


**PATIENT**

Tucker Parks

**PRESENTING CLINICAL SIGNS**

History: New heart murmur auscultated at neuter pre-op. Assess prior to anesthesia.

**SPECIES**

Canine

**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, 20mm/mV. The average heart rate is 85bpm (range 65-100bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.

**BREED**

Golden Retriever

ECG diagnosis: Normal sinus rhythm with respiratory variation.

**SEX**

Male Intact

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Normal MV leaflets with no obvious prolapse. No mitral regurgitation. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. Normal LV wall dimensions. The tricuspid valve appears subjectively normal with trace tricuspid regurgitation. The right heart is normal. No overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. No obvious aortic abnormalities identified, however the LVOT velocity is mildly elevated. Laminar flow. Pulmonic outflow velocities are mildly elevated; the pulmonic valve appears normal. No aortic or pulmonic insufficiency. No obvious congenital shunts. No pericardial or pleural effusion noted. No cardiac tumors observed.

**AGE**

1 year

**WEIGHT**

77.2lbs

**CARDIAC CHART**
**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM DACVIM  
 (Cardiology)

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	NA	NA	1.1	1.2	46	78	0.38
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	120	1.8	1.7	35.0	2.2	4.3	2.3
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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

**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

Hartzel Animal Hospital

**REFERRING VET**

Dr. Hobbs

**INVOICE**

32140

**DATE**

8/3/23



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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

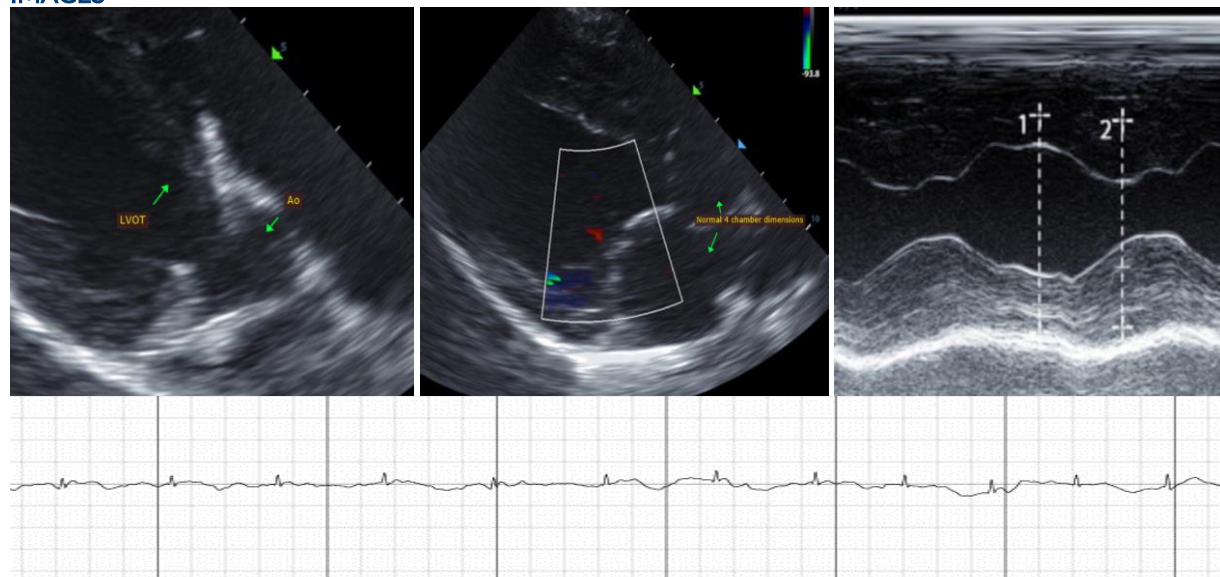
The only cause of a murmur identified is mildly increased flow velocity through both great vessels. No obvious subaortic ridge or valvular abnormalities are visualized. In the absence of structural abnormalities this is considered a benign flow murmur. This should be monitored as this young dog grows. This type of outflow abnormality is heart rate dependent and will vary with hydration/volume changes as well. No obvious congenital shunts or defects are observed in this study; however, it is important to note that small abnormalities are easily missed without advanced diagnostics. The ECG is unremarkable with a normal sinus rhythm.

No cardiac medications are indicated at this time. Monitor for any development of cough, labored breathing or exercise intolerance.

No cardiac contraindication for general anesthesia is seen. If bradycardia is persistent premedicate with a vagolytic.

Assuming the murmur persists, recommend recheck echocardiogram in 6-12 months to ensure no progressive issues are seen, sooner if any clinical signs arise in the interim.

**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. This report was generated using transcription software, and minor dictation errors may be present. 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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