



## PATIENT

Baxter Boxer Rescue

## SPECIES

Canine

## BREED

Boxer

## SEX

MN

## AGE

2.2yr

## WEIGHT

55lb

## PRESENTING CLINICAL SIGNS

Exercise-induced collapsing episodes in a young boxer between his first and second Diroban treatment for HW.

Abnormal PE/Chem/CBC/UA Results: Normal exam + labs BP 124 mmHg

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO M-mode	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	--	1.45	17.5	33	0.66
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LAD LA MAX 4 Chamber	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	--	1.5	0.73	--	3.8	4.0	--

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Sorbo

## HOSPITAL NAME

JM Pet Resort &  
Veterinary Clinic

## REFERRING VET

Sorbo

## INVOICE 23051

DATE  
11/24/2025

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal left atrial size based on 2 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. Minor centralized MR 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. Normal measured LVOT velocity. 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. No overt TR 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). Normal measured RVOT velocity.

A solitary visualized heartworm present in the deep post valvular pulmonary artery.

No visible pericardial or free pleural fluid was noted. The cranial mediastinum and pericardial and extra-cardiac regions were free of masses in the visible window. Subjective bradycardia was present.

Brief hepatic assessment revealed no evidence of hepatic congestion or cranial abdomen ascites.



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## ULTRASONOGRAPHIC FINDINGS

### Primary

- Structurally normal heart with LV hypocontractility
- Bradycardia
- Heartworm visible in deep pulmonary artery -consistent with patient history
- Minor centralized MR

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Considerations for the cardiac presentation may include emerging DCM like cardiomyopathy criteria, which may be primary in nature secondary to taurine deficiency, hypothyroidism, myocarditis, less likely infiltrative disease such as lymphoma, non-obvious systemic disease, athletic state given young patient age or non-reported sedation. Correlation with clinical and dietary history is recommended. If clinically indicated further assessment may include taurine and troponin level. If patient was not sedated ECG is indicated for further clarification of the bradycardia. Given lack of left or right heart chamber enlargement the overall heart appears to be compensated.

Overt indication for cardiac medication such as Pimobendan is not obvious. However, if continued exercise induced collapsing episodes Pimobendan trial 0.3 mg/kg PO BID may be indicated. Initial exercise restriction warranted pending further cardiac assessment. Echocardiographic monitoring required for further assessment and prognosis.

Recheck echo suggested in 3-4 weeks, sooner if clinical signs consistent with cardiac congestion arise or progressive collapsing episodes.

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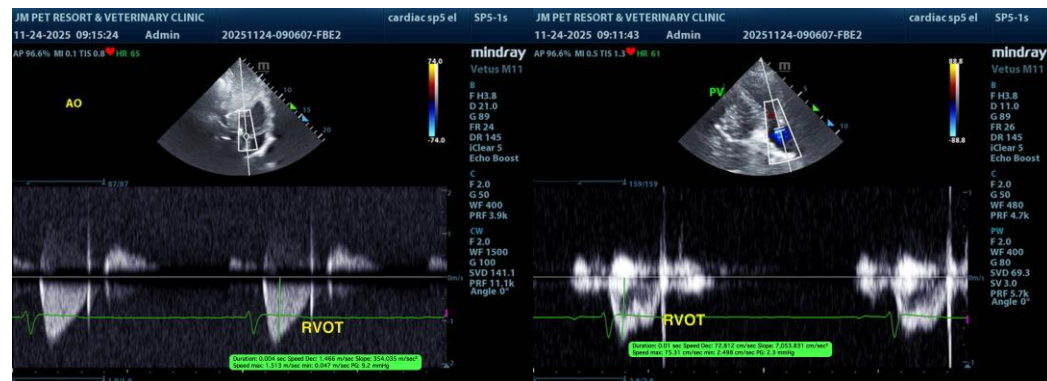
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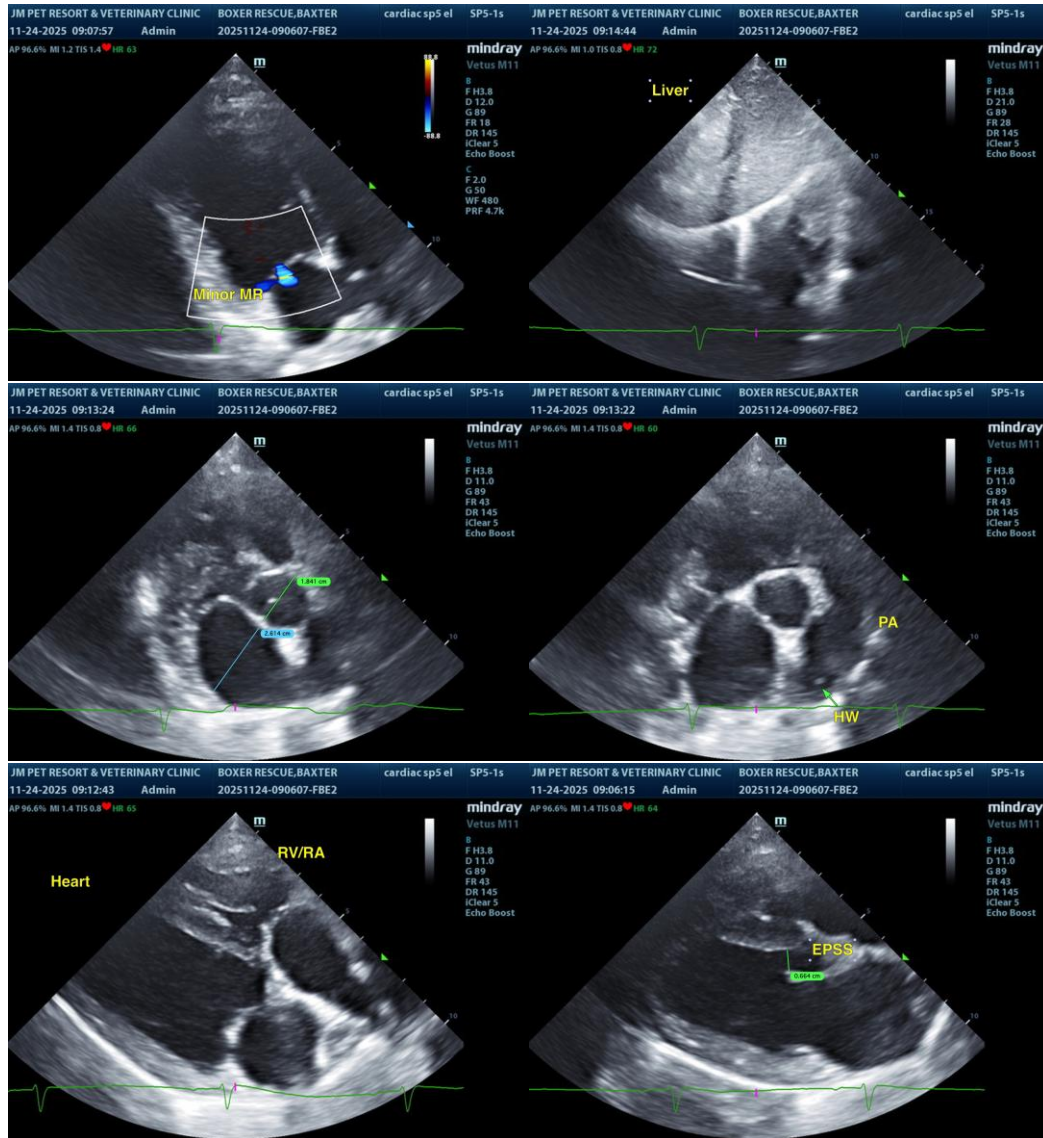
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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