



## PATIENT

Astarion Elder

## SPECIES

Feline

## BREED

Domestic Shorthair

## SEX

Neutered male

## AGE

1 year

## WEIGHT

10.8 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Julie McGhan DVM

## HOSPITAL NAME

Haven AH

## REFERRING VET

Dr. McGhan

## INVOICE

75108

## DATE

5/1/26

## PRESENTING CLINICAL SIGNS

History: P presented March 16, 2026 for exercise intolerance. Grade 3 parasternal murmur, normal respiratory rate/rhythm

Abnormal PE/Chem/CBC/UA Results: NT-BNP 499 pmol/L

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size and structure with no evidence of "smoke" or thrombi. The cranial and caudal **mitral** valve leaflets appeared mildly thickened with some insufficiency noted on Doppler. The **left ventricle** presented excessive free wall and septal thicknesses with hypertrophic thicknesses compared to normal for this species. The **myocardium** presented essentially normal echogenicity without immediate signs of fibrotic or ischemic disease. **Contractility** of the ventricular walls was considered excessive for this patient evidenced by the elevated fractional shortening measurement. The **left ventricular outflow** tract demonstrated turbulent laminar flow. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated linear morphology. The **right ventricle** was of normal size with normal chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The **mediastinum** was free of masses in the visible window. Periodic arrhythmia was noted in this patient.

### E Wave Velocity 0.6 m/sec

FELINE CARDIAC PARAMETERS	BODY WEIGHT	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	10.8 lbs	103	0.77	1.04	0.73	57	90
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	-	1.6	1.5		NM	NM	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

## ULTRASONOGRAPHIC FINDINGS

Mild left ventricular hypertrophy. HCM phenotype, ACVIM stage B1.

Periodic arrhythmia.



## PATIENT

Astarion Elder

## SPECIES

Feline

## BREED

Domestic Shorthair

## SEX

Neutered male

## AGE

1 year

## WEIGHT

10.8 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Julie McGhan DVM

## HOSPITAL NAME

Haven AH

## REFERRING VET

Dr. McGhan

## INVOICE

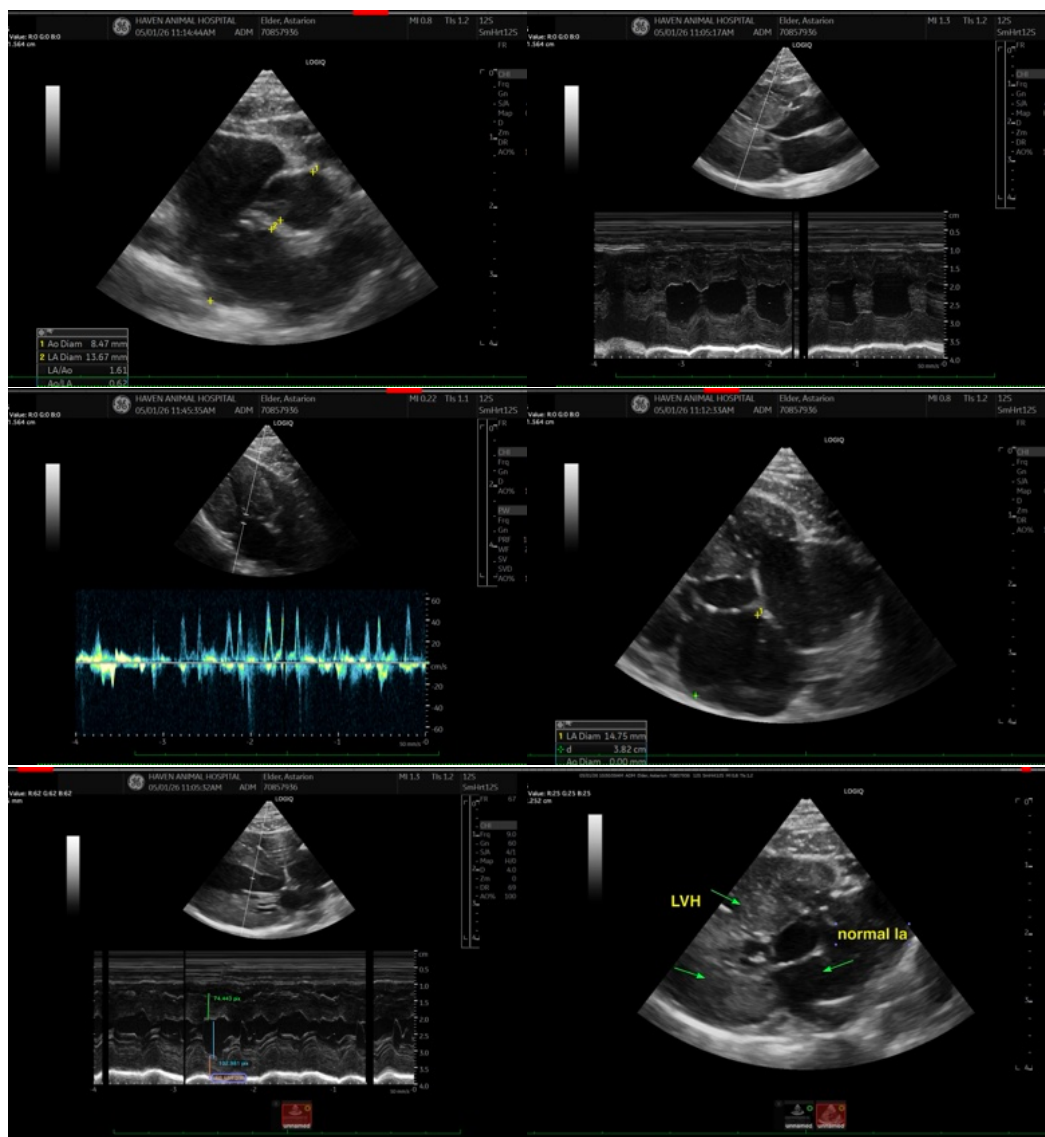
75108

## DATE

5/1/26

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I recommend long lead 2 EKG to assess for any arrhythmogenic activity that would necessitate treatment. An Atenolol trial can be considered if resting heart rate is >200; however, structurally the changes in the heart are minor. The exact cause of the murmur is unclear, as it is not appreciated on Doppler assessment. Other causes of exercise intolerance such as primary respiratory disease or pain related orthopedic disease should be considered. Exercise induced arrhythmogenic activity is entirely possible as there is no significant volume overload and no significant pressure overload and only minor left ventricular hypertrophy, which would be consistent with occult, non-clinical HCM. If arrhythmogenic activity is found underlying cause of myocarditis should be considered.





## PATIENT

Astarion Elder

## SPECIES

Feline

## BREED

Domestic Shorthair

## SEX

Neutered male

## AGE

1 year

## WEIGHT

10.8 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Julie McGhan DVM

## HOSPITAL NAME

Haven AH

## REFERRING VET

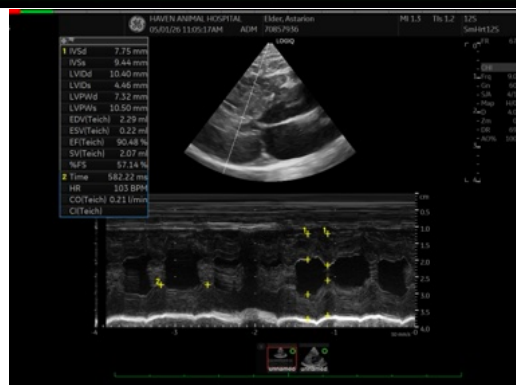
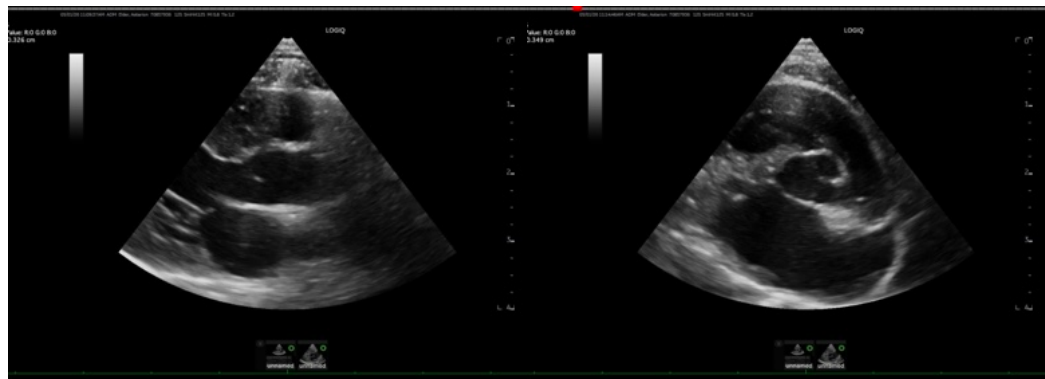
Dr. McGhan

## INVOICE

75108

## DATE

5/1/26



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.

Eric Lindquist, DMV, DABVP (CFM), Cert. IVUSS, CEO of SonoPath.com

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