



**PATIENT**

Cooper House

**SPECIES**

Canine

**BREED**

Cavalier

**SEX**

Male Neutered

**AGE**

7.2 years

**WEIGHT**

38.4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

B. Barnes, DVM

**HOSPITAL NAME**

Westview Veterinary  
Hospital

**REFERRING VET**

Dr. Barnes

**INVOICE**

31347

**DATE**

6/14/23

**PRESENTING CLINICAL SIGNS**

History: Recently diagnosed grade 2-3 / 6 heart murmur. BP: 194mmHg.  
-Abnormal PE/Chem/CBC/UA Results: CBC wnl besides mild anemia rbc 5.3 (5.4-8.7) mcv 83 (59-76) mch 28 (21-26) \*\* note from pathology- changes may be related to hemolysis CHEM wnl besides hyperphosphatemia 2.5 (0.8-2.0) hyperkalemia 5.6 (4-5.4) na:k ratio 26 (28-37) hypochloridemia 103 (108-119) ALP 1066 (5-160) lipase 347 (0-250) CK 393 (10-200) Probnp normal UA ran in house free catch cloudy urine usg 1.020 ph 9, leu neg, pro 100mg/dl glu,ket,ubg,bil,bld neg wbc/rbc <1/hpf, no bact, epi, casts <1/hpf struvite crystals.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with minimal prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears subjectively normal, with trivial tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic insufficiency. Mild PI; normal velocity. No pericardial or pleural effusion noted. No cardiac tumors observed.

**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	5.8	NM	1.2	1.4	35	66	0.49
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	NMK	1.7	0.95	17.4	2.0	3.4	2.0
*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**

Chronic degenerative valve disease causing moderate mitral and trivial tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in the future is elevated. No additional issues are identified.



## PATIENT

Cooper House

Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (B2).

## SPECIES

Canine

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

## BREED

Cavalier

The reported blood pressure is elevated and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc.) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally, if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushing's, PLN, adrenal tumor, etc.), as primary disease is relatively uncommon and a rule out diagnosis.

## SEX

Male Neutered

## AGE

7.2 years

Once on the medication for 3-5 days, anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## WEIGHT

38.4lbs

## INTERPRETED BY

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

## PLAN

Reassess BP as discussed. Institute heart muscle support Pimobendan 0.25-0.3mg/kg PO q12h.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

## IMAGING PERFORMED BY

B. Barnes, DVM

## HOSPITAL NAME

Westview Veterinary  
Hospital

## REFERRING VET

Dr. Barnes

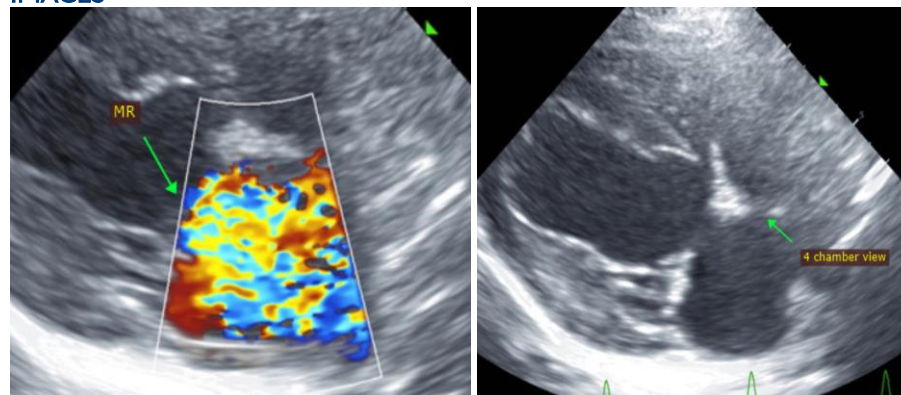
## INVOICE

31347

## DATE

6/14/23

## IMAGES





**PATIENT**

Cooper House

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**

Cavalier

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

**SEX**

Male Neutered

**AGE**

7.2 years

**WEIGHT**

38.4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING  
PERFORMED BY**

B. Barnes, DVM

**HOSPITAL NAME**

Westview Veterinary  
Hospital

**REFERRING VET**

Dr. Barnes

**INVOICE**

31347

**DATE**

6/14/23