



**PATIENT**

Bean Becker

**SPECIES**

Canine

**BREED**

Pitbull

**SEX**

Male Intact

**AGE**

6.4 years

**WEIGHT**

87.5lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Loetitia St-Jacques,  
LVT/RVT

**HOSPITAL NAME**

Advanced Pet Care of  
NV

**REFERRING VET**

Dr. Hazelwood

**INVOICE**

27986

**DATE**

12/13/22

**PRESENTING CLINICAL SIGNS**

History: HWT positive documented in August. No MF seen. No heart murmur auscultated. No symptoms. First immitidice administered 1 month ago, 2nd imiticide given today. Bean is on trazodone, gabapentin, Heartgard, and prednisone. O does not some coughing now overnight. He is on strict exercise restriction. Today, he received diphenhydramine IM, Immiticide IM, Buprenorphine IV, trazodone, and gabapentin. Screening radiographs 1 month ago prior to treatment start showed right sided cardiomegaly, caudal lobar arterial tortuosity, and generalized bronchiol pattern. P had no obvious clinical signs prior to starting treatment.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of mitral valve with no prolapse into the left atrial lumen. No MR; normal LA dimension. No LV dilation with adequate myocardial function. The MPA and branches are minimally dilated. Possible adult worm(s) near the MPA bifurcation. No worms seen in the RA or RV or peripheral branches. No right atrial dilation. RV appears normal with no obvious RVH. Trace MR. Normal velocity. Trace tricuspid regurgitation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No or aortic insufficiency. No pericardial or pleural effusion.

**CARDIAC CHART**

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	5.2	NM	NM	1.2	35	68	NM
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	1.9	1.4	39.7	2.8	4.9	3.2
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Overtly normal cardiac dimensions and function with a possible adult heartworm seen in the MPA. This is certainly not definitive, as ultrasound is largely insensitive (i.e., adult worms may be easily either missed peripheral or elsewhere). Even if truly present, given a lack of right heart



**PATIENT**

Bean Becker

enlargement the infestation is considered relatively mild without evidence significant pulmonary hypertension. No additional issues are identified.

**SPECIES**

Canine

Heartworms can cause significant damage to the lung tissue leading to pulmonary damage, pulmonary hypertension and clinical signs such as coughing, decreased ability to exercise, or difficulty breathing. Disease severity can range from an asymptomatic dog with few worms to dogs with severe respiratory signs. In the most severe cases, caval syndrome may develop due to a very high worm burden sheering blood cells as they pass through the heart. Caval syndrome is a life-threatening emergency that requires immediate surgical removal of the worms.

**BREED**

Pitbull

Given that this patient is asymptomatic without right heart enlargement, no further treatment is warranted. Both Immiticide injections have already been administered and the patient's heartworm status should be reassessed in 6 months with strict exercise restriction in the interim. If extraction would be a possibility from a financial standpoint, I would consider referral to a local cardiologist for advanced echocardiography and evaluation. Treatment and follow up should be dictated by the American Heartworm Society.

**SEX**

Male Intact

**AGE**

6.4 years

Following treatment, retest for heartworm disease 6 months after completing the full course of therapy. Anesthesia is NOT advised prior to completing the protocol, as vasodilation can lead to increased risk for an embolus. Prognosis is guarded, as the right heart/MPA changes are often permanent and may cause clinical signs (exertional syncope/dyspnea, right-sided CHF) in the future.

**WEIGHT**

87.5lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

During therapy, there is high risk for a worm embolus and breathing rate and effort should be monitored closely. Anti-inflammatory prednisone can be used if becomes symptomatic. Patient will be at high risk for developing clinical signs due to pulmonary hypertension with age given the inherent secondary inflammation and damage to the pulmonary vasculature and lungs, and periodic rechecks may be helpful. Monitor for exertional dyspnea or fainting episodes going forward.

**IMAGING PERFORMED BY**

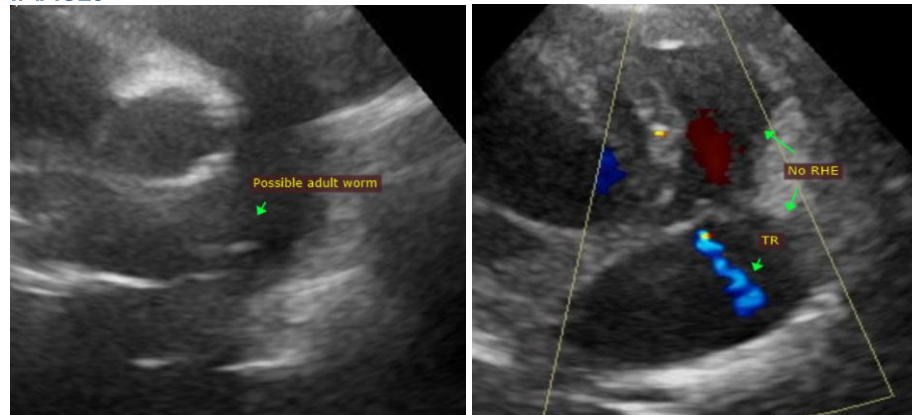
Loetitia St-Jacques,  
LVT/RVT

Once heartworm negative, a recheck echocardiogram and chest radiographs are recommended in 6 months to reassess right heart changes.

**HOSPITAL NAME**

Advanced Pet Care of  
NV

**IMAGES**



**REFERRING VET**

Dr. Hazelwood

**INVOICE**

27986

**DATE**

12/13/22



**PATIENT**

Bean Becker

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. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

**BREED**

Pitbull

**Maggie Machen Lamy, DVM**  
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)  
info@sonopath.com

**SEX**

Male Intact

**AGE**

6.4 years

**WEIGHT**

87.5lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Loetitia St-Jacques,  
LVT/RVT

**HOSPITAL NAME**

Advanced Pet Care of  
NV

**REFERRING VET**

Dr. Hazelwood

**INVOICE**

27986

**DATE**

12/13/22