



**PATIENT**

Sutter Leach

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Male Intact

**AGE**

11 years

**WEIGHT**

48.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

A. Nicastro, DVM

**HOSPITAL NAME**

Lowcountry Veterinary  
Neurology and Surgery

**REFERRING VET**

Dr. Freeman

**INVOICE**

47402

**DATE**

4/2/26

**PRESENTING CLINICAL SIGNS**

History: Had a few seizures last summer - treated intermittently with Keppra. Recent collapse episode and lethargy. Tachycardia at rest - 148bpm. Cranial mediastinal mass on CXR. Normal neuro exam.  
-Abnormal PE/Chem/CBC/UA Results: CBC: WNL Chemistry: BUN T4: 1.3 N UA: pending BP - 124mmHg systolic. On a grain-free diet.  
-CXR report: Cranial mediastinal mass. Diffuse interstitial pattern. Cardiomegaly. Ascites noted.

**ELECTROCARDIOGRAPHIC FINDINGS**

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 160bpm with a sinus tachycardia appreciated. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. A single VPC is identified. No APCs, pauses or other dysrhythmias observed.  
ECG diagnosis: Sinus tachycardia with a single VPC.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Significant left ventricular dilation. Increased EPSS and sphericity. Severe LV dysfunction. Severe left atrial enlargement. The mitral valve appears mildly thickened, with no obvious prolapse into the left atrial lumen. Mild central mitral regurgitation. Decreased velocity. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. Moderate right atrial and ventricular dilation. Mild MPA dilation. The aortic and pulmonic outflow velocities are decreased. Trace AI and PI. No pericardial or pleural effusion noted. No obvious cardiac tumors.

**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	4.0	3.5	NM	2.2	12	20	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	0.8	0.7	22.0	4.5	5.9	5.2	
*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)

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002



Bonagura et al. Echocardiography: principles of interpretation, Vet	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)
---	----	------------	------------	------------

**PATIENT**

Sutter Leach

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Male Intact

**AGE**

11 years

**WEIGHT**

48.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

A. Nicastro, DVM

**HOSPITAL NAME**

Lowcountry Veterinary  
Neurology and Surgery

**REFERRING VET**

Dr. Freeman

**INVOICE**

47402

**DATE**

4/2/26

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Unfortunately, this patient has significant cardiomyopathy and LV dysfunction. There is severe dilation and volume overload of both the left and right heart and severe biatrial dilation. Mild MR and TR are identified with early pulmonary hypertension. No additional issues are seen. The ECG shows a normal sinus tachycardia, which is not surprising in a patient in crisis. A single VPC is noted. No treatment is necessary; however, monitoring is advised.

Systolic failure can be primary in nature (DCM) or secondary to taurine deficiency, hypothyroidism, myocarditis, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. In a geriatric large breed, DCM is certainly a possible diagnosis; however, the history of a non-traditional diet is of great concern. An immediate diet change is recommended to a traditional option (see WSAVA guidelines) with supplementation of a Taurine supplement as well. A baseline taurine level can be obtained; however, the recommendation is independent of reported level.

Given the severity of disease seen here, ascites is likely reflective of right-sided CHF and immediate treatment is recommended as below. How this ties into the finding of a cranial mediastinal mass is unclear at this time. Certainly, further workup for this abnormality is recommended as well. Should the patient become unstable, highly recommend hospitalization for oxygen support and IV therapy. Even if the response to medications is good, this patient will always be at high risk for recurrent CHF, development of syncope, malignant arrhythmias and/or sudden death going forward. The prognosis is poor at this stage in the disease process, with an average survival time of <6 months.

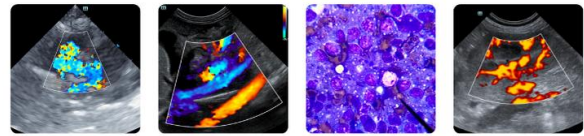
Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Moderate activity restriction is advised. Monitor for development of a cough, worsening labored breathing, abdominal distention, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to assess response to medications and recurrence of CHF in the future.

**PLAN:**

If patient appears unstable or tachypneic, consider referral for 24-hour supportive care. A baseline BP is recommended. Abdominocentesis should be performed if and when patient is uncomfortable or inappetent. Recommend the following oral medications: Institute aldosterone antagonist Spironolactone 1-2mg/kg PO q12h. Institute diuretic furosemide 1-2mg/kg PO q12h. Institute Pimobendan 0.3mg/kg PO q12h. Institute taurine supplement 1000mg PO q12h. Immediate diet change. Further workup for thoracic pathology is recommended.

Recommend recheck renal panel and blood pressure in 1-2 weeks to ensure tolerance to medications. If BP >130mmHg and doing well at home, institute ACEI 0.5mg/kg PO q12h at that time.

Recheck echocardiogram in 6 months, sooner if problems arise in the interim.



**PATIENT**

Sutter Leach

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Male Intact

**AGE**

11 years

**WEIGHT**

48.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING  
PERFORMED BY**

A. Nicastro, DVM

**HOSPITAL NAME**

Lowcountry Veterinary  
Neurology and Surgery

**REFERRING VET**

Dr. Freeman

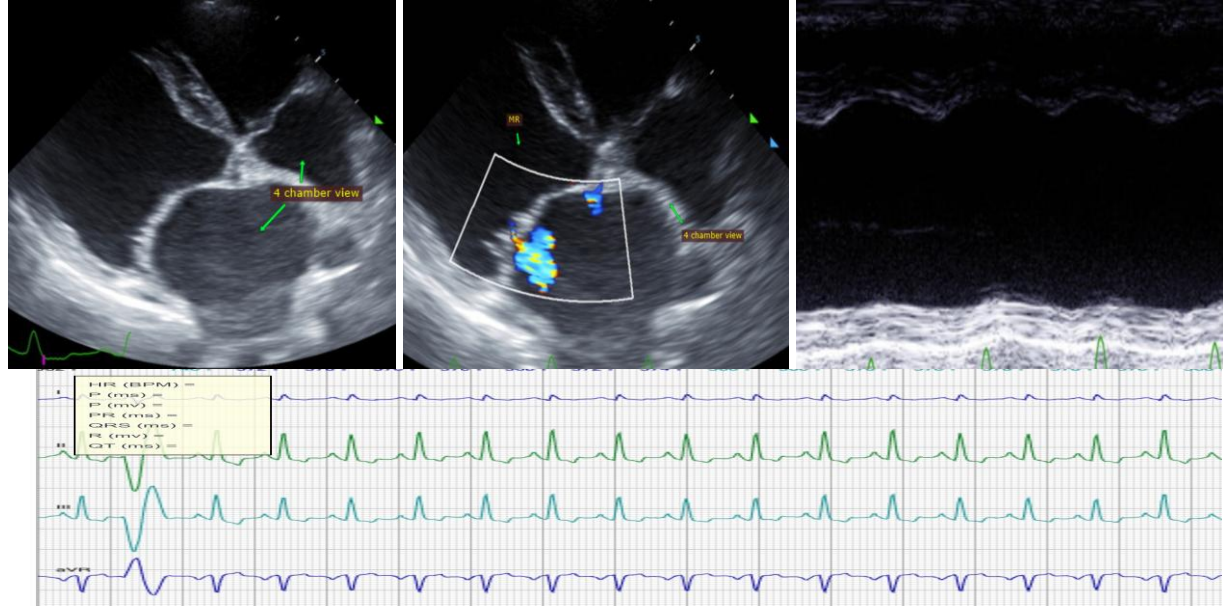
**INVOICE**

47402

**DATE**

4/2/26

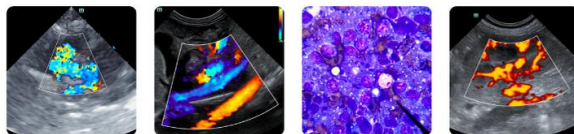
**IMAGES**



**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.**

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.

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



**PATIENT**

Sutter Leach

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Male Intact

**AGE**

11 years

**WEIGHT**

48.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING  
PERFORMED BY**

A. Nicastro, DVM

**HOSPITAL NAME**

Lowcountry Veterinary  
Neurology and Surgery

**REFERRING VET**

Dr. Freeman

**INVOICE**

47402

**DATE**

4/2/26