



PATIENT

Pax Elton

SPECIES

Canine

BREED

Poodle Mix

SEX

Male Intact

AGE

11 months

WEIGHT

19.2 lbs.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Dr. Meridith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meridith Swart

INVOICE

14094

DATE

6/15/22

PRESENTING CLINICAL SIGNS

Grade IV/VI apical murmur. Patient is not clinical. Patient in need of a neuter. rDVM requested echo prior to anesthesia. Would any medications be recommended to start given his regurgitation. Any anesthesia recommendations?

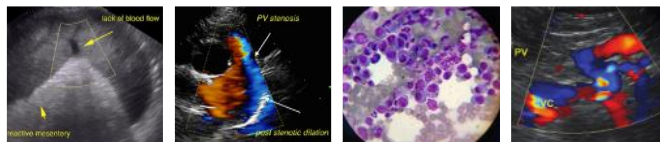
Abnormal PE/Chem/CBC/UA Results: none reported

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.4	38	75	0.14
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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				
PATIENT	NM	1.6	>4.0		2.2	2.2	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The LV **myocardium** presented normal echogenicity without subjective evidence of fibrotic or ischemic disease or IVS/LV free wall hypertrophy. **Contractility** of the LV 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 to borderline minor increased size with normal overall structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR was present. The **right ventricle** exhibited enlargement with moderate to severe hypertrophy of the RV free wall and mild asymmetrical myocardium. Concurrent mildly prominent RV papillary muscles were noted. **Pulmonary outflow** tract assessment revealed abnormal pulmonic valve structure, significant turbulent to dynamic systolic flow, and increased diameter of the post valvular pulmonary artery. Pulmonic insufficiency measured 1.1 m/s in diastolic velocity. Concurrent pulmonic insufficiency is



PATIENT

Pax Elton

SPECIES

Canine

BREED

Poodle Mix

SEX

Male Intact

AGE

11 months

WEIGHT

19.2 lbs.

present on color doppler. No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Moderate to likely severe pulmonic stenosis
- Moderate to marked RV concentric hypertrophy
- Post stenotic pulmonary artery dilation and pulmonic insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram in this patient is consistent with moderate to likely severe pulmonic stenosis with secondary moderate to marked RV concentric hypertrophy and post stenotic MPA dilation. Concurrent mild pulmonic insufficiency is also noted. The measured RVOT velocity of at least 4.0 m/s is consistent with estimated pressure gradient of at least 64 mmHg. However, the measurement gradient was cut off at approximately 4.0 m/s with the RVOT velocity exceeding 4.0 m/s, consistent with higher velocity and therefore higher pressure gradient.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

No other overt clinical issues such as additional shunt, stenotic disease, or valvular insufficiencies were noted. Ideally, referral to a local cardiologist for further assessment and prognosis with potential for interventional procedures is recommended. Anesthesia is not advised until recommended cardiologist consultation.

IMAGING PERFORMED BY

Dr. Meridith Swart

Regardless, given the degree of RV hypertrophy, estimated pressure gradient secondary to pulmonic stenosis, and concurrent pulmonary artery dilation, this patient is at significantly elevated risk for right heart failure +/- sudden death going forward.

HOSPITAL NAME

Swart Veterinary
Imaging

Empirically, Atenolol 1.0 mg/kg PO BID is warranted, given the degree of RV hypertrophy. If cardiologist referral is not possible, serial sonographic monitoring is required for further prognosis, as well as close monitoring for evidence of right heart failure.

REFERRING VET

Dr. Meridith Swart

INVOICE

14094

DATE

6/15/22





PATIENT

Pax Elton

SPECIES

Canine

BREED

Poodle Mix

SEX

Male Intact

AGE

11 months

WEIGHT

19.2 lbs.

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Dr. Meredith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

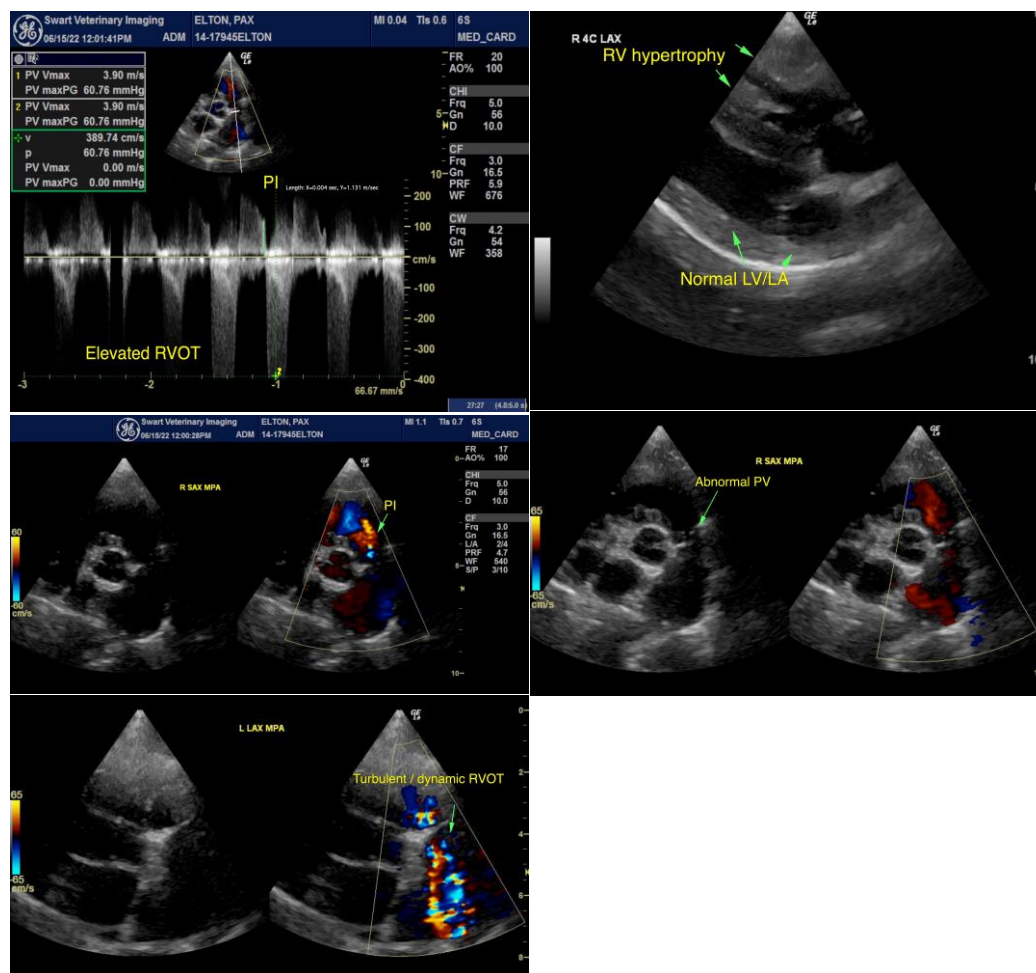
Dr. Meredith Swart

INVOICE

14094

DATE

6/15/22



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