



**PATIENT**

Muffin Hufnagel

**SPECIES**

Feline

**BREED**

Domestic Longhair

**SEX**

Neutered male

**AGE**

4 years

**WEIGHT**

14.2 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Jessica Miller, RDMS

**HOSPITAL NAME**

Berkeley Heights AH

**REFERRING VET**

Dr. Shendell

**PRESENTING CLINICAL SIGNS**

History: Murmur heard on PE, recommended echo before dental. OK for anesthesia. Current meds: Gaba 100mg

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. Trivial **mitral** valve insufficiency was noted, yet apposition was normal. The **left ventricle** presented slight septal impingement upon the left ventricular outflow tract, yet this is sectorial hypertrophy. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. Trivial **tricuspid** was noted and measured 1.03 m/sec. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.

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	14.2 lbs	202	0.37	1.08	0.38	47	82
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.48	1.42	1.3	1.8	1.17	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**

Largely normal heart with minor septal sectorial hypertrophy and trivial valvular turbulence.

**INVOICE**

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11/8/22



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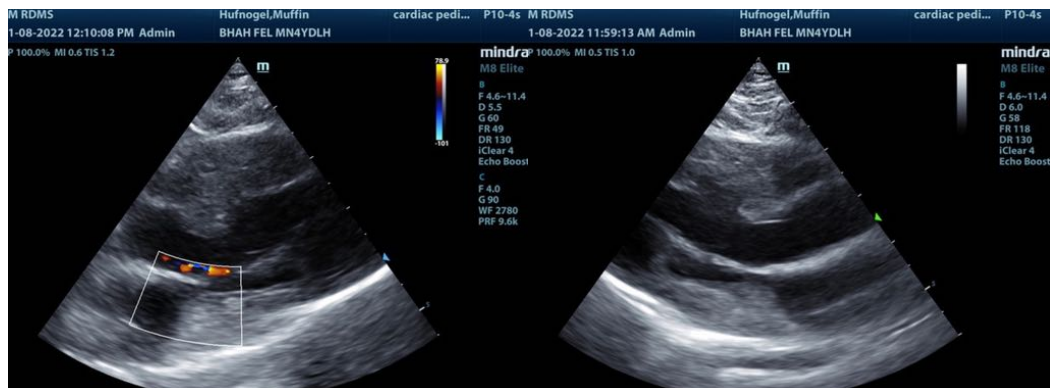
**WEIGHT**

14.2 lbs

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

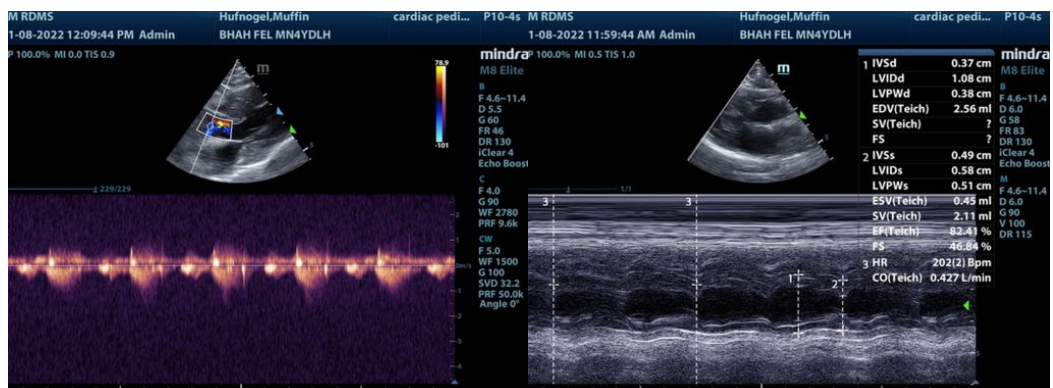
There is no contraindication to anesthetic procedure. Torbutrol pre med, Propofol induction with Isoflurane maintenance is recommended. Recheck echocardiogram is recommended in a year or earlier if murmur grade increases. There is no overt contraindication to anesthetic procedure.

Benign flow murmurs are common in cats. This may be owing to volume shifts, tachycardia, benign (DRVOTO) right ventricular outflow changes, trivial turbulence in any of the valvular apparatuses, or possibly excessive stethoscope pressure against the chest according to a recent study These are physiologically benign and unrelated to specific pathology.



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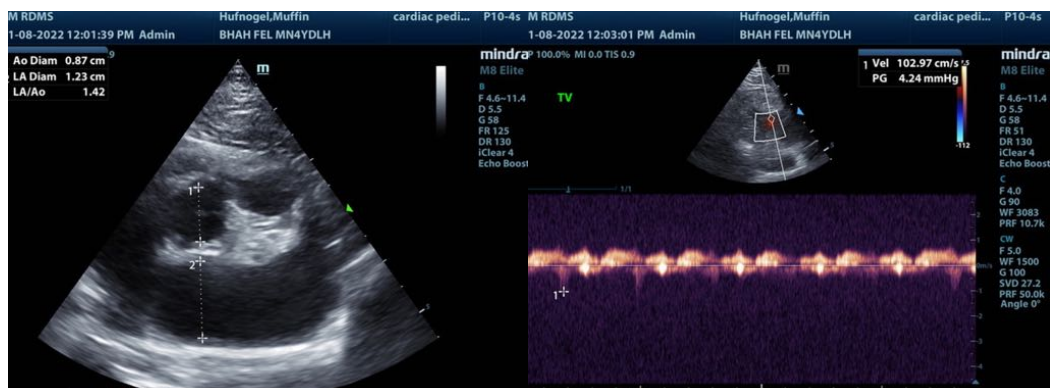
Jessica Miller, RDMS

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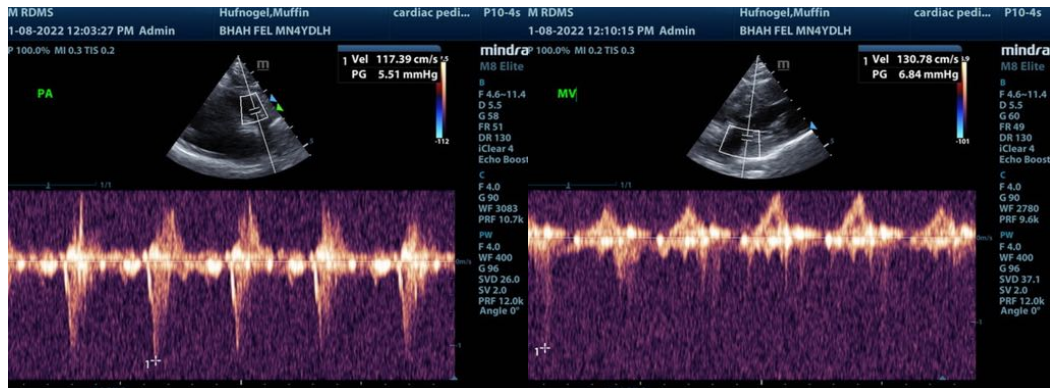
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

**IMAGING PERFORMED BY**

Jessica Miller, RDMS

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, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com

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