



## PATIENT

Trooper Merritt

## SPECIES

Canine

## BREED

Shih Tzu

## SEX

Neutered Male

## AGE

12 years

## WEIGHT

17.1 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Kim Liedberg

## HOSPITAL NAME

SVS Imaging WI

## REFERRING VET

Dr. Dannehy, Genoa  
AH

## INVOICE

12412

## DATE

10/21/21

## PRESENTING CLINICAL SIGNS

-This is a 6 month recheck echo. Past echo stated static chronic mitral valve disease and trace tricuspid insufficiency.

## 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	<1.6	28-40	40-100	<0.6
PATIENT	5.3	2.1	NM	2.0	63	92	0.14
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	BELOW	BELOW	BELOW	BELOW
PATIENT	116	1.7	1.1		3.5	3.4	

## Cardiac Presentation

The echocardiogram in this patient demonstrated moderately enlarged **left atrial** size based on 3 different LA measurement methods. Mild deviation of the interatrial septum towards the right atrium indicative of some degree of elevated left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable 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 adequate linear morphology. Color doppler assessment revealed subjective static mild tricuspid valve insufficiency. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Color doppler assessment of the aortic valve revealed insufficiency. **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 infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Chronic mitral valve disease (ACVIM B2) - subtle evidence of progression compared to previous study, yet not clinically significant
- Static mild tricuspid Insufficiency
- Aortic valve insufficiency

### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Continued Pimobendan 0.3 mg/kg PO BID and monitoring of resting respiration rate at home are recommended. Spironolactone, a weak diuretic at 1-2 mg/kg PO BID could be considered, given the left atrium enlargement or if clinical signs suggestive of congestion are present. However, overall cardiac functionality appears to be compensated. The estimated pulmonary pressure gradient based on tricuspid valve insufficiency velocity was not consistent with clinical pulmonary hypertension. Assessment of systemic blood pressure is suggested, given the aortic valve insufficiency.

Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with decompensation are noted.

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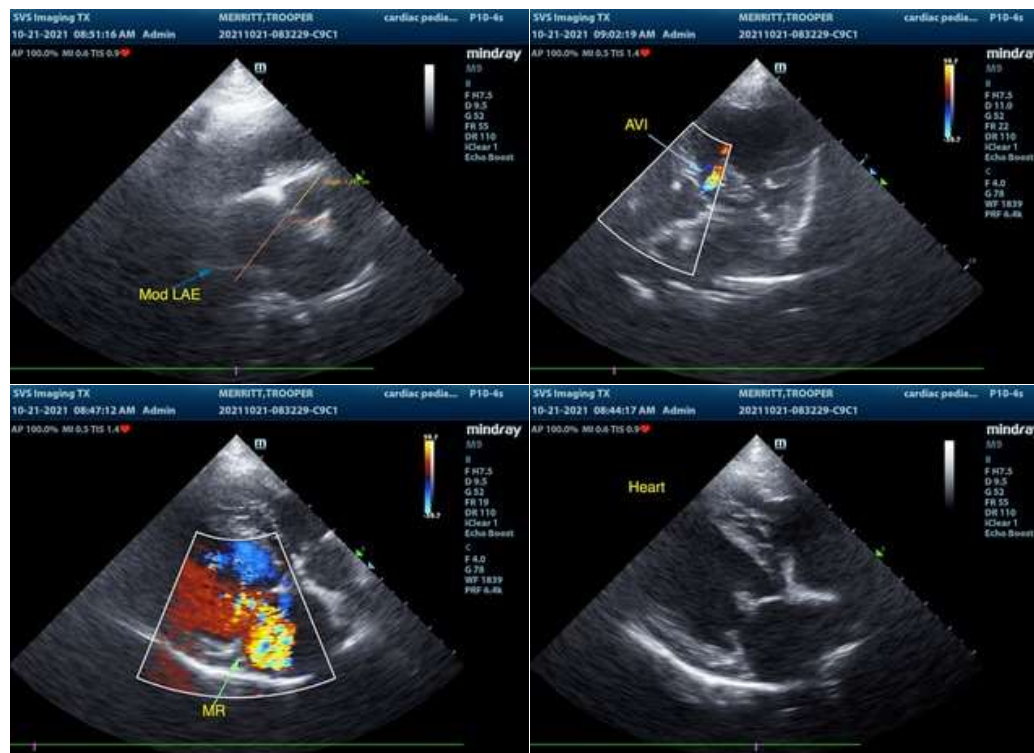
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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