



**PATIENT**

Keats Moyer

**SPECIES**

Canine

**BREED**

KCCS

**SEX**

Neutered Male

**AGE**

12 Years 2 Months

**WEIGHT**

22.6 Pounds

**INTERPRETED BY**

Camden Rouben DVM,  
 DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Kathleen Byrnes

**HOSPITAL NAME**

AH of Boone

**REFERRING VET**

Dr. Watson

**INVOICE**

36747

**DATE**

4/24/26

**PRESENTING CLINICAL SIGNS**

History: P presented for echo due to increased coughing. Started on Lasix and coughing has improved. P is also on Enalapril and Vetmedin.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
<b>PATIENT</b>	5.0	3.87	3.27	2.28	47.87	78.86	0.4
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	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				
<b>PATIENT</b>	--	1.13	0.59	10.2	5.23	5.31	2.77

**Cardiac Presentation**

Based off of the images provided, the mitral valve leaflets are moderately thickened with moderate mitral regurgitation and multiple regurgitation jets. There is mild prolapse of the mitral valve leaflets. Left atrial size is severely increased. The left ventricular internal dimensions during diastole are increased. Systolic function is preserved in the face of mitral regurgitation. There's normal right atrial size with moderate tricuspid regurgitation. There's mild prolapse of the tricuspid valve leaflets and moderate evidence of pulmonary hypertension based off of the tricuspid regurgitant velocities alone. The right ventricle subjectively appears normal in structure and function. The aortic and pulmonic valves have normal morphology and the corresponding outflow velocities are within normal limits. There's trace pulmonic insufficiency. There is no aortic insufficiency. The aortic appears normal. The pulmonary artery and associated branches subjectively appear normal. There's no evidence of pleural fusion, pericardial fusion, or intracardiac masses based off of the images provided.

**ULTRASONOGRAPHIC FINDINGS**

- Based off of the images provided, the patient has degenerative valve disease, ACVIM suspected, stage B2. Stage C cannot be diagnosed definitively without the evidence of cardiogenic pulmonary edema, which can be diagnosed by taking three-view thoracic radiographs.



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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

If not already performed, this patient should have three-view thoracic radiographs to rule in or rule out cardiogenic pulmonary edema. This patient should be given pimobendan at a dose of 0.25 - 0.3 mg/kg by mouth twice a day. This should be a lifelong therapy. The patient can continue on an ACE inhibitor at a dose of 0.3 - 0.5 mg/kg by mouth twice a day. A blood pressure assessment should also be performed in this patient. The use of diuretics such as furosemide should be specifically used for patients that develop cardiogenic pulmonary edema and not as an antitussive. An antitussive that can be considered include hydrocodone and/or diphenoxylate, also known as homatropine.

The client should start monitoring resting respiratory rate and effort at home if not already doing so. The resting respiratory rate should be < 35 - 40 breaths per minute when the patient is resting or sleeping. If the breathing rates are increasing, then chest radiographs are recommended.

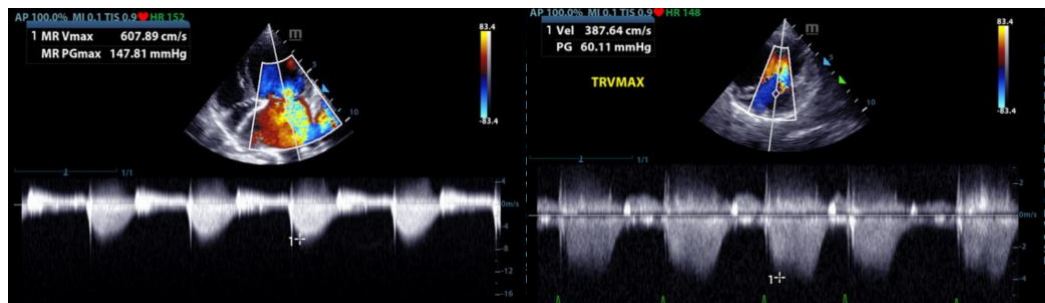
A recheck echocardiogram is recommended in 4-6 months to monitor the condition.

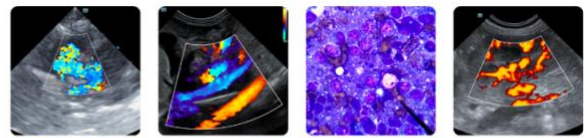
If this patient truly has been diagnosed with congestive heart failure, then the use of furosemide should be continued at 1-2 mg/kg by mouth twice a day. In addition, a kidney panel should be performed 7-10 days after the diagnosis and then repeated every 3-4 months to assess the overall renal function.

If not already performed, a blood pressure should be obtained in this particular patient.

If this patient does have evidence of cardiogenic pulmonary edema and congestive heart failure, then elective anesthetic procedures should be prohibited. If not, and the patient is needing anesthesia for a procedure that is going to significantly impact their quality of life, judicious perioperative fluid rates are recommended due to severely increased left atrial size. Medications like dexmedetomidine and other alpha-2 agonists are best avoided. Ketamine is also best avoided. If needed, anticholinergics can be used in the face of a clinically significant bradyarrhythmia.

Activity restriction is not warranted in this patient.





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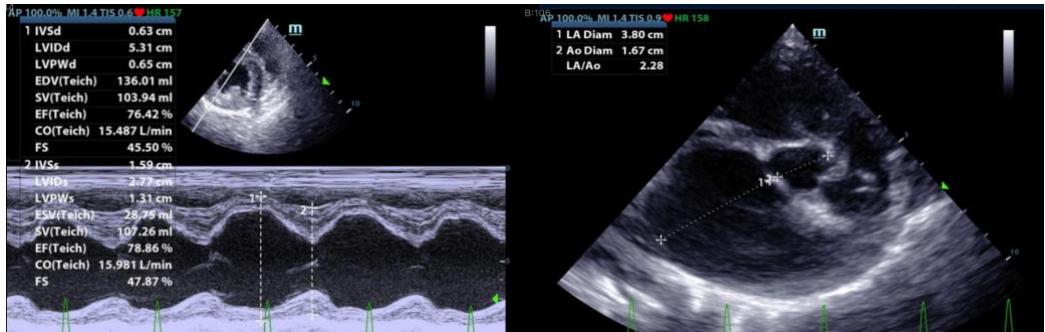
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Camden Rouben DVM, DACVIM (Cardiology)

[info@SonoPath.com](mailto:info@SonoPath.com)