


**PATIENT**

Jinkee Karas

**PRESENTING CLINICAL SIGNS**

Patient presents for pre-surgical echo and grade 3/6 systolic murmur over the mitral valve. No clinical issues. Patient needs cruciate repair surgery.

**SPECIES**

Canine

Current med: Rimadyl.

**BREED**

Boxer

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**
**SEX**

FS

**AGE**

7yr

**WEIGHT**

79.2lb

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	<1.3	28-40	40-100	<0.6
PATIENT				1.27	33	65	0.2
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				
PATIENT	119	1.4	1.2		4.3	4.0	

**INTERPRETED BY**

 R. McKenzie Daniel,  
 DVM, DABVP  
 (Canine and Feline)

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

 Midland Park  
 Veterinary Hospital

**REFERRING VET**

Dr. Shokoff

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal left atrial size based on 3 separate methods of LA evaluation. The cranial and caudal mitral valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt or significant MR on Doppler. The left ventricle presented thicknesses with linear contour and was not dilated nor restricted. The myocardium presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Contractility of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The left ventricular outflow tract demonstrated normal laminar flow and subjective structural integrity. Normal measured LVOT velocity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Normal measured RVOT velocity. No visible pericardial or free pleura fluid was noted. The cranial mediastinum and pericardial and extra-cardiac regions were free of masses in the visible window. No evidence of arrhythmia.

**ULTRASONOGRAPHIC FINDINGS**

- Normal echocardiogram

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal cardiac structure and function with no evidence of DCM criteria, LV systolic dysfunction, clinical pulmonary hypertension, significant valvular insufficiencies or stenotic disease. A

**INVOICE**

12582ag

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definitive cause of the patient's murmur was not evident. If no volume changes such as dehydration or anemia are present, a benign physiologic flow murmur or small clinically significant flow abnormality is suspected. Regardless, the lack of left or right heart chamber enlargement indicate that the hemodynamic effects of the murmur are minimal. No indication for cardiac medications. Continued conservative monitoring of the murmur is recommended. No anesthetic contraindications. ECG assessment given the breed is suggested prior to anesthesia.

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Canine

Recheck echocardiogram recommended in 6 months, sooner if murmur intensity increases or clinical signs suggestive of heart disease arise. The following anesthetic protocol could be considered.

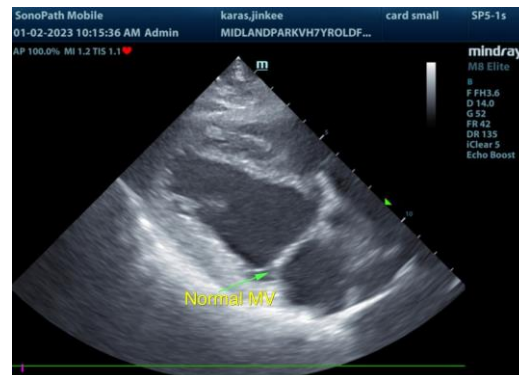
**BREED**

Boxer

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

**SEX**

FS



**AGE**

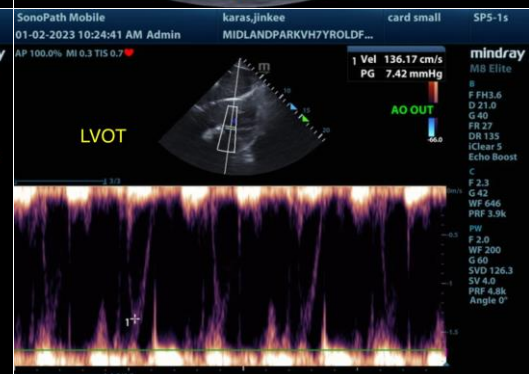
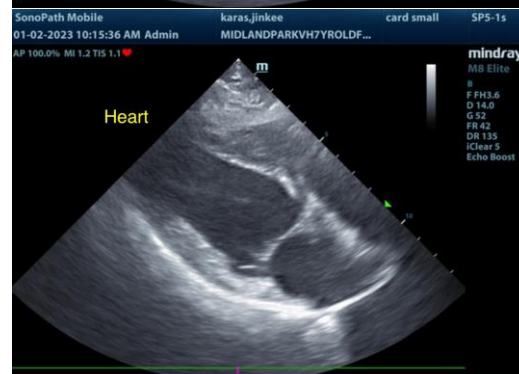
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.



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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.

**SPECIES**

Canine

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)

[mac.daniel@sonopath.com](mailto:mac.daniel@sonopath.com)

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