



**PATIENT**

Rayen Benson

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Female Spayed

**AGE**

10 years

**WEIGHT**

8.3lbs; 3.8kgs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Melissa Weisman, DVM

**HOSPITAL NAME**

Minnesota Veterinary  
Ultrasound

**REFERRING VET**

Dr. Weisman

**INVOICE**

31404

**DATE**

6/16/23

**PRESENTING CLINICAL SIGNS**

History: Recheck echo.

-Current medications: Cerenia 15mg: Give 1/4 tablet by mouth to lowest effective dose to help with tracheal collapse cough. Furosemide 12.5mg: Give 1/2 tablet by mouth every 24 hours or to lowest effective dose. Vetmedin 2.5mg: Give 1/2 tablet by mouth every 12 hours. Spironolactone 25mg: Give 1/4 tablet (6.25 mg) twice daily for cardiac disease.

-Pertinent previous echo findings (10/2022 MML): Severe MR with severe LAE, mild LVE, no TR. LA: 1.7, LV; 3.2.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. LV dilation with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with no significant tricuspid regurgitation. Right heart appears normal. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac tumors observed.

**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)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	4.5	NA	NM	2.5	58	89	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)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	100	1.4	0.8	3.8	2.5	3.2	1.4
*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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Compared to the prior study, there is evidence of progression. Severe MR is similar to previous; however, the LA dimension has increased significantly. The LV is similar to previous, and no right-sided disease is identified.

Given these findings, reasonable to continue cardiac supportive medications as previously recommended. This includes Pimobendan and Spironolactone. Pending a BP assessment, an



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ACE-I can be added as well. Lasix is only necessary if the patient has evidence or suspicion of CHF. Otherwise, this can be discontinued. Hydrocodone can be utilized for quality for life. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

**SPECIES**

Canine

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes. Long term prognosis is guarded to poor, with an average survival time of 8-9mo for canine patients with active pulmonary edema on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

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**PLAN**

Continue Pimobendan and Spironolactone as prescribed. Lasix is only necessary if the patient has documented CHF previously. In this instance, continue at BID dosing going forward. Consider hydrocodone with homatropine for QOL (0.2-0.4mg/kg PO up to q4-6 hours PRN for cough; available in 5/1.5mg tabs and 5mg/5ml liquid suspension). A baseline BP is recommended every 3-4 months with institution of an ACE-I if >150mmHg.

**AGE**

10 years

A renal panel is recommended every 3-4 months lifelong.

**WEIGHT**

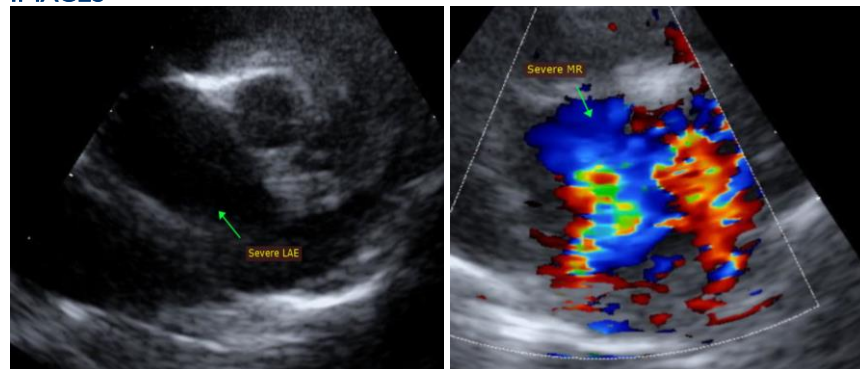
8.3lbs; 3.8kgs

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGES**



**IMAGING PERFORMED BY**

Melissa Weisman, DVM

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.

**HOSPITAL NAME**

Minnesota Veterinary  
Ultrasound

**REFERRING VET**

Dr. Weisman

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**

31404

**Maggie Machen Lamy, DVM**  
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**DATE**

6/16/23