

**PATIENT**

Olive Pherson

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Spayed Female

**AGE**

14 Years

**WEIGHT**

12.4 lbs

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP (Canine  
/ Feline Practice)

**IMAGING PERFORMED BY**

Dr. Ryan Leal

**HOSPITAL NAME**

Wellesley Animal  
Hospital

**REFERRING VET**

Dr. Rachel Bunn

**INVOICE**

15620

**DATE**

04/30/26

**PRESENTING CLINICAL SIGNS**

Pt presents for echocardiogram for continued monitoring of her heart murmur. Last echo performed 2024 - submitted to SonoPath, interpretation was normal geriatric echo with slight left ventricular septal hypertrophy and mild tricuspid insufficiency. ProBNP recently significantly increased. Pt is otherwise doing well, a recent significant weight gain has been noted (9.6 to 12.4lbs in 7 months). Medications: Budesonide daily, gabapentin for vet visits Problem List: IBD Heart Murmur

PE: BCS 8/9, 3/6 parasternal systolic murmur BP: 143 doppler CBC: NSF Chem: creat 0.7, BUN 23, all WNL ProBNP: 432 (last year was 109) UA: USG 1.047, quiet sediment T4: 1.7 HWT: negative

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (lbs)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	12.4	NM	0.85	1.2	0.52	45	78
FELINE CARDIAC PARAMETERS	LA/AO (M-mode)	LA/AO HEART BASE (Sisson)	LAD LA MAX 4 Chamber		LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)
NORMAL PARAMETER	<1.5	1.6	0.7-1.7		<1.6	<1.3	40-60
PATIENT	--	1.2	1.3		1.6	0.8	NM
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size and structure. No LA spontaneous contrast or smoke. The cranial and caudal **mitral** valve leaflets presented irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. No overt significant MR on doppler. The **left ventricle** presented variable IVS hypertrophy with normal free wall thickness and alinear contour. Remodeled mildly prominent papillary muscle. The **myocardium** presented echogenic remodeling consistent with expected age-related change and fibrosis. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated mild dynamic outflow pattern with subjective unremarkable structure. Normal measured LV outflow velocity. Trace aortic valve insufficiency on doppler. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated mild age-related change with minor TR on doppler The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.



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## ULTRASONOGRAPHIC FINDINGS

- LV remodeling/fibrosis with variable to significant IVS hypertrophy.
- Normal LA.
- Normal RA/RV.
- Trace to mild tricuspid/aortic valve insufficiency.

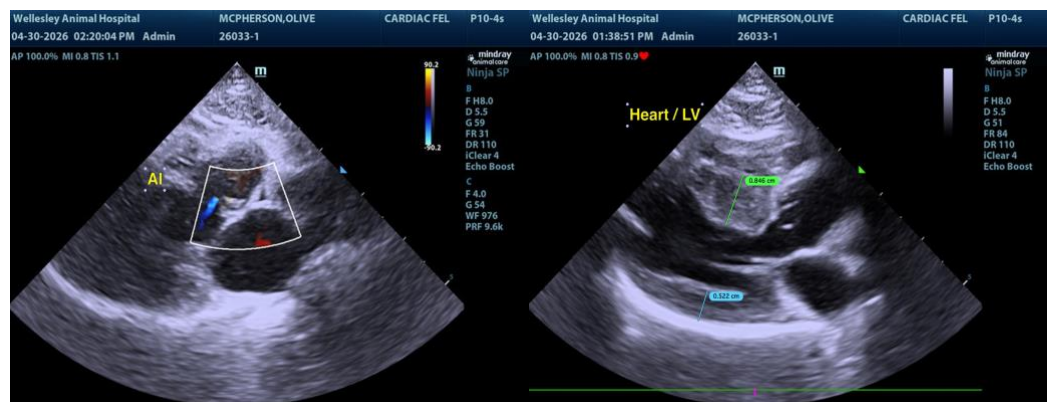
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is likely associated with some degree of fixed LV outflow obstruction and secondary dynamic LV outflow pattern resulting in an essential flow murmur given normal measured LV outflow velocity. The trace to mild aortic and tricuspid valve insufficiencies do not appear to be hemodynamically significant without evidence of pulmonary hypertension.

Assessment of systemic BP to rule out systemic hypertension. Regardless of classification, the lack of cardiac chamber enlargement indicates the current and future risk of complication is likely low.

No indication for cardiac medications. Echocardiographic monitoring is required for further assessment and prognosis. Recheck echo is suggested in six months, sooner if clinically indicated.

Current cardiac anesthetic risk is considered mild to possible moderate. If elected, the following protocol is suggested with judicious IV fluid administration. Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.





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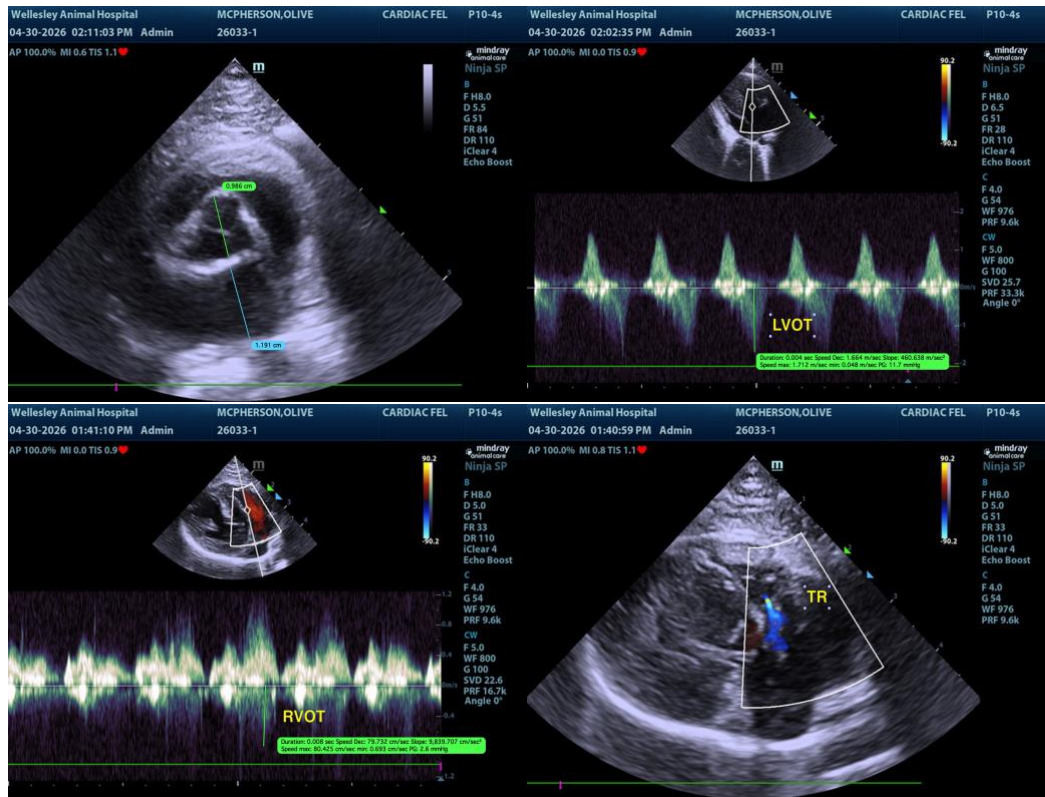
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

[info@SonoPath.com](mailto:info@SonoPath.com)