



PATIENT

Juicy Robinson

SPECIES

Canine

BREED

Maltese Mix

SEX

Spayed Female

AGE

12 Years 2 Months

WEIGHT

10 pounds

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP (Canine
/ Feline Practice)

IMAGING PERFORMED BY

Dr. Ken Leal

HOSPITAL NAME

Budd Lake Animal
Hospital

REFERRING VET

Dr. Welch

INVOICE

12700

DATE

12/15/25

PRESENTING CLINICAL SIGNS

Heart murmur (3-4/6) History of AlkPhos elevation Asymptomatic per owner. History of bladder stones.- Currently on Hill's C/D Rx diet

Abnormal PE/Chem/CBC/UA Results: AlkPhos = 469 (from June 2025) Most recent AlkPhos = 805 (12/5/25)

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	5.5	--	NM	1.42	40	82	0.14
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	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				
PATIENT	NM	1.7	1.2	--	2.8	2.4	--

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented thickening consistent with endocardiosis. Doppler indicated moderate eccentric insufficiency. 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 adequate and in normal range 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. No echographically detectable evidence of cardiac / pericardial tumors was visible.

Urinary System



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The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no mineral or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic change were noted.

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The area of the aortic trifurcation was free of pathology.

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Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. Areas of mild medullary mineral were visualized with no evidence of pyelectasia. The left kidney measured 3.6 cm in length. The right kidney measured 4.5 cm in length.

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Adrenal Glands

The bilateral adrenal glands were mildly enlarged in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. The left adrenal gland measured 0.62 cm width in the caudal pole. The right adrenal gland measured 0.78 cm width in the caudal pole.

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Spleen

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age-related remodeling with minor potential for inflammatory or neoplastic disease.

WEIGHT

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Liver

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. Intermittent nondisruptive mildly hypoechoic to hyperechoic nodules were visualized and did not distort the hepatic capsule. An example of hypoechoic nodule measured 1,2 cm in diameter. An example of mildly hyperechoic nodule measured 1.0 cm in diameter.

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The gallbladder was non distended in size with mild congealed cranial lumen debris. The cystic duct and common bile ducts were normal without evidence of dilation.

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Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

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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.

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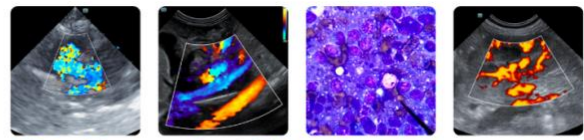
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Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas



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The pancreas base and right pancreatic limb presented prominent in size with nonhomogenous cystic parenchyma.

Free Abdomen

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No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

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- Chronic mitral valve disease (B1).
- Hepatopathy with subtle to nondisruptive variably echogenic intraparenchymal nodules.
- Nonorganized gallbladder debris (non-mucocele).
- Bilateral mild adrenomegaly.
- Enlarged nonhomogenous to cystic pancreas base/right pancreatic limb.
- Chronic renal changes exhibiting mild medullary mineral.
- Normal urinary bladder.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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10 pounds

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. Prognosis is considered variable and sonographic monitoring is recommended. Recheck echo cardiogram is suggested in 6-12 months, sooner if clinical signs arise. Cardiac anesthetic risk is considered mild. If required, the following protocol is recommended. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

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The liver is most consistent with vacuolar hepatopathy criteria with probable benign intraparenchymal nodules i.e. mild nodular hyperplasia, lipogranulomas, hematopoiesis or similar. Hepatic neoplasia or inflammation is thought less likely. The mild adrenomegaly is nonspecific given no reported current clinical signs. Adrenal work up is warranted if clinical signs consistent with Cushing's syndrome are nonreported or arise. No evidence of urinary bladder mineral or calculi. Correlation with urinalysis if not recently done +/- renal staging to include screening culture/sensitivity or UPC level. Hepatosupportive medications may prove beneficial.

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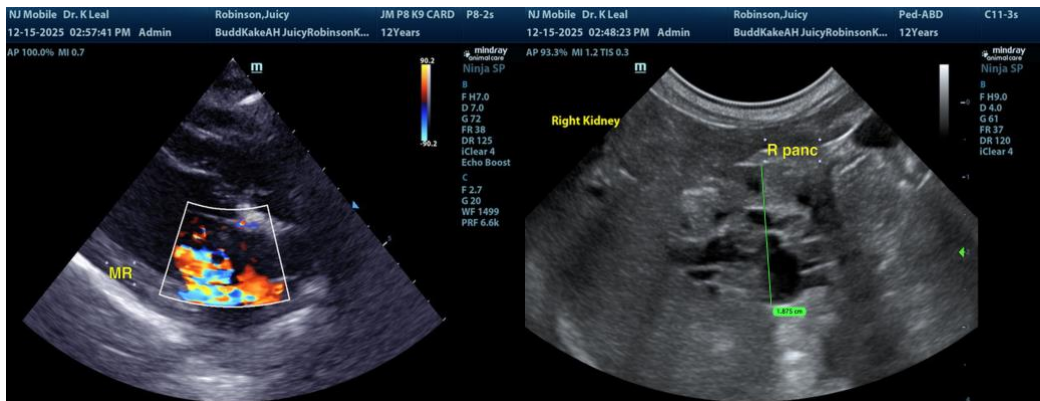
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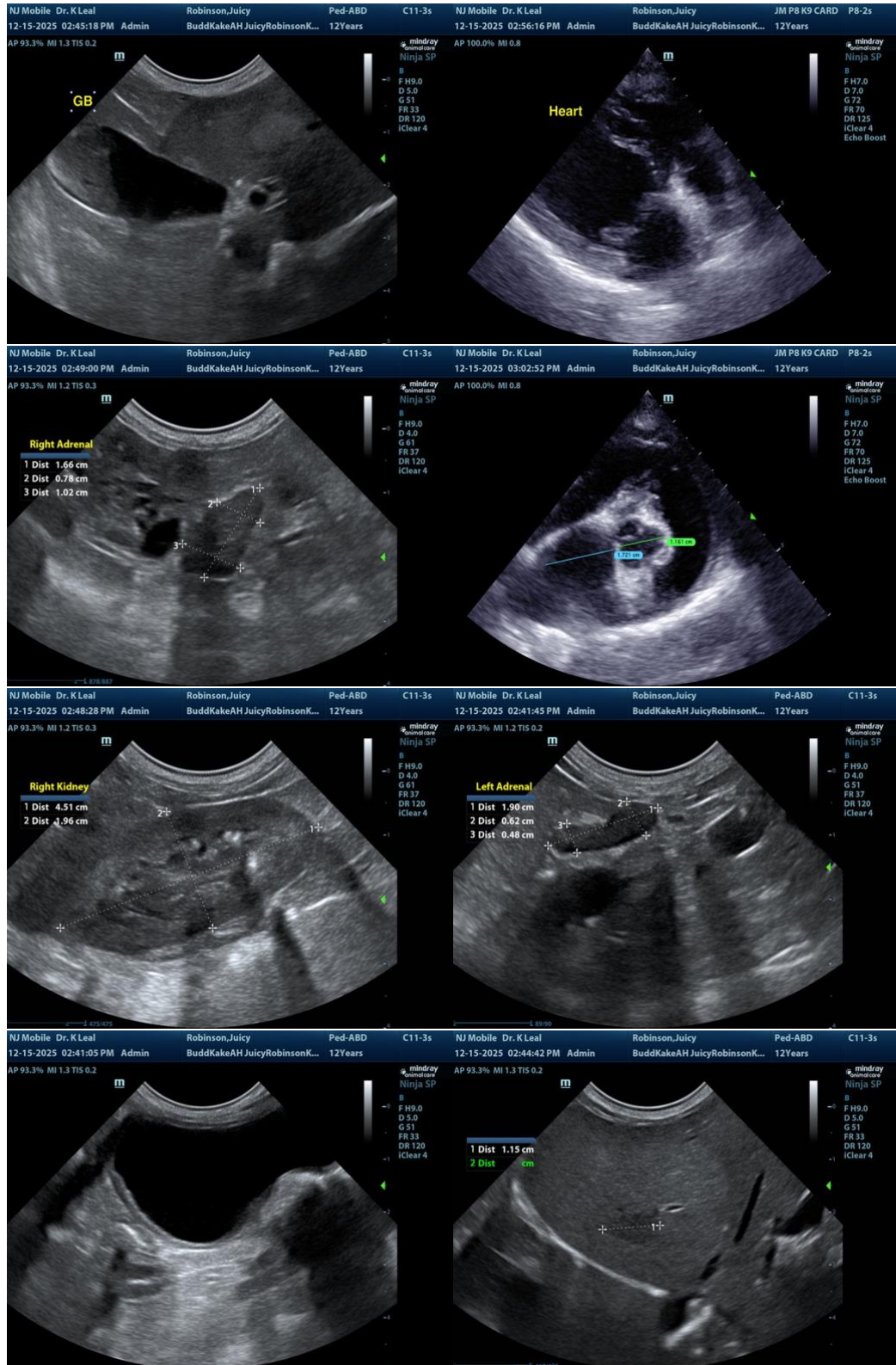
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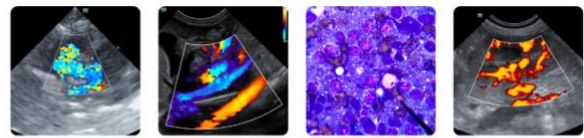
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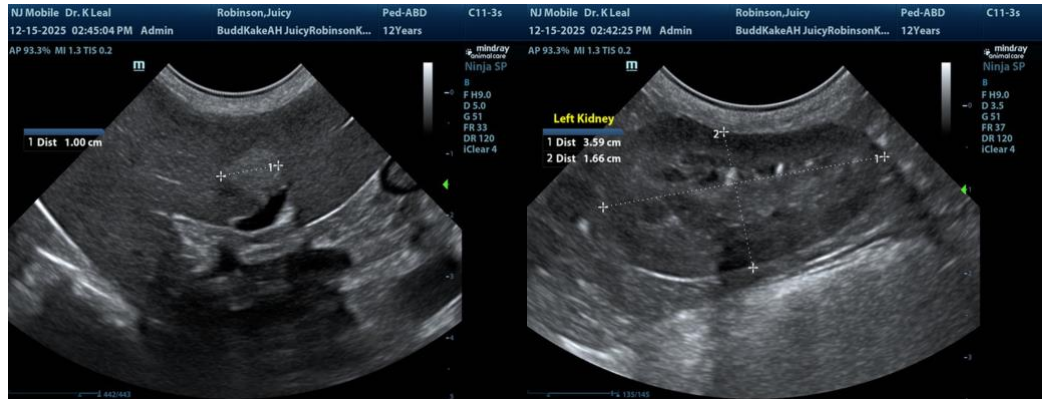
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

info@SonoPath.com