

## PATIENT

Abby Armentrout

## SPECIES

Canine

## BREED

Shih Tzu

## SEX

Spayed female

## AGE

11years

## WEIGHT

9.4 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Dr. Isaac

## HOSPITAL NAME

Valley West & Elk VH

## REFERRING VET

Dr. Isaac

## INVOICE

73900

## DATE

3/30/26

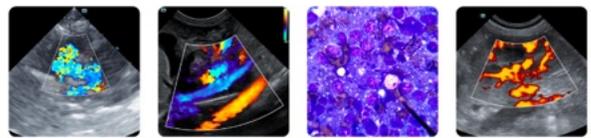
## PRESENTING CLINICAL SIGNS

- Presented for evaluation for dentistry. Grade 3-4/6 murmur ausculted PMI left apex
- No symptoms at home, not on any meds
- ECG showed a sinus arrhythmia
- Chest rads were fairly NSF. VHS 9.75. VLAS 2.2
- PE is NSF today other than her heart murmur. Senior screening bloodwork is normal. BP today was over 250 on the doppler, repeatable 3x

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. The **left ventricle** presented 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 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** insufficiency was noted. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window. Periodic arrhythmia was noted in this patient. This may be a pronounced sinus arrhythmia; however, EKG is indicated for completeness.

| CANINE CARDIAC PARAMETERS | MR VMAX (m/s) | TR VMAX (m/s) | LA/AO        | LA/AO (Heart Base) | FS (%)                          | EF (%)                                   | EPSS (cm)                                |
|---------------------------|---------------|---------------|--------------|--------------------|---------------------------------|--|--|
| NORMAL PARAMETER          | 4.5-5.5       | <2.7          | 1.3          | <1.6               | 28-40                           | 40-100                                   | <0.6                                     |
| PATIENT                   | NM            | NM            | 1.0          | 1.3                | 30                              | NM                                       | NM                                       |
| CANINE CARDIAC PARAMETERS | HR (BPM)      | AV VMAX (m/s) | PV MAX (m/s) | BODY WEIGHT        | 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            | NM            | NM           | 9.4 lbs            | 2.3                             | 1.9                                      |  |



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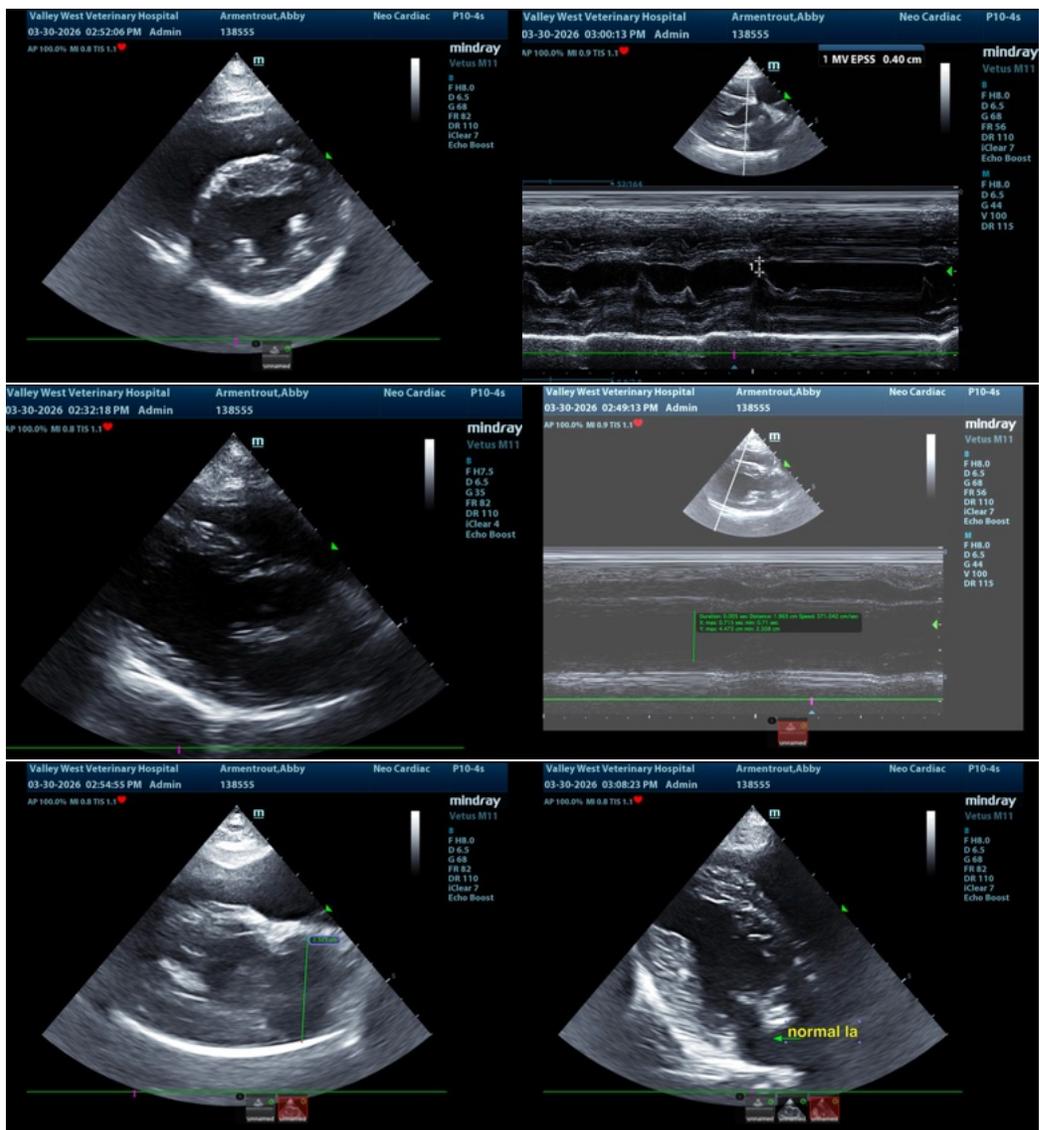
3/30/26

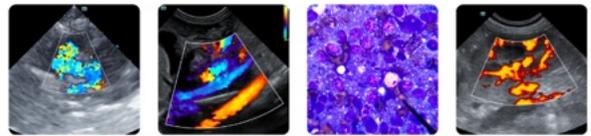
## ULTRASONOGRAPHIC FINDINGS

Mitral and tricuspid insufficiency with arrhythmia.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflor maintenance or similar protocol if anesthesia is desired. Blood pressure recommended if not already performed and target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6 months, earlier if murmur grade increases or clinical signs initiate.





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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 (CFM), Cert. IVUSS, CEO of SonoPath.com

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