



## PATIENT

Holley Karim

## SPECIES

Canine

## BREED

Coonhound

## SEX

SF

## AGE

9 years

## WEIGHT

80

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Tasha

## HOSPITAL NAME

Dillsburg VC

## REFERRING VET

Dr. Jacobs

## INVOICE

13415

## DATE

2/24/22

## PRESENTING CLINICAL SIGNS

-Newly acquired murmur (3/6 left systolic); No symptoms. EKG WNL  
Abnormal PE/Chem/CBC/UA Results: BW WNL; No x-rays performed;

## 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			1.37		46.7	81.6	0.45
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	NM				4.0	4.5	

## 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 minor subjective thickening with normal extension in systole, union in diastole and normal kinesis. This may suggest mild endocardiosis. Evidence of significant MV insufficiency was not definitively present, yet possible. 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. Mild AV insufficiency was present on color doppler. 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
- Mild AV Insufficiency



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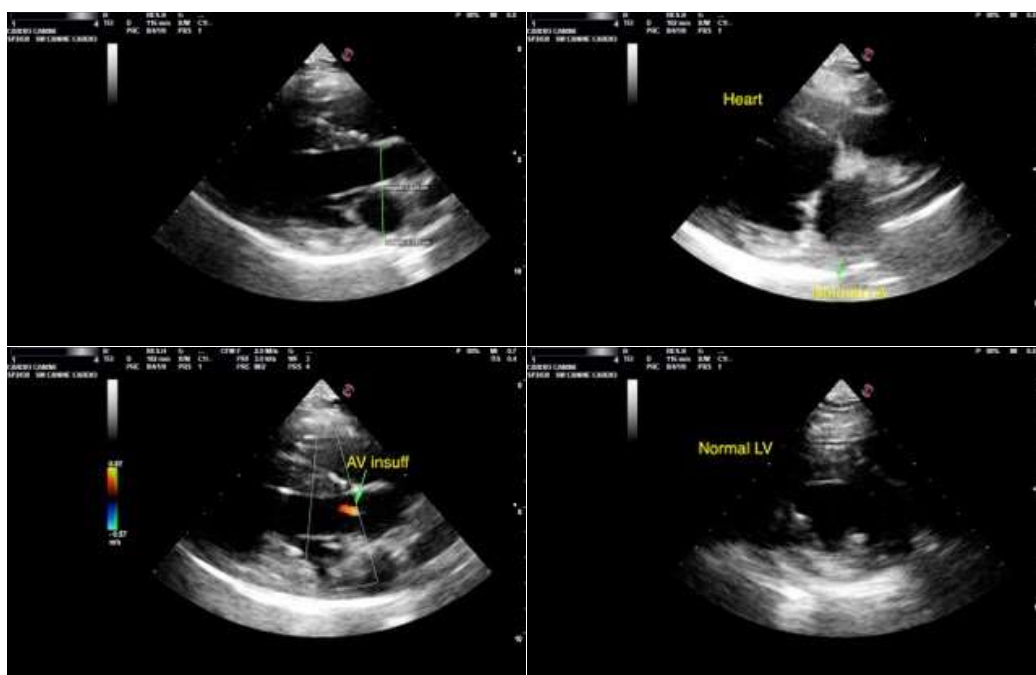
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of significant structural or functional cardiomyopathy, including no evidence of left or right heart chamber enlargement, or LV systolic dysfunction. The cause of the murmur was not definitively evident, yet given the description of the murmur, compensated MV Insufficiency owing to mild endocardiosis is considered a top differential diagnosis. If present, the lack of left atrium enlargement indicated that the risk of potential MV insufficiency is low at this time. Mild AV insufficiency is also present, yet not likely audible. This is of unclear clinical significance, yet does not appear to be hemodynamically significant.

Assessment of systemic blood pressure is advised, given the presence of AV Insufficiency. No overt indication for cardiac medications was evident at this time. Conservative monitoring of the murmur at this stage is appropriate. Recheck echocardiogram is suggested in 6 months, 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 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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