



**PATIENT**

Maddie Medeiros

**PRESENTING CLINICAL SIGNS**

History: Grade 2-3/6 murmur. Distended abdomen. On a grain free diet.

**SPECIES**

Canine

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
Mild right-sided cardiomegaly. No obvious evidence of CHF.

**BREED**

West Highland Terrier

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Trace/mild eccentric mitral regurgitation with mild left atrial dilation. The LV appears spherical with mild dilation in both systole and diastole. Mildly depressed myocardial function for this signalment. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. Mild RH enlargement. The MPA is mildly dilated. The pulmonic and aortic valves are normal in morphology and mobility. Mildly elevated pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

**SEX**

Female Spayed

**AGE**

9 years

**CARDIAC CHART**

**WEIGHT**

19lbs

**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)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	4.5	3.4	1.2	1.5	27	50	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	120	2.2	2.0	8.6	2.0	3.3	2.4
*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)

**IMAGING PERFORMED BY**

Crystal Hill, RVT

**HOSPITAL NAME**

Main Street Animal Hospital

**REFERRING VET**

Dr. Brochu

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Severe mild abnormalities are seen in this study. Chronic degenerative valve disease causing trace/mild mitral and tricuspid regurgitation is noted; however, both leaks appear hemodynamically insignificant. Of more concern, the LV is dilated with a spherical appearance with mildly depressed function. This is most consistent with diet-related cardiomyopathy and an immediate diet change is recommended as below. Additionally,

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24443

**DATE**

5/26/22



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mild to moderate pulmonary hypertension is noted, with right heart /MPA enlargement. This breed is predisposed to primary airway disease that over time can affect the heart; however, no symptoms were mentioned. Simple follow up is advised. Finally, mildly elevated flow is noted through both great vessels, this most commonly occurs due to volume or heart rate changes and baseline lab work is recommended. No additional issues are noted in this study.

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Even with severe abnormalities identified here, no cardiac medications are clearly indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

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If any respiratory signs develop, the most likely cause in this breed would primary respiratory disease. Treatment should be dictated by the clinical signs.

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Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

**WEIGHT**

19lbs

**PLAN**

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Highly recommend a diet change. Assess thyroid status. Institute Taurine 1000mg PO q12h. Baseline lab work strongly recommended.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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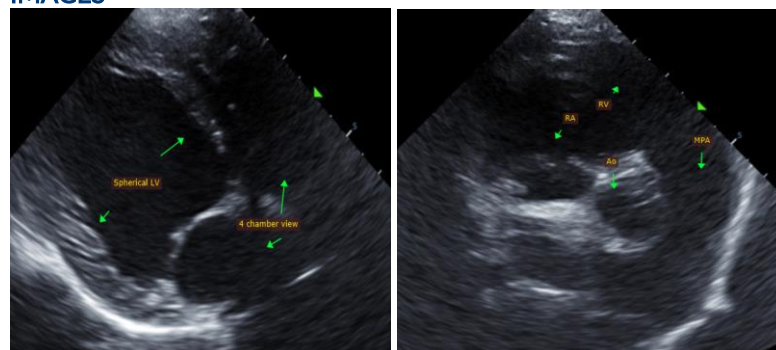
**HOSPITAL NAME**

Main Street Animal  
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Dr. Brochu

**IMAGES**

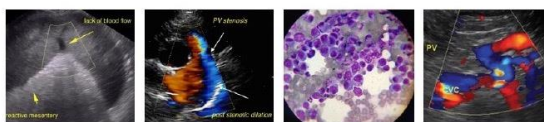


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**SEX**

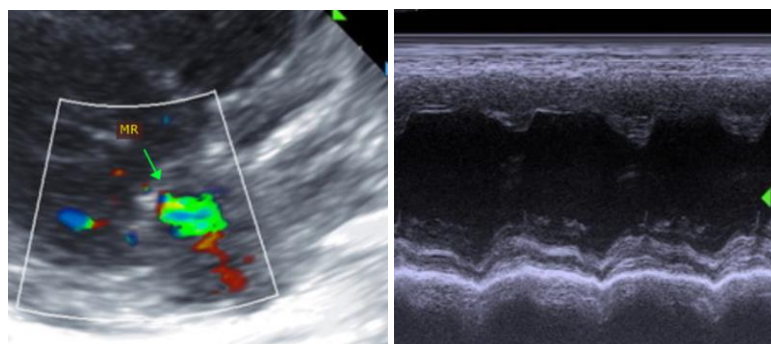
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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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