



## PATIENT PRESENTING CLINICAL SIGNS

Mia Laughlin  
History: Follow-up to prev echo 1yr ago. Chronic cough  
Abnormal PE/Chem/CBC/UA Results: WNL

## SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

BREED

Yorkie

SEX

Female

AGE

4 Years

WEIGHT

3.9 Pounds

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	--	--	1.0	1.2	53.3	87.1	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	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	1.2	1.3	--	1.5	1.5	--

## INTERPRETED BY

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

## IMAGING PERFORMED BY

A. Rodriguez

## HOSPITAL NAME

Foxfield VS

## REFERRING VET

A. Rodriguez

## INVOICE

14034

## DATE

2/21/22

### 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. No evidence of overt MR. 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 mild increased size yet normal overall structure and content, likely similar to previous echocardiogram without evidence of progression- this is not considered a clinical issue at this time. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Mild TR was present on color doppler. 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. Potential tachyarrhythmia, although not definitive.

### ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function, mildly prominent right atrium (similar to previous echocardiogram)



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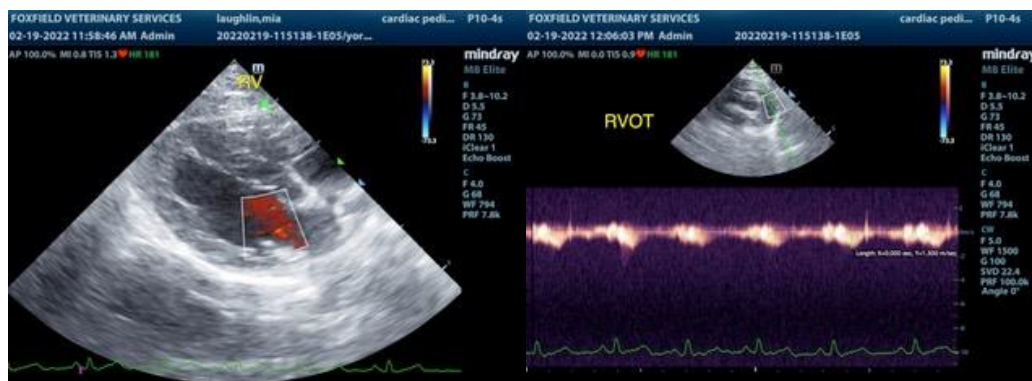
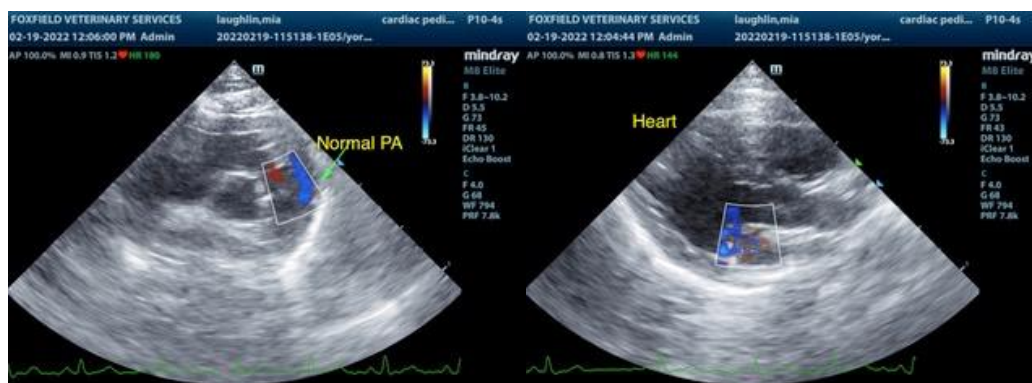
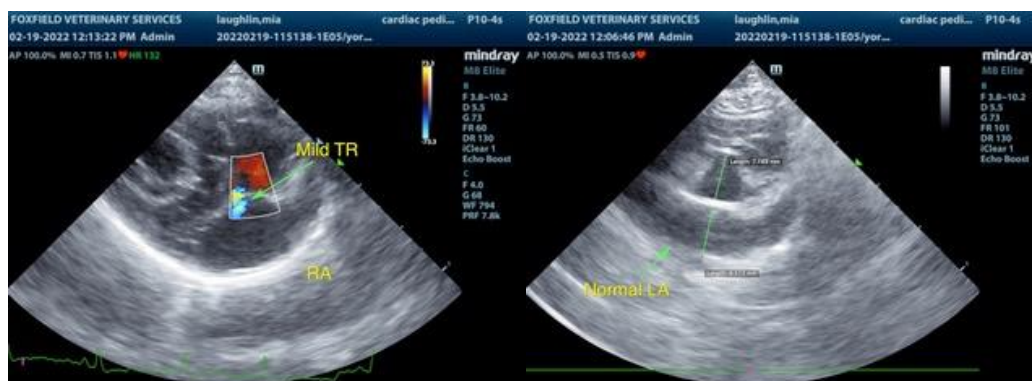
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No overt evidence of significant or progressive structural or function cardiomyopathy, including no evidence of LV systolic dysfunction or obvious evidence of clinical pulmonary hypertension. Given this presentation, the chronic cough in this patient appears to be non-cardiogenic in origin. Chronic primary lower airway disease would be considered a primary differential diagnosis and rule out. No indication for cardiac medications. As needed respiratory therapy and/or lower airway diagnostics may be considered. Recheck echocardiogram suggested in 6-12 months or sooner if clinical signs suggestive of heart disease arise or if the chronic cough persists/progresses, primarily to reassess for evidence of pulmonary hypertension.





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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)**  
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