



**PATIENT**

Clyde Salmon

**PRESENTING CLINICAL SIGNS**

History: Screening due to lifelong grain-free diet. No clinical signs. House mate was euthanized due to heart disease related to grain free diet. Sedated with trazadone and butorphanol.

**SPECIES**

Canine

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no obvious prolapse into the left atrial lumen. Trace mitral regurgitation. Mild left atrial dilation. No LV dilation in diastole with mildly decreased myocardial function. Increased LV sphericity. The tricuspid valve appears subjectively normal with trace TR. Normal velocity. Prominent right atrium and ventricle. No overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities; laminar flow. Trace aortic and pulmonic insufficiency. No pericardial or pleural effusion noted. No cardiac or extra-cardiac tumors identified.

**BREED**

Golden Doodle

**SEX**

Female Spayed

**CARDIAC CHART**

**AGE**

7 years

**WEIGHT**

92lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

Dr. Timm

**INVOICE**

29026

**DATE**

2/15/23

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	NM	2.0	1.3	1.5	24	42	0.6
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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	120	1.0	0.8	41.7	3.3	4.6	3.5
*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**

Mild left heart changes are identified, including mild LA enlargement and a mild decline in systolic function. It is unclear if these changes are consistent with early disease or are simply a normal variant. Serial monitoring is advised. Trace leaks are noted associated with all 4 valves; however, none appear hemodynamically significant. Baseline BP is recommended. No additional issues are identified.

Given the echo findings and the recent evidence of grain free diets leading to DCM in some (but certainly not all) dogs, highly recommend change to a more standard well formulated diet. A taurine level can be submitted, however regardless of results recommend a taurine supplement in

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this case as below. Other possible contributing issues such as hypothyroidism can also be considered. Monitoring for progression is advised. No clear indication for Pimobendan at this juncture, however if any progression or clinical signs are noted this will be advised.

**SPECIES**

Canine

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

**BREED**

Golden Doodle

Anesthetic risk is considered mild. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

**SEX**

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**PLAN**

Diet change ASAP. Taurine supplement, 1000mg q8-12h. Consider a thyroid level.

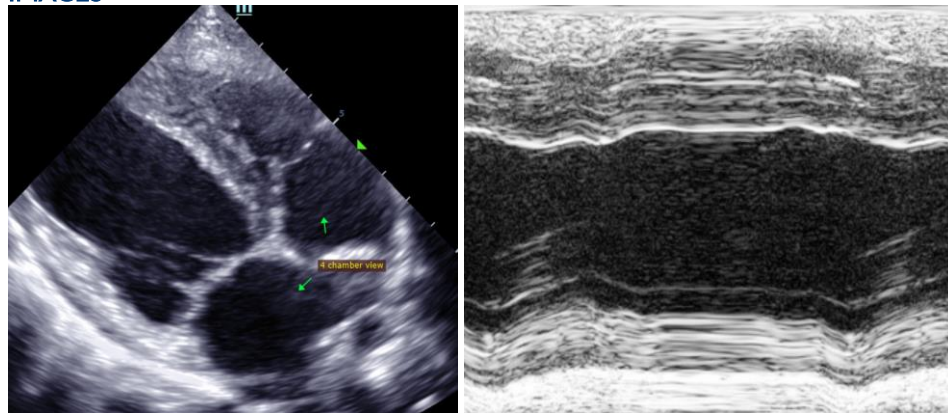
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Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

**WEIGHT**

92lbs

**IMAGES****INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kim Liedberg

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.

**HOSPITAL NAME**

SVS Imaging WI

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.

**REFERRING VET**

Dr. Timm

**Maggie Machen Lamy, DVM**  
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