



## PATIENT

Annie Ringler

## SPECIES

Canine

## BREED

Jack Russell

## SEX

FS

## AGE

14 years

## WEIGHT

11.9 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Jessica Miller

## HOSPITAL NAME

Livingston AH

## REFERRING VET

Dr. Watts

## INVOICE

14462

## DATE

8/2/22

## PRESENTING CLINICAL SIGNS

Murmur first noted August 2021 (gr II-III), progressed to IV-V in July 2022. O has noted appetite slowly decreasing. No current meds.

Abnormal PE/Chem/CBC/UA Results: SDMA 17, BUN 33, r/o pre-renal vs renal

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	<1.3	28-40	40-100	<0.6
PATIENT	5.6	2.2		1.3	36.3	68.5	0.2
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				
PATIENT	173	1.0	0.85		2.77	2.34	

## Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable 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. Minor aortic insufficiency measuring 1.6 m/s was present. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment revealed subjective minor thickening with mild TV Insufficiency on doppler. 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 infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Mild TV insufficiency - no evidence of clinical pulmonary hypertension
- Minor aortic insufficiency

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur consistent with mild chronic degenerative valvular changes with secondary primary eccentric mitral valve and mild tricuspid valve insufficiency. The lack of left atrium enlargement indicates that the risk of current and future complication is low at this stage. However, prognosis is highly variable, and serial sonographic monitoring is required for further assessment. In a nonclinical patient without evidence of significant chamber enlargement, cardiac medications are not overtly indicated. Conservative monitoring is recommended with recheck echocardiogram suggested in 6 months, sooner if clinical signs arise. Assessment of systemic BP to rule out hypertension, given the aortic insufficiency, is recommended.

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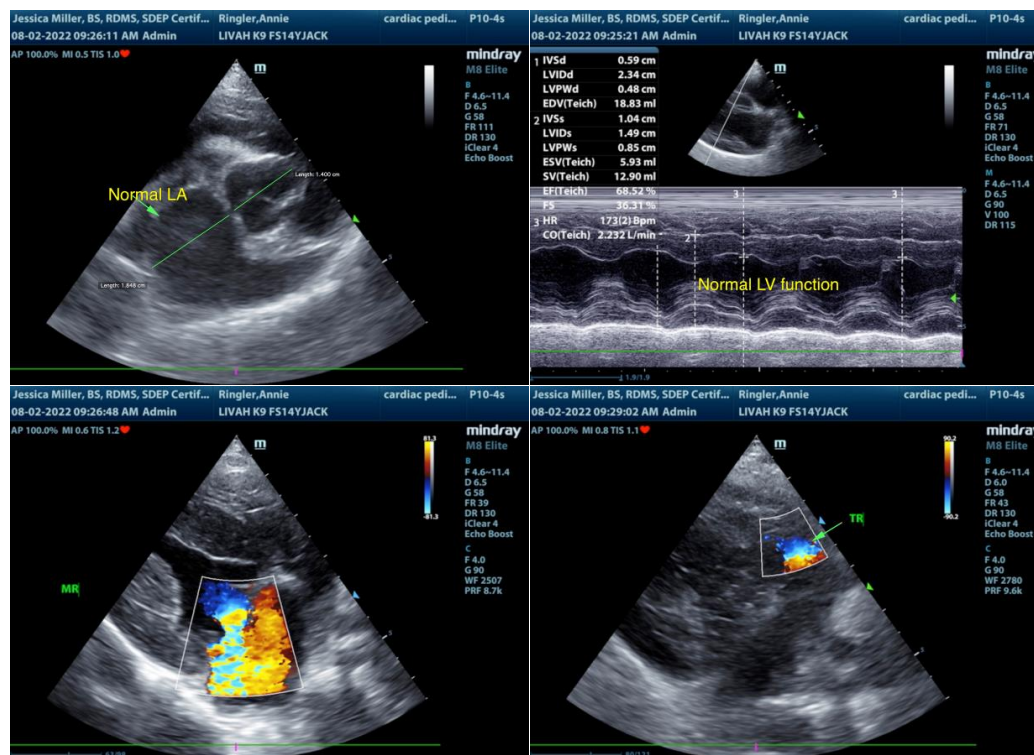
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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