



**PATIENT PRESENTING CLINICAL SIGNS**

Tank Staff Grade IV/VI HM

**SPECIES**

Feline

**BREED**

DSH

**SEX**

MN

**AGE**

6 yrs

**WEIGHT**

25 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Warren AH

**REFERRING VET**

Dr. Amber

**INVOICE**

14770

**DATE**

8/31/22

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
<b>NORMAL PARAMETER</b>	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
<b>PATIENT</b>		129	0.49	2.0	0.52	57.8	89.8
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
<b>NORMAL PARAMETER</b>	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
<b>PATIENT</b>	1.4	1.35	1.4	1.6	1.4	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. Normal LVOT velocity 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 demonstrated adequate linear morphology and kinetics. Mild to moderate TR was present in doppler measuring 2.5 m/s. 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). Normal RVOT velocity was present. No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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**ULTRASONOGRAPHIC FINDINGS**

- Overall normal cardiac structure and function
- Mild to moderate TR

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of structural or functional cardiomyopathy without evidence of HCM criteria. The only source of the murmur present in the study is the mild to moderate TR, which is of questionable audibility. The estimated pulmonary pressure gradient based on TR velocity was not consistent with clinical pulmonary hypertension. Likewise, no evidence of right atrium, right ventricle, or pulmonary artery enlargement was noted. Assuming no evidence of volume changes such as dehydration or anemia, a physiologic flow murmur is suspected.

Regardless, the lack of left or right heart chamber enlargement indicates that the hemodynamic effects of the murmur at this stage are low. No indication for cardiac medications. Conservative monitoring of the murmur is recommended with recheck echocardiogram suggested in 6 months, sooner if murmur Intensity increases or if clinical signs suggestive of heart disease arise.

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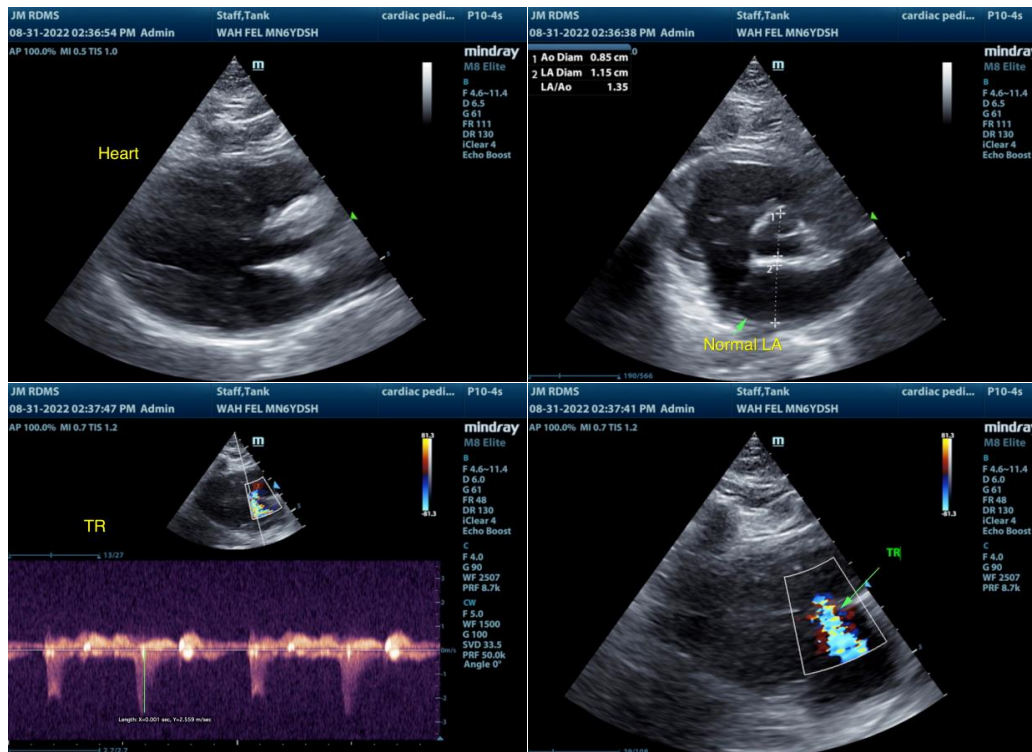
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)**  
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