



## PATIENT

Torque Devins

## SPECIES

Canine

## BREED

Blue Heeler Mix

## SEX

FS

## AGE

5 years

## WEIGHT

57.2 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Animal Hospital of  
Sussex County

## REFERRING VET

Dr. Ackernecht

## INVOICE

17119

## DATE

6/21/23

## PRESENTING CLINICAL SIGNS

New grade II/VI heart murmur on L side, PMI L apical. Current meds: Bravecto, Gaba/Traz (last night and am); Torb iv just prior to u/s.

Abnormal PE/Chem/CBC/UA Results: n/a

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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		2.0		1.4	21	43	0.38
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	98	1.0	0.7		4.2	3.9	

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 2 different methods of LA evaluation. The chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR was noted 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 subnormal as 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Minor TR was present 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). 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 was noted.



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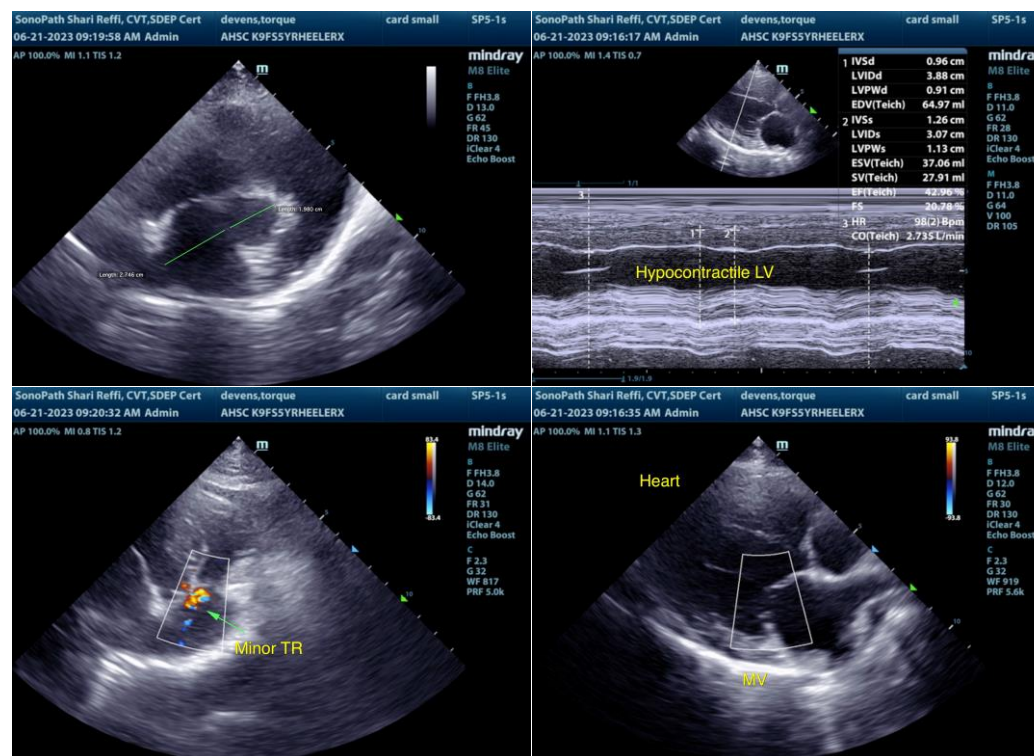
## ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram with LV hypocontractility
- Minor TR - no evidence of clinical pulmonary hypertension

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A definitive cause of the low-grade murmur was not obvious without evidence of left or right heart chamber enlargement, significant valvular insufficiencies, or stenotic disease. Assuming no evidence of volume changes such as dehydration or anemia, a physiologic flow murmur is suspected, although a non-visualized small flow abnormality could be possible. The LV hypocontractility is nonspecific with potential considerations including hypothyroidism, athletic state, or systemic disease, which may present in this manner. DCM criteria was not met.

No overt indication for cardiac medication, assuming the patient is non-clinical. Assessment of diet history is advised. If the patient is fed a grain-free / exotic / boutique diet, switching to a traditional diet as well as taurine levels is recommended. A recheck echocardiogram is recommended in 6 months, given LV hypocontractility and pending additional recommendations, sooner if clinical signs consistent with heart disease arise.



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology



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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.

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