



**PATIENT**

Misty Burchfield

**SPECIES**

Canine

**BREED**

Weimaraner

**SEX**

Female Spayed

**AGE**

14 years

**WEIGHT**

54lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Rachel Runnells, RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Lyle

**INVOICE**

24622

**DATE**

6/7/22

**PRESENTING CLINICAL SIGNS**

History: Presented to ER for acute labored breathing. Had vomited that morning and again prior to presentation. Received Depo-Medrol earlier that week and sent home on Prednisone for vestibular disease. On exam: Tachycardia noted. Tachypnea, no crackles or wheezes. No murmur. Treated with antibiotic, fluids and discharged.

-Current medications: Doxycycline since 6/1. 5/10 was on Clavamox and enrofloxacin.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Normal cardiac silhouette. No obvious evidence of CHF.

**ELECTROCARDIOGRAPHIC FINDINGS** \*Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 190bpm (range 180-120bpm). P waves are difficult to identify throughout due to baseline artifact. No obvious dysrhythmias observed.

ECG diagnosis: Suspect normal sinus tachycardia.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of the mitral valve with no prolapse into the left atrial lumen. Trace mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal TR velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

**CARDIAC CHART**

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	4.8	2.0	1.2	1.1	38	70	0.3
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	108	1.2	0.8	24.5	2.7	3.0	1.8
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002  
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

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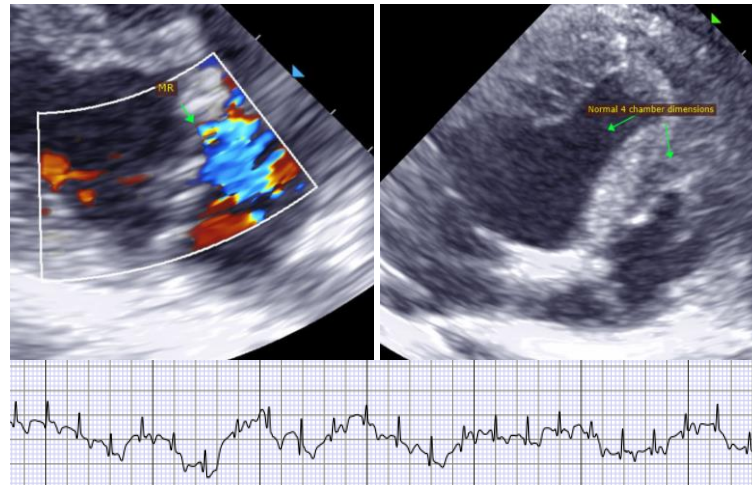
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. Trace MR and TR are considered physiologic; however, follow up is advised should a murmur be auscultated in the future. No other significant valvular leaks are visualized, and no evidence of pulmonary hypertension. No obvious intra or extra-cardiac tumors are visualized in this study. That being said, small extra-cardiac masses are easily missed in the absence of effusion. If concern persists, advanced imaging could be considered. Finally, evaluation of the pulmonary tissue is outside the scope of an echocardiogram. If there is concern for a pulmonary mass, highly recommend a Radiologist review of the films (potentially with serial studies), focused thoracic ultrasound with potential sampling and/or thoracic CT scan. Suspicion is low based upon what is seen here.

No cardiac medications are indicated at this time as the cough appears non-cardiac in origin. Continued work up for infectious/inflammatory respiratory causes is recommended. Options include Baytril or similar antibiotic, anti-inflammatory prednisone, aggressive hydrocodone, etc. If refractory, may consider TTW/BAL for further information.

Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

Chronic respiratory issues can lead to pulmonary hypertension if poorly controlled and a recheck echocardiogram is recommended should any exertional syncope/dyspnea occur, or a murmur be noted in the future.

**IMAGES**

**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.

**Maggie Machen Lamy, DVM**  
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**  
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