


**PATIENT**

Keltie Hearn

**PRESENTING CLINICAL SIGNS**

History: New heart murmur heard by referring DVM at exam. Grade II/VI. No clinical signs.

**SPECIES**

Canine

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Minimal diffuse thickening of mitral valve leaflets with no obvious prolapse into the left atrial lumen. Trace mitral regurgitation is identified. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears subjectively normal, with no tricuspid regurgitation. The right heart is normal (subjective). No overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. No aortic abnormalities identified, however the LVOT velocity is mildly elevated. Normal pulmonic outflow velocities. No aortic and trace pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed. Occasional isolated VPCs are noted throughout the study (single lead ECG attached).

**BREED**

Golden Retriever

**SEX**

Female Spayed

**CARDIAC CHART**
**AGE**

6 years

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	5.0	NA	NM	1.3	40	76	NM
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	2.0	1.0	35.2	2.8	4.0	2.4
*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)
<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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)

**INTERPRETED BY**

 Maggie Machen Lamy,  
 DVM, DACVIM  
 (Cardiology)

**IMAGING PERFORMED BY**

 Mark van Campen,  
 DVM

**HOSPITAL NAME**

 Mississippi Hills  
 Animal Hospital

**REFERRING VET**

Dr. van Campen

**INVOICE**

24077

**DATE**

5/6/22

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The only cause of a murmur identified is increased flow velocity through the LVOT/aortic root. Trace MR is identified which is unlikely to be heard on exam and is suspected to be physiologic in origin. No obvious subaortic ridge or valvular abnormalities are visualized, and in the absence of structural abnormalities this is considered a benign flow murmur. If this is a new murmur, it is reasonable to monitor periodically via recheck echocardiography in the future. Additionally screening for fluid status abnormalities (dehydration, anemia, etc) is recommended through routine lab work as these abnormalities would make this finding more prevalent. No significant valvular insufficiencies were noted and no structural issues identified.



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Occasional VPCs are noted throughout the study (single lead ECG attached), and a baseline 6 lead tracing is strongly recommended.

**SPECIES**

Canine

No cardiac medications are indicated. From a structural standpoint there is no cardiac contraindication for general anesthesia. Further ECG evaluation is however strongly recommended.

**BREED**

Golden Retriever

Monitor for any development of cough, labored breathing or exercise intolerance.

**SEX**

Female Spayed

Recommend recheck echocardiogram in 12-18 months to screen for progression or development of concurrent cardiac disease that the preexisting murmur may mask.

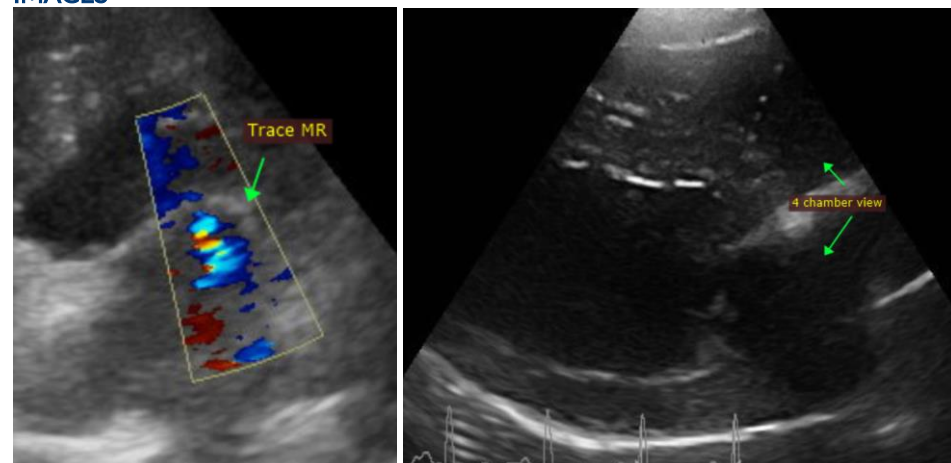
**AGE**

6 years

**IMAGES**

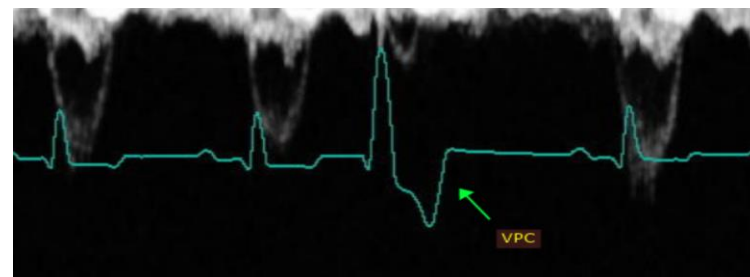
**WEIGHT**

77.6lbs



**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)



**IMAGING PERFORMED BY**

Mark van Campen,  
DVM

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.

**HOSPITAL NAME**

Mississippi Hills  
Animal Hospital

**REFERRING VET**

Dr. van Campen

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.

**INVOICE**

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**DATE**

5/6/22