



**PATIENT**  
 Nikki Van Staden  
**SPECIES**  
 Canine  
**BREED**  
 Chihuahua

**PRESENTING CLINICAL SIGNS**

Chronic coughing, noted grade 2-3/6 heart murmur on PE.  
 Has been started on Lasix oral solution and Hydrocodone.  
 Recommend Echo to rule out cardiomegaly vs other.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**SEX**  
 FS  
**AGE**  
 13 yrs  
**WEIGHT**  
 4.6 lbs.

<b>CANINE CARDIAC PARAMETERS</b>	<b>MR VMAX (m/s)</b>	<b>TR VMAX (m/s)</b>	<b>LA/AO (M-Mode)</b>	<b>LA/AO (Heart Base; Swe)</b>	<b>FS (%)</b>	<b>EF (%)</b>	<b>EPSS (cm)</b>
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
<b>PATIENT</b>	-	2.3 MAX	-	1.36	46	80	0.1
<b>CANINE CARDIAC PARAMETERS</b>	<b>HR (BPM)</b>	<b>AV VMAX (m/s)</b>	<b>PV MAX (m/s)</b>	<b>BODY WEIGHT</b>	<b>LAD LA MAX 4 Chamber</b>	<b>LVIDd Avg; 2D and m-mode short axis (cm)</b>	<b>LVIDs Avg; 2D and m-mode short axis (cm)</b>
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>	NM	1.0	0.75	4.6 lbs.	1.7	1.7	-

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

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different LA measurement methods. The cranial and caudal **mitral** valve leaflets presented thickening consistent with endocardiosis, more prominent in the septal leaflet with minor septal leaflet prolapse. Doppler indicated eccentric insufficiency. 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. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated mild thickening with mild TR on Doppler (measured MAX TR velocity 2.3 m/s). The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of cardiac / pericardial tumors was visible. No evidence of hepatic congestion.

**IMAGING PERFORMED BY**  
 Crystal Hill  
**HOSPITAL NAME**  
 Queensdale AH  
**REFERRING VET**  
 Chaudhary  
**INVOICE**  
 10798  
**DATE**  
 4/14/26



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**ULTRASONOGRAPHIC FINDINGS**

- Chronic mitral valve disease with minor valve prolapse (B1)
- Mild tricuspid valve insufficiency – no evidence of clinical pulmonary hypertension

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of the murmur is chronic degenerative valvular changes with secondary, primary eccentric MR and concurrent mild TR. The lack of left atrial enlargement implies that the risk of complications secondary to mitral valve insufficiency is low without evidence of chamber enlargement or clinical pulmonary hypertension. The cough in this patient is noncardiogenic in origin without indication for cardiac medical therapy. Respiratory support based on the clinical impression of the patient and thoracic radiographs is recommended. Cardiac prognosis is considered variable and sonographic monitoring is recommended. Recheck echocardiogram is suggested in 6-12 months, sooner if clinical signs arise.

Cardiac anesthetic risk is considered mild. 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.

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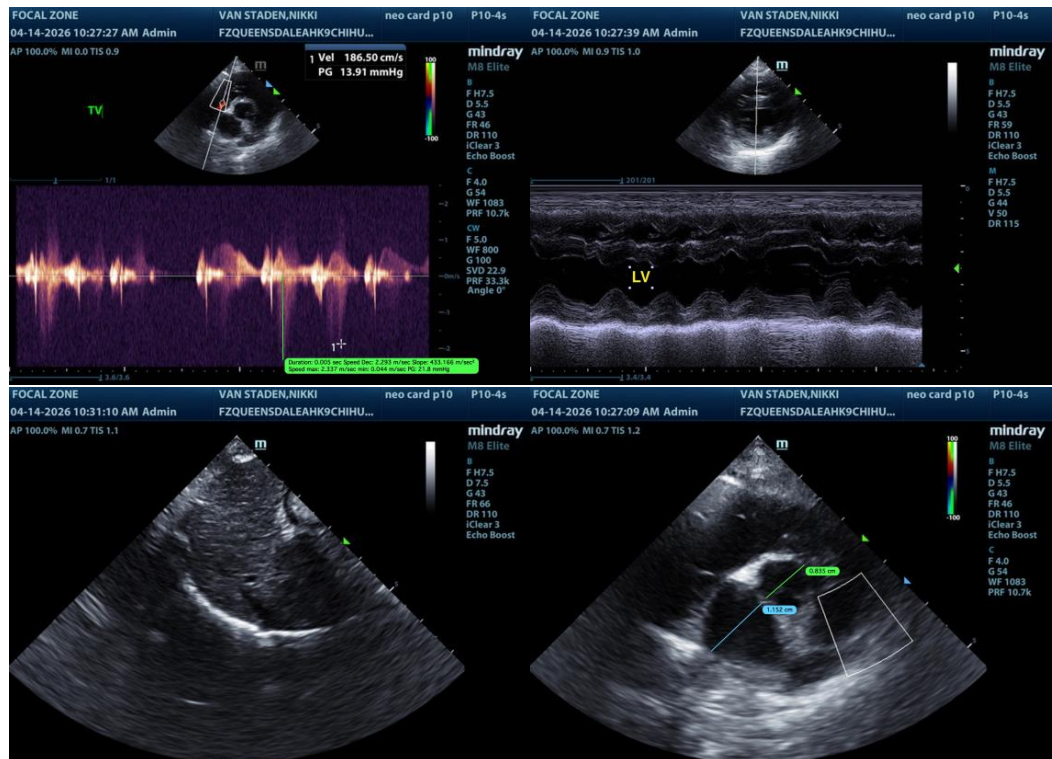
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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

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