

**PATIENT**

Rylee Minihan

**SPECIES**

Canine

**BREED**

Miniature Schnauzer

**SEX**

Female Spayed

**AGE**

9 years

**WEIGHT**

16.43lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Santa Clara Animal  
Hospital

**REFERRING VET**

Dr. Zulauf

**INVOICE**

29578

**DATE**

3/14/23

**PRESENTING CLINICAL SIGNS**

History: Grade 4/6 heart murmur. BP: 185, 192, 183, 196, 191, 165mmHg.  
 -Current medications: Trilostane 10mg SID.

**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. Mild to moderate eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

**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	1.5	59	90	0.14
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	NM	1.3	1.5	7.5	2.0	2.9	1.2
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
Hansson et al, Vet Rad and Ultrasound 2002				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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)



**PATIENT**

Rylee Minihan

**SPECIES**

Canine

**BREED**

Miniature Schnauzer

**SEX**

Female Spayed

**AGE**

9 years

**WEIGHT**

16.43lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Santa Clara Animal  
Hospital

**REFERRING VET**

Dr. Zulauf

**INVOICE**

29578

**DATE**

3/14/23

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing mild to moderate mitral regurgitation. Lack of significant left atrial enlargement indicates the current risk for complication is low. No concurrent issues such as pulmonary hypertension are noted in this study.

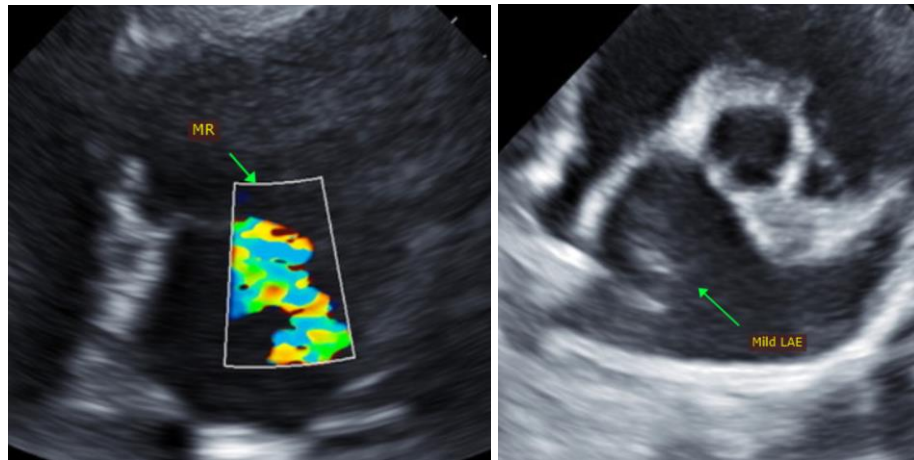
In an asymptomatic dog without significant left atrial enlargement, no cardiac medications are clearly indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

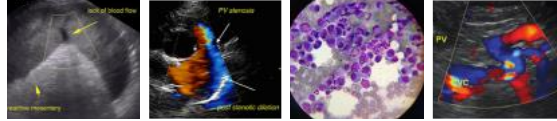
The reported blood pressure is elevated, and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc), as primary disease is relatively uncommon and a rule out diagnosis.

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.

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

**IMAGES**





**PATIENT**

Rylee Minihan

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.

**SPECIES**

Canine

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.

**BREED**

Miniature Schnauzer

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

**SEX**

Female Spayed

**AGE**

9 years

**WEIGHT**

16.43lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING  
PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Santa Clara Animal  
Hospital

**REFERRING VET**

Dr. Zulauf

**INVOICE**

29578

**DATE**

3/14/23