



**PATIENT**

Bailey Zimmerman

**PRESENTING CLINICAL SIGNS**

Murmur heard at 3 months old; Did not hear 2 weeks ago; No symptoms; Getting spay next week. Abnormal PE/Chem/CBC/UA Results: BW WNL; EKG WNL

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**BREED**

Golden Retriever

**SEX**

Female

**AGE**

5 Months

**WEIGHT**

51

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			NM	1.4	35.3	68.1	0.25
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		--	--		--	3.4	

**Cardiac Presentation**

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Tasha

**HOSPITAL NAME**

Dillsburg Vet Clinic

**REFERRING VET**

Dr. Pryor

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. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. 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.

**ULTRASONOGRAPHIC FINDINGS**

- Overtly normal cardiac structure and function

**INVOICE**

25166

**DATE**

9/2/21

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No obvious evidence of structural or functional cardiomyopathy noted in this study. An obvious cause of the previously noted yet resolved heart murmur was not definitively evident. A potential resolved physiologic or flow murmur possibly owing to volume changes, mild anemia or elevated heart rate may be possible. However, this study is incomplete, and a small flow abnormality or congenital defect not seen cannot be definitively excluded. This possibility may be considered less likely given the reported



**PATIENT**

Bailey Zimmerman

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Female

**AGE**

5 Months

**WEIGHT**

51

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Tasha

**HOSPITAL NAME**

Dillsburg Vet Clinic

**REFERRING VET**

Dr. Pryor

**INVOICE**

25166

**DATE**

9/2/21

resolved murmur. Continued monitoring for evidence of recurrent murmur would be appropriate at this time with potential referral to a local cardiologist if the murmur is noted again. Given the overtly normal cardiac structure and function without evidence of left or right heart volume overload and normal ECG, no overt cardiac contraindication for general anesthesia. 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.

Reassessment of heart rate and ideally blood pressure is suggested prior to anesthesia.



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. 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)**  
info@SonoPath.com