



**PATIENT**

Skyy Herrig

**SPECIES**

Canine

**BREED**

Samoyed

**SEX**

Female Spayed

**AGE**

6 years

**WEIGHT**

84lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sarah Pender, CVT

**HOSPITAL NAME**

SVS Imaging QC

**REFERRING VET**

Dr. McCleary

**INVOICE**

29748

**DATE**

3/21/23

**PRESENTING CLINICAL SIGNS**

History: Presented for lesion removal along dorsum under general anesthesia. No history of heart disease. Pre-med with Hydromorphone (1.92mls) and Acepromazine (0.1mls) IM. Induction with Alfaxalone (8mls) IV. Became cyanotic during induction, but color returned to normal after intubation. HR 120-130 during surgery prep. Adm Ropivacaine intradermal ring block around area to incise during prep. Tachycardic under general anesthesia (200-215 bpm) after moving into surgery suite in sternal recumbency. Confirmed ET tube was in place, although taking shallow, inconsistent breaths. In a deep plane of anesthesia throughout tachycardia event, ISO at 5%. Placed in lateral recumbency but HR did not improve. MM remained pink/moist with CRT <2 seconds throughout. Did not end up performing surgery due to prolonged tachycardia and made the decision to wake up from anesthesia. Recovery was smooth and uneventful.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only. Normal cardiac silhouette. No obvious evidence of CHF.

**ELECTROCARDIOGRAPHIC FINDINGS** \*Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 120bpm (range 110-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm with respiratory variation.

\*A brief photograph of the anesthetic ECG is included. The heart rate is 188bpm with a regular rhythm. The QRS appears supraventricular in origin, most consistent with sinus tachycardia.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. No obvious mitral regurgitation with a normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

**CARDIAC CHART**

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	<1.6	28-40	40-100	<0.6
PATIENT	NA	2.0	NM	1.3	45	78	0.5
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	BELOW	BELOW	BELOW	BELOW
PATIENT	150	1.3	0.95	38.1	2.5	2.6	1.5
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)



**PATIENT**

Skyy Herrig

**SPECIES**

Canine

**BREED**

Samoyed

**SEX**

Female Spayed

**AGE**

6 years

**WEIGHT**

84lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sarah Pender, CVT

**HOSPITAL NAME**

SVS Imaging QC

**REFERRING VET**

Dr. McCleary

**INVOICE**

29748

**DATE**

3/21/23

**BODY WEIGHT DEPENDENT PARAMETERS**

*\*Note: All measurements based upon multi-modal images and methods. An average value is reported.*

Adapted from June Boon, Veterinary Echocardiography, 1998  
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435  
Hansson et al, Vet Rad and Ultrasound 2002  
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

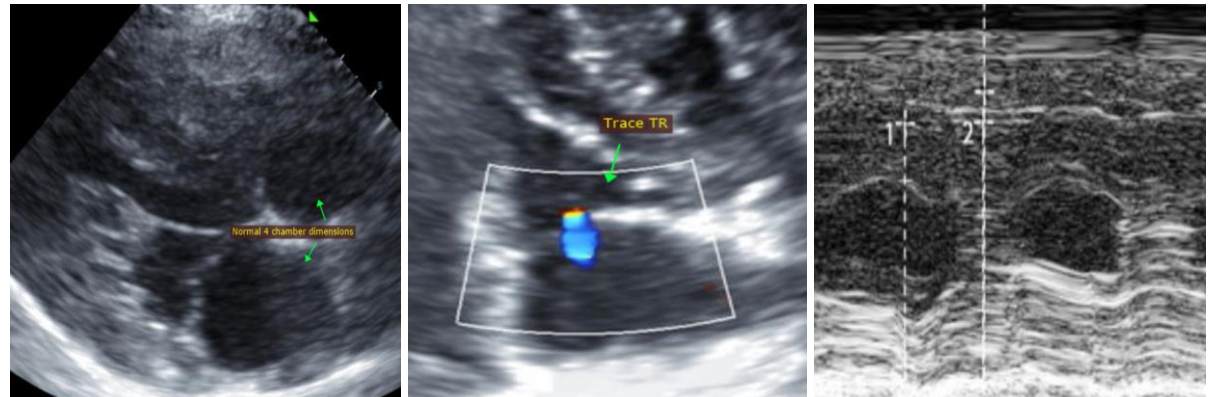
Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. No significant valvular leaks are visualized, and no evidence of pulmonary hypertension. The screening ECG is normal, with no arrhythmias or tachycardia appreciated.

These findings would suggest that anesthetic complications were noncardiac in origin. The included ECG during the procedure is most consistent with a sinus tachycardia, although onset/termination periods cannot be assessed to rule out true SVT. An atrial tachycardia would be expected to be more profound (i.e. >220bpm), although this is not entirely ruled out. Regardless, there is no obvious arrhythmias appreciated on the screening ECGs. Consider an alternative protocol for future events and/or consultation with an Anesthesiologist. If persistent issues arise, referral to a facility with an Anesthesiologist is recommended for mass removal.

Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

A recheck echocardiogram is recommended should a significant murmur develop or signs of cardiac compromise be noted in the future.

**IMAGES**



**IMAGING PERFORMED BY**

svsmobileimaging.com 309-737-3070



**Clinical Sonography & Telecytology**

EDUCATIONAL TELECONSULTATION SERVICES™

1-800-838-4268 info@sonopath.com SonoPath.com

**PATIENT**

Skyy Herrig

**SPECIES**

Canine

**BREED**

Samoyed

**SEX**

Female Spayed

**AGE**

6 years

**WEIGHT**

84lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sarah Pender, CVT

**HOSPITAL NAME**

SVS Imaging QC

**REFERRING VET**

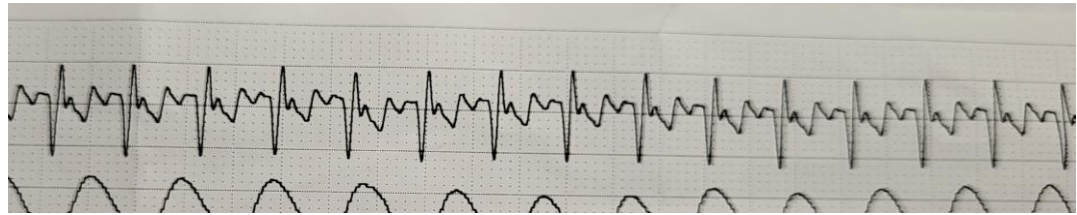
Dr. McCleary

**INVOICE**

29748

**DATE**

3/21/23



The information and recommendations provided are based on the images presented by the referring veterinarian. 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.

**Maggie Machen Lamy, DVM**  
**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**  
info@sonopath.com