



**PATIENT**

Sampson Boyd

**SPECIES**

Canine

**BREED**

Labrador

**SEX**

Intact male

**AGE**

12 years

**WEIGHT**

96 lbs

**INTERPRETED BY**

Bradley Harris, DVM,  
DACVECC, DACVIM  
(cardiology)

**IMAGING PERFORMED BY**

Amanda Crook SDEP  
Clinical Sonographer

**HOSPITAL NAME**

Rivers Edge Pet  
Medical Center

**REFERRING VET**

Dr. Tsuchida

**INVOICE**

77957

**DATE**

5/26/26

**PRESENTING CLINICAL SIGNS**

History: - Coughing first noted on 12/20/25, treated with Doxycycline, Hydrocodone  
- Returned 2/17/26, radiograph obtained, prednisone started  
- 3/16/26 - radiograph from 2/17/26 sent out for review, prednisone continued  
- O reports that coughing improved with prednisone but due to concern of DCM, would like to evaluate the heart and rule out any abdominal abnormalities  
BP on Doppler: 132, 130,140  
Abnormal PE/Chem/CBC/UA Results: No recent radiographs; see attached from 2/17/26; cardiomegaly, bronchial pulmonary patterns (most prominent in L caudal/caudodorsal lung lobes), multifocal lumbar and lumbosacral spondylosis deformans Labwork from today: Mostly WNL findings; Gluc 159, ALT 128, ALKP 435, TT4 2.0 (low normal)

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The left atrium is normal in dimension. The left ventricle is normal in dimension, with reduced systolic function. The right atrium and ventricle are normal in dimension, with normal systolic function. The anterior and posterior mitral valve leaflets are thickened and redundant consistent with myxomatous changes, and there is minimal prolapse. There is mild mitral regurgitation identified. The tricuspid valve leaflets are thickened and redundant, with mild tricuspid regurgitation and no evidence of pulmonary hypertension. The left ventricular outflow tract demonstrated normal laminar flow and the visible aorta is unremarkable. The right ventricular outflow tract assessment revealed normal laminar flow, with appropriate main pulmonary artery diameter and right pulmonary artery distensibility. There is trivial pulmonic and no aortic valve insufficiency identified. There is no visible pericardial, pleural, or free peritoneal fluid documented. No evidence of hepatic venous congestion is noted. The cardiac chambers, pericardial and visible extra-cardiac regions were free of masses, spontaneous echo contrast, or thrombi.

CANINE CARDIAC PARAMETERS	Body Weight kg	HR BPM	LAD 4 ch Long	RAD 4 ch Long	La/Ao Heart Base	LVIDd	LVIDs
NORMAL PARAMETER		50-100			<1.6		
PATIENT	43.64	NM	4.2	3.64	1.66	5.06	4.5
CANINE CARDIAC PARAMETERS	FS	EPSS	PV V MAX (m/s)	AV V Max (m/sec)	MR Vmax	TR Vmax	RPA distensibility (normal >30%)
NORMAL PARAMETER	28-40	<0.6	0.7-1.6	0.7-1.7	4.5-5.5	< 2.7	
PATIENT	11	1.0	0.7	1.2	5.2	2.0	NM

**ECG:**

A six-lead ECG is available for review. The average heart rate is approximately \_bpm, with a normal mean electrical axis. The QRS complexes are sinus in origin, with appropriate P-Q intervals. There are irregular R-R intervals, consistent with respiratory variation. The P wave amplitude varies with the R-R interval. There is no evidence of atrial or ventricular ectopy, nor any atrioventricular block. The underlying rhythm is most consistent with a respiratory sinus arrhythmia with a wandering pacemaker (normal physiologic change).



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## ULTRASONOGRAPHIC FINDINGS

These findings are consistent with degenerative/myxomatous mitral valve disease with minimal to mild hemodynamic effects consistent with ACVIM Stage B1 disease. In addition there is reduced left ventricular function despite the mitral valve disease. Intrinsic myocardial dysfunction (ie DCM) is a concern. Other possibilities, including primary valve disease with secondary ventricular changes or myocardial depressant effects of systemic disease must also be considered. It would also be important to verify that the owners are not feeding a grain-free, exotic, or boutique diet, as a secondary nutritional cardiomyopathy must also be considered.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

At this time, therapy for the myocardial dysfunction can be considered, to include Vetmedin (0.25-0.35 mg/kg BID). If the owners are feeding a grain free diet, an immediate diet change would be necessary, and the addition of taurine (50 mg/kg BID) would be appropriate. If there is any concern for metabolic/systemic disease, additional testing (complete bloodwork including T4 and resting cortisol, abdominal ultrasound) should be considered. Otherwise, thoracic radiographs, blood pressure, and chemistry panel should be performed now for a baseline, and again in 1-2 weeks. A follow-up echocardiogram, thoracic radiographs, blood pressure, and chemistry panel is recommended in 3 months to assess for either static, improved, or progressive changes. Owners should monitor resting respiratory rate at home. Values above 30 breaths/minute or an increase in respiratory rate 10% above baseline should prompt veterinary re-evaluation.

The following sources for supplemental taurine are recommended:

- Mega taurine caps by Twinlab (1000mg capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

### Anesthesia considerations:

Anesthesia should be avoided if possible. If anesthesia is necessary, then alpha-2 agonists, ketamine, high dose acepromazine, and Telazol should be avoided. If an ACE inhibitor (enalapril, benazepril) or spironolactone is being given, it should not be administered on the morning of general anesthesia. Other cardiac medications should be administered per the normal dosing schedule. Fluid therapy during anesthesia should be considered at a reduced rate (e.g., 5 ml/kg/hour) if possible (i.e., if not hypotensive). A shorter anesthetic duration will reduce the risk of complications. Pre-oxygenation is advised. Premedication with an opioid (i.e., butorphanol, hydromorphone, oxymorphone) with or without a benzodiazepine is generally the safest protocol. An induction agent such as Propofol, alfaxalone, or diazepam/etomidate can be used to effect. Maintenance of anesthesia with isoflurane or sevoflurane is reasonable. Dobutamine (2.5-10 µg/kg/min as a CRI, starting at 2.5 µg/kg/min and increasing the dosage incrementally) may be used in lieu of fluid boluses to augment systemic blood pressure.

### Diet:

A high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina that is highly palatable with adequate protein and calories for maintaining optimal body condition. Consider omega-3 fatty acid supplementation. Ensure the patient is not currently receiving a boutique, exotic, or grain-free diet.

### Activity:

Moderate physical activity (meandering walks, exploring the backyard, playing with toys inside, getting excited when family gets home, etc.) is encouraged, but periods of strenuous aerobic activity (jogging,



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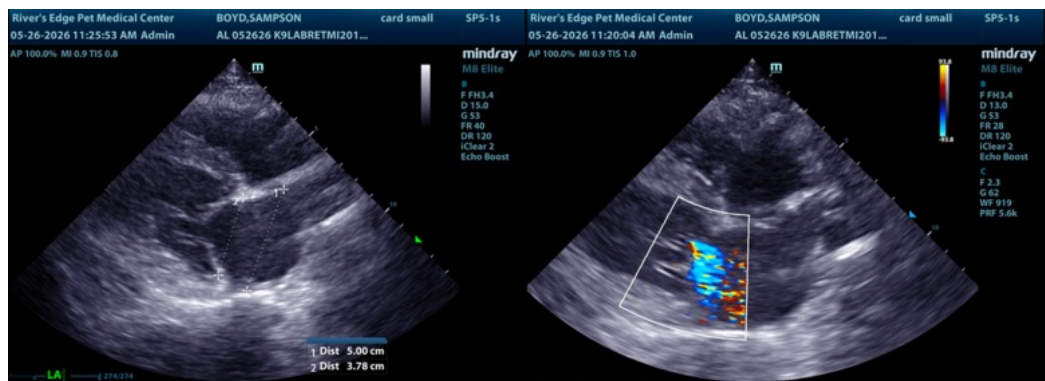
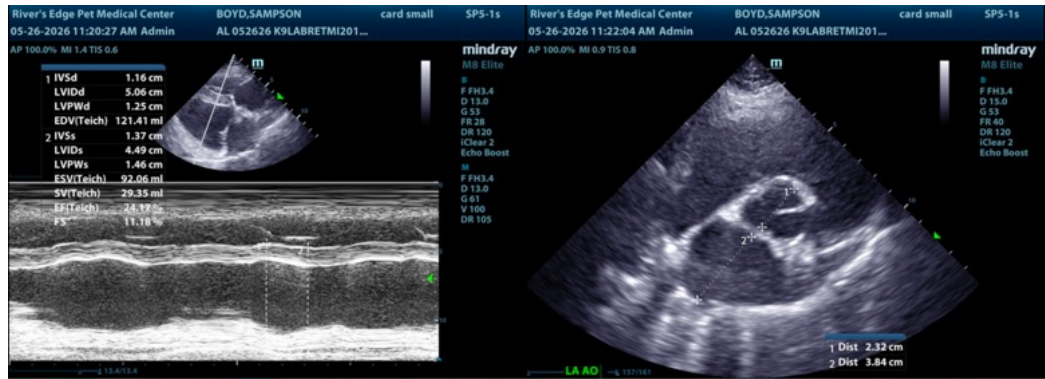
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strenuous outdoor ball play, prolonged play at the dog park, etc.) should be avoided, especially during periods of high heat (> 80 F) and humidity. Dogs with heart disease tend to tolerate cool and cold temperatures much better than high temperatures. Avoid sudden increases in activity (e.g. 2 block walks during the week but 2 mile walks followed by 30 minutes at the dog park on the weekends) as this may be difficult for the cardiovascular system to deal with.



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

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