



**PATIENT**

Maddie Mortenson

**SPECIES**

Canine

**BREED**

Cavalier

**SEX**

Female Spayed

**AGE**

15 years

**WEIGHT**

24lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. History chronic valvular disease - Stage B2. Currently, Maddie is doing well at home with no clinical issues. Good appetite and remains active at home. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 169-180mmHg. Current medications: 1) Pimobendan/vetmedin 2.5mg 1 tab twice a day 2) Benazepril 5mg 1 tab twice a day 3) Tramadol 50mg 1/2 tab twice a day 4) Ursodiol/actigal I 250mg 1/2 tab with food twice a day \*No sedation for study.  
-Pertinent previous echo findings (2/2/22 Scott Forney, DVM, DACVIM-Cardiology): LA 3.2 cm; LA:Ao 2.0; LV 4.09 cm; moderate-severe LAE; moderate LVE; severe MR; mild TR (2.46 m/s; 24 mmHg).

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.

**Left ventricle:** The LV diameter is mildly increased with hyperdynamic function. LV wall thicknesses are normal.

**Left atrium:** The left atrium is moderately dilated.

**Mitral valve:** The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a normal velocity.

**Aortic valve/Aorta:** The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.

**Right ventricle:** Normal right ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension.

**Right atrium:** Normal RA dimension.

**Tricuspid valve:** The tricuspid valve appears mildly thickened with septal prolapse and mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension.

**Pulmonic valve/Pulmonary artery:** The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.

**Pericardium/other:** No pericardial or pleural effusion noted. No obvious cardiac masses.

**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 130bpm.

**IMAGING**

**PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Mass Veterinary Services

**REFERRING VET**

Dr. Masloski

**INVOICE**

26210

**DATE**

9/6/22

**2-Dimensional Measurements**

Ao diam (cm)	2.0
LA diam (cm)	3.5
LA:Ao (Swe)	1.8
IVS thickness (cm)	0.77
LVID diastole (cm)	4.3
PW thickness (cm)	0.74
LVID systole (cm)	2.2
FS (%)	50

**Doppler Measurements**

PV Vmax (m/s)	0.9
AoV Vmax (m/s)	1.6
MR Vmax (m/s)	6.6
TR Vmax (m/s)	2.9
TR PG (mmHg)	34

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease persists with moderate mitral and mild tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in the future is elevated. Early pulmonary hypertension is noted, which is a new finding. No additional issues are identified. Compared to what is available from the previous study, findings appear similar with largely unchanged left heart dimensions.



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Maddie Mortenson

Given these findings, continue Pimobendan and Benazepril as previously prescribed. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

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Canine

**RECOMMENDATIONS**

- Continue Pimobendan and Benazepril as prescribed.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- 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.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

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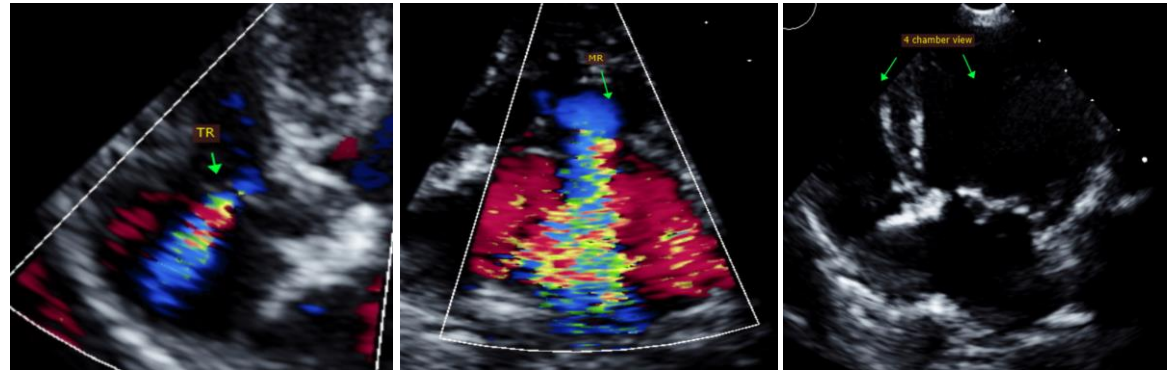
**PLAN**

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

**WEIGHT**  
24lbs

**IMAGES**

**INTERPRETED BY**  
Maggie Machen Lamy, DVM  
DACVIM (Cardiology)



**IMAGING PERFORMED BY**  
Pamela Harrigan, RDCS

**HOSPITAL NAME**  
Mass Veterinary Services

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.

**REFERRING VET**  
Dr. Masloski

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**  
26210

Maggie Machen Lamy, DVM  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

**DATE**  
9/6/22

**Echocardiogram performed by:** Pamela Harrigan, RDCS  
Pet Animal Ultrasound Service (4paus.com)