



**PATIENT PRESENTING CLINICAL SIGNS**

Dent Woof Gang Rescue heart murmur present

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

Canine

**BREED**

Golden Retriever

**SEX**

Female

**AGE**

5 Months

**WEIGHT**

35 Pounds

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	1.28	50	84	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	101	3.4	1.0		3.0		

**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. The **left ventricle** presented overall normal thicknesses, yet subjective mild prominent IVS and LV free wall with maintained linear contour and without evidence of dilation or restriction. 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 turbulent flow with subjectively normal aortic valve. 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**

- Subaortic stenosis

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the elevated LVOT velocity and breed, the cause of the murmur is most consistent with subaortic stenosis. This condition appears to be genetic in origin and may appear in the first year of life, as is suspected in this case. At this time, there is no subjective secondary cardiomyopathy associated with the subaortic stenosis, although potential for very early left ventricular hypertrophy is possible. The

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Dr. Gromalak

**HOSPITAL NAME**

SVS Imaging

**REFERRING VET**

Dr. Chughai

**INVOICE**

33327

**DATE**

12/7/21



**PATIENT**

Dent Woof Gang  
Rescue

**SPECIES**

Canine

**BREED**

Golden Retriever

estimated pulmonary pressure gradient based on LVOT velocity (approximately 46-59 mmHg) is consistent with mild to moderate stenosis.

Given the lack of secondary structural cardiomyopathy, continued monitoring at this stage would be appropriate with recheck echocardiogram in 6 months to assess for evidence of progression with mild exercise restriction and monitoring for arrhythmias. Alternatively, if possible, referral to a local cardiologist for further assessment would be appropriate. No overt anesthetic contraindications given the overall overtly normal cardiac structure and function. 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. Close monitoring for the development of arrhythmia as well as systemic blood pressure while under anesthesia is advised.

**SEX**

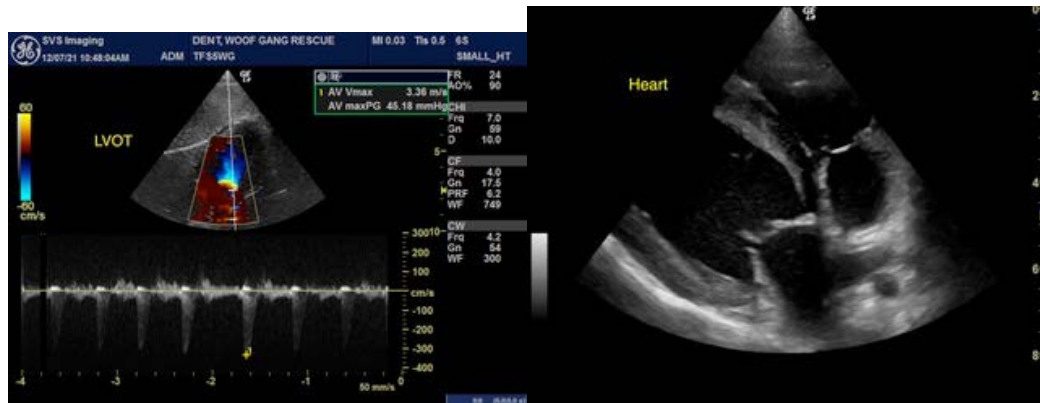
Female

**AGE**

5 Months

**WEIGHT**

35 Pounds



**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Dr. Gromalak

**HOSPITAL NAME**

SVS Imaging

**REFERRING VET**

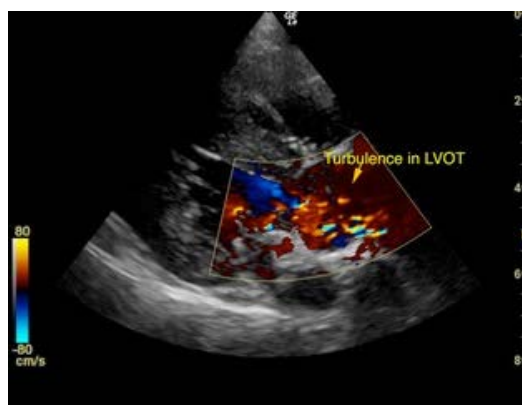
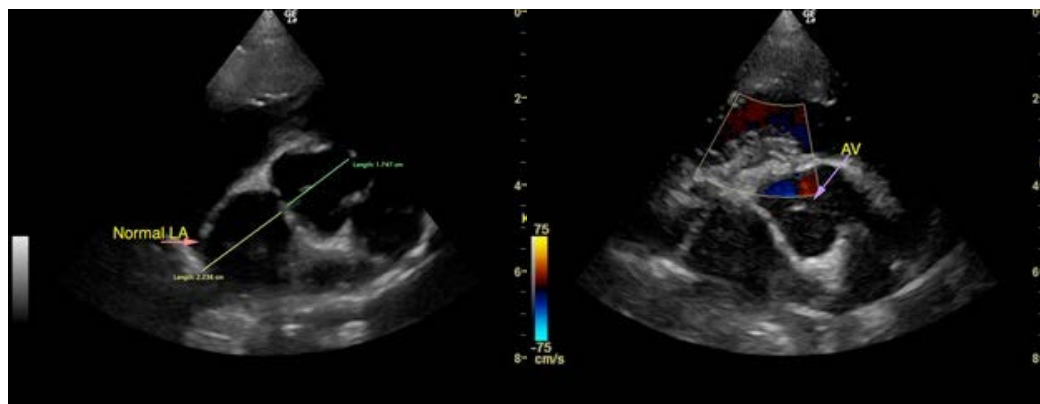
Dr. Chughai

**INVOICE**

33327

**DATE**

12/7/21





**PATIENT**

Dent Woof Gang  
Rescue

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.

**SPECIES**

Canine

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.

**BREED**

Golden Retriever

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com

**SEX**

Female

**AGE**

5 Months

**WEIGHT**

35 Pounds

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Dr. Gromalak

**HOSPITAL NAME**

SVS Imaging

**REFERRING VET**

Dr. Chughai

**INVOICE**

33327

**DATE**

12/7/21