



PATIENT

Scout Neumiller

SPECIES

Canine

BREED

Siberian Husky Mix

SEX

Male Neutered

AGE

8.8 years

WEIGHT

55.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Greg Kuhlman, DVM

HOSPITAL NAME

Red River Animal
Emergency Hospital &
Referral Center

REFERRING VET

Dr. Kuhlman

INVOICE

47861

DATE

5/14/26

PRESENTING CLINICAL SIGNS

History: Presented due to a left-sided systolic heart murmur and a history of sudden-onset seizure activity beginning approximately 6 months ago. Seizures were first noted on 6/22/25 and have remained poorly controlled despite treatment with levetiracetam ER and later addition of Phenobarbital on 3/6/26. Breakthrough and cluster seizures continued through March and April 2026, including multiple seizures within a 24-hour period from 4/8–4/10/26. During recheck evaluation on 4/10/26, CXR suggested mild left atrial enlargement, and a grade II/VI left-sided systolic murmur was auscultated.

-Abnormal PE/Chem/CBC/UA Results (08/07/2025): CBC: All values within normal limits. 08/04/2025-Chemistry panel: All values within normal limits, Endocrinology (Total T4): Within normal limits. 6/30/25- 4dx: negative. No murmur auscultated on today's exam. Blood pressure: 118mmHg. -Current Medications: Phenobarbital 48.6mg PO BID, Levetiracetam ER 750mg PO q12h

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Normal cardiac silhouette. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 150bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild mitral valve leaflet thickening with no obvious prolapse into the left atrial lumen. Trivial mitral regurgitation is identified. Normal left atrial dimension. Normal LV diameter with normal myocardial function. The tricuspid valve appears subjectively normal. Trivial TR. The right heart is normal. No overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. No aortic abnormalities identified, with normal outflow velocity. Normal pulmonic outflow velocities. No aortic insufficiency. Trace pulmonic insufficiency. No pericardial or pleural effusion noted. No 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	NA	NA	NM	1.3	39	72	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)



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NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	1.0	1.0	25.3	2.3	3.1	1.9
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				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

Overtly normal cardiac structure and function with no cause of a murmur identified. No significant valvular insufficiencies were noted and no structural issues identified. In the absence of significant volume changes (dehydration or anemia), other possibilities include a physiologic flow murmur only present with elevated heart rates, or a small flow abnormality not seen here. Should the murmur persist/progress in the future, it is reasonable to monitor periodically via recheck echocardiography in the future. The ECG is unremarkable with a normal sinus rhythm.

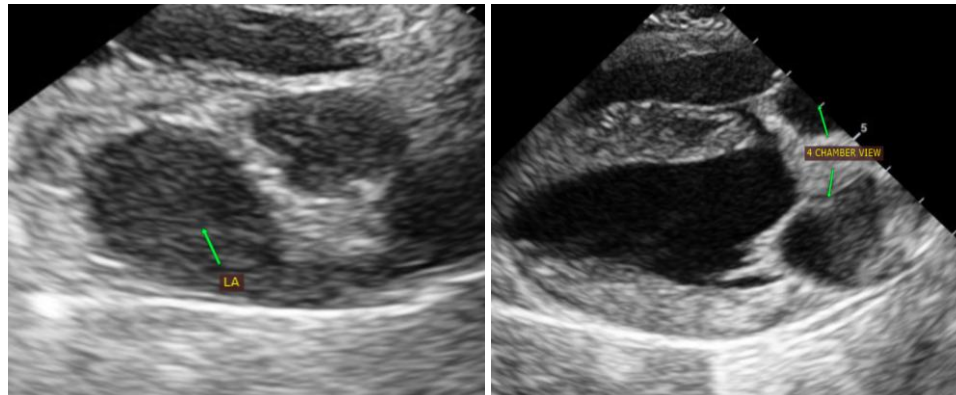
A cardiac contribution to the current clinical issues/seizures is not suspected based upon these findings.

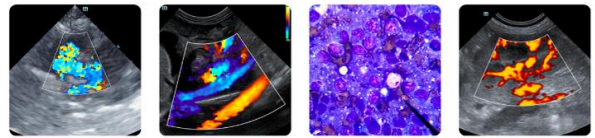
No cardiac medications are indicated at this time. Prognosis is open. Monitor for any development of cough, labored breathing or exercise intolerance.

No cardiac contraindication for general anesthesia.

Recommend recheck echocardiogram in 12-18 months to reassess murmur origin and screen for development of concurrent cardiac disease that the preexisting murmur may mask.

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
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