



## PATIENT

Onyx Lopez

## SPECIES

Feline

## BREED

Domestic Shorthair

## SEX

Neutered male

## AGE

3 years

## WEIGHT

13 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Dr. Newell

## HOSPITAL NAME

Simplisound

## REFERRING VET

Dr. Newell/Dr. Levine

## PRESENTING CLINICAL SIGNS

History: The patient was found to have a murmur 2/6 in 2022. No new symptoms or cardiac medications. This is a serial echo for the patient.

Abnormal PE/Chem/CBC/UA Results: none reported

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. 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<br>CARDIAC<br>PARAMETERS  | BODY<br>WEIGHT  | HR<br>(BPM)                        | IVSd<br>(cm)  | LVIDd<br>(cm)      | LVWd<br>(cm)       | FS<br>(%)   | EF<br>(%) |
|--|-----------------|------------------------------------|---|--------------------|--------------------|-------------|-----------|
| NORMAL<br>PARAMETER  | -----           | 150-240                            | 0.3-0.6   | 1.0-2.1            | 0.25-0.6           | 35-67       | 80-100    |
| PATIENT  | 13 lbs          | NM                                 | 0.46  | 1.46               | 0.51               | 66          | 95        |
| FELINE<br>CARDIAC<br>PARAMETERS  | LA/AO<br>(Boon) | LA/AO<br>HEART<br>BASE<br>(Sisson) | LA<br>2D 4-chamber long axis<br>AS to FW (Sisson)<br>(cm) | LVOT VEL.<br>(m/s) | RVOT VEL.<br>(m/s) | IVRT<br>(m) |           |
| NORMAL<br>PARAMETER  | <1.5            | 0.88-1.79                          | 0.7-1.7   | <1.6               | <1.3               | 40-60       |           |
| PATIENT  |                 | 1.3                                | 1.35  | 1.06               | 1.03               | NM          |           |
| Adapted from June Boon, Veterinary Echocardiography, 1998<br>Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705 |                 |                                    |   |                    |                    |             |           |

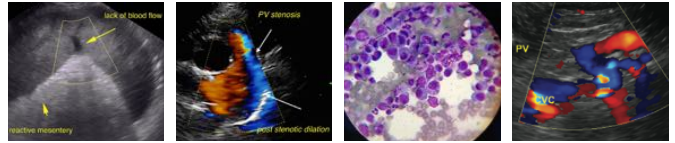
E wave 34 cm/sec

## INVOICE

76287

## DATE

7/27/23



**PATIENT**

Onyx Lopez

**ULTRASONOGRAPHIC FINDINGS**

Essentially a flow murmur.

**SPECIES**

Feline

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The exact cause of the murmur is unclear, yet it can be highly variable in this patient and is not clinically significant. No evidence of clinical cardiac disease. The chamber sizes, wall thicknesses and contractility are all normal.

**BREED**

Domestic Shorthair

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.

**SEX**

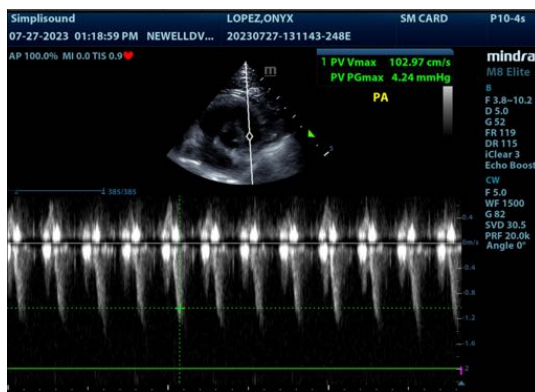
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**AGE**

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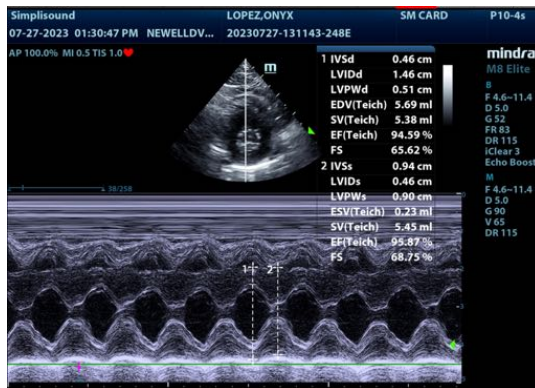
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com