



**PATIENT**

Flynn Murphy Wilson

**SPECIES**

Canine

**BREED**

CKCS

**SEX**

Male Neutered

**AGE**

9 years

**WEIGHT**

16.4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Ackmann, DVM  
**HOSPITAL NAME**

Ackmann

**REFERRING VET**

Dr. Ackmann

**INVOICE**

47562

**DATE**

4/14/26

**PRESENTING CLINICAL SIGNS**

History: Previously diagnosed CVD stage C 11/2025. Within the last 7-10 days, owners noted increased coughing, decreased activity levels, and increased exercise intolerance.

Current medications: Benazepril 5mg: 1/2 tab PO SID, Spironolactone 25mg: 1/2 tab PO SID, Vetmedin 2.5mg: 1 tab BO in AM and 1/2 tablet PO in evening, and Lasix 12.5mg: 1 tablet PO q8h.

-Abnormal PE/Chem/CBC/UA Results: Grade 5/6 right apical systolic heart murmur. Increased RE and periodic cyanosis in lateral recumbency. CBC WNL. Chem mildly elevated ALP (287) and Na (164). BP: 120mmHg. ECG revealed enlarged R wave amplitude and wide QRS complexes.

-Pertinent previous echo findings (11/2025 MD): CVD stage C, no PAH

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. Mild right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with early pulmonary hypertension. The aortic valve appears trileaflet with normal mobility. No significant AI. There is normal systolic flow velocity across the aortic valve. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Flow through the RVOT/PV is normal in velocity. Trace PI. No pericardial/pleural effusion or cardiac masses are seen.

**CARDIAC CHART**

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>	5.0	3.0	NM	2.2	47	90	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>		1.1	1.1	7.3	3.0	3.8	2.0
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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)

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002  
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995



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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation persists. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Early pulmonary hypertension has developed, which is likely secondary to chronic LA pressure elevation and active congestion. No additional issues are identified.

These findings support a previous diagnosis of congestive heart failure (stage C), and continued medications are warranted lifelong as below. The dose of Lasix is quite high already, and CXR should be obtained prior to any further increases. If CHF is present we will have to adjust the dose as indicated. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. If able to be stabilized, the average survival time of canine patients with active pulmonary edema is 8-9 months on medications; however, most are able to maintain a good quality of life for that period on medications. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

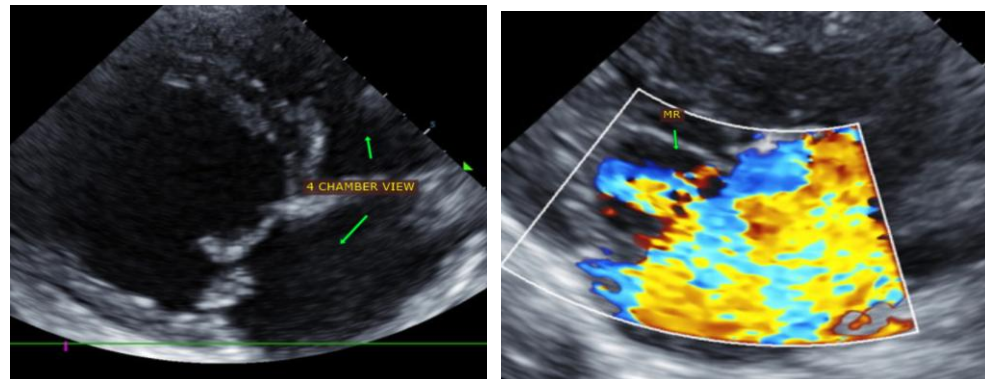
### Elective anesthesia is not advised, as there is high risk for complication.

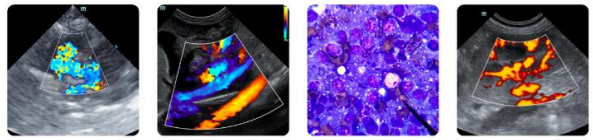
Plan: CXR should be obtained to determine if an increased Lasix dose is necessary. Continue Pimobendan 0.3mg/kg PO q12h. Increase spironolactone to 1-2mg/kg PO q12h. Continue Benazepril as prescribed.

Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics to ensure tolerance of medications. Utilize hydrocodone as needed for QOL.

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

## IMAGES





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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.

**Maggie Machen Lamy, DVM**

**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**

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