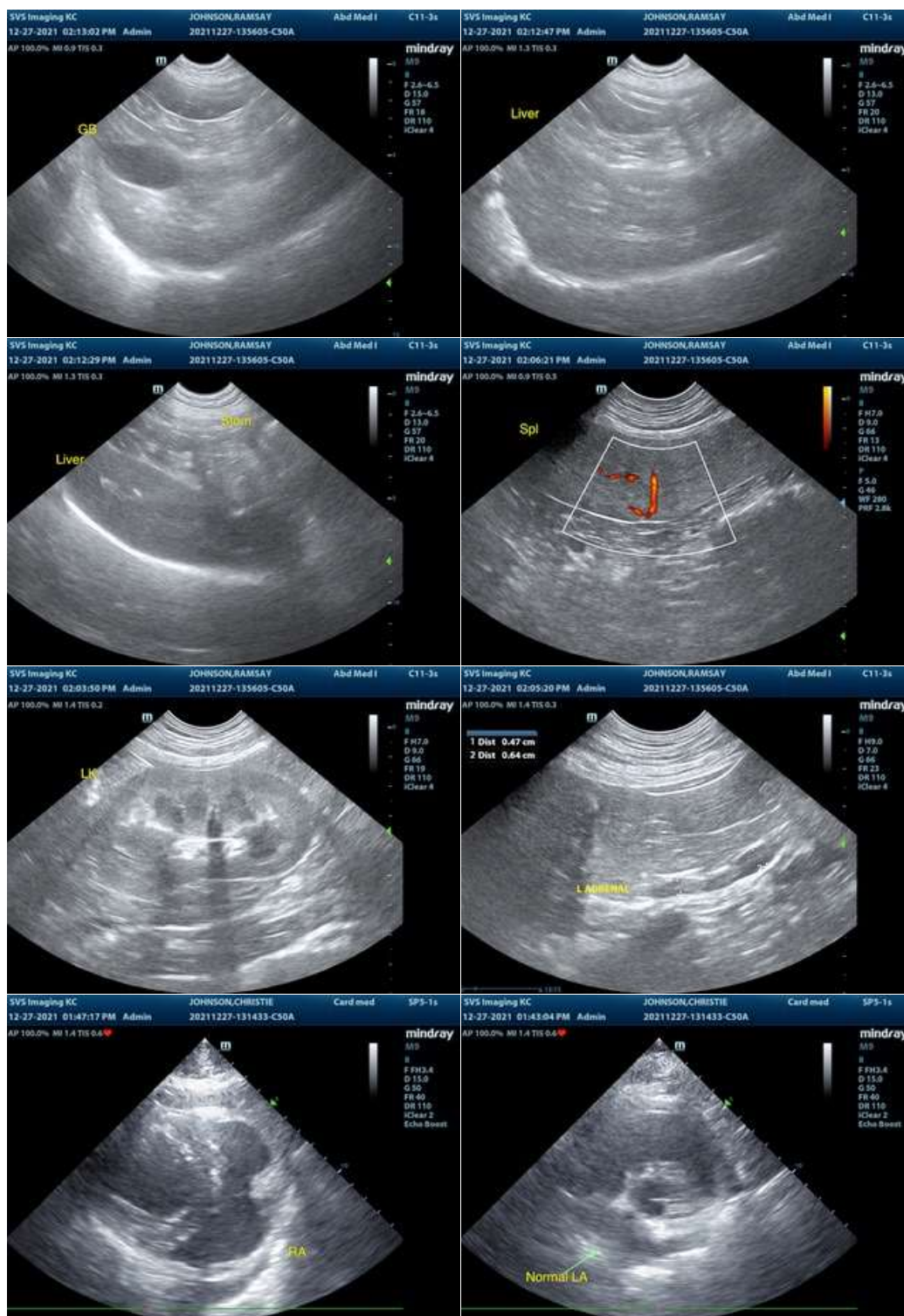
Dr. Breinin

**INVOICE**

12880

**DATE**

12/27/21





**PATIENT**

Ramsay Johnson

**SPECIES**

Canine

**BREED**

Pit Bull

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

129 lbs.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**IMAGING  
PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Breinin

**INVOICE**

12880

**DATE**

12/27/21



**The information and recommendations provided are based on the images presented by the referring veterinarian. 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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com