



## PATIENT

Shelby Horowitz

## SPECIES

Canine

## BREED

Havanese

## SEX

FS

## AGE

8 years

## WEIGHT

9.4 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Kelly Vazquez

## HOSPITAL NAME

Millburn VH

## REFERRING VET

Dr Turowsky

## INVOICE

13361

## DATE

2/15/22

## PRESENTING CLINICAL SIGNS

Newly auscultated 1-2/6 left systolic murmur noted at annual visit; asymptomatic. No current meds. Abnormal PE/Chem/CBC/UA Results: CBC/Chem: WNL. U/A quiet sediment. USG 1.055. Total #

## 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	<1.6	28-40	40-100	<0.6
PATIENT			1.3	1.1	50	85	0.22
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	95	1.38	1.1		1.8	2.2	

## 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. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Minor TR was present. 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.

## ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram



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- Mild TR - estimated pulmonary pressure gradient not consistent with clinical pulmonary hypertension

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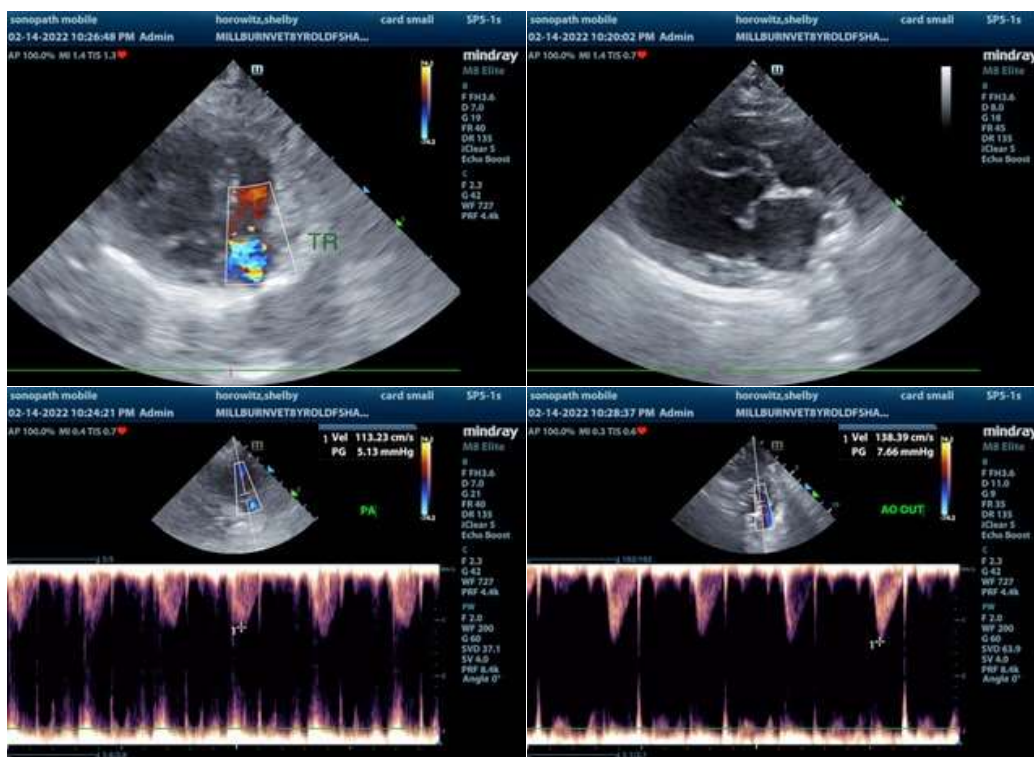
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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overtly normal cardiac structure and function are noted without evidence of clinical issues such as systolic dysfunction, significant valvular insufficiencies, stenotic disease, or overt clinical pulmonary hypertension. Mild TR is present yet not suspected to be audible. Overall, an obvious cause of the murmur was not definitively evident. Assuming no evidence of volume changes like dehydration or anemia, a physiologic flow murmur or small flow abnormality not seen here such as mild MR may be present. Regardless, the hemodynamic effects of the murmur appear to be low without evidence of left or right heart chamber enlargement. No Indication for cardiac medications was evident. Conservative monitoring of the murmur at this stage would be appropriate. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs arise or if murmur intensity progresses.





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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.

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