

601 Vernon Sharp Street Columbus, OH 43210 Phone: (614) 292-3551 Fax: (614) 292-2053	ECHOCARDIOGRAPHY REPORT - CARDIOLOGY & INTERVENTIONAL MEDICINE SERVICE THE OHIO STATE UNIVERSITY VETERINARY MEDICAL CENTER John Bonagura, DVM, DACVIM Karsten Schober, DVM, DECVIM Brian Scansen, DVM, DACVIM Jaylyn Durham, DVM Emily Chapel, DVM Alicia Byrd, RVT Tammy Muse, RVT
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<u>Patient Number:</u> 000 450453	<u>Species:</u>	<u>Sex:</u>
<u>Patient Name:</u> Sweeney, Gaylton Ladys Secret	<u>Breed:</u> Maine Coon	<u>Weight (kg):</u> 5.0 kg
<u>Date of study:</u> 09/18/2015	<u>Age:</u> 1	<u>BSA:</u> 0.29 m ²
<u>Diagnosing Cardiologist:</u> JDB	<u>Birthdate:</u> 12/12/2013	<u>Systolic BP:</u>

Diagnosis & Recommendations

No evidence of hypertrophic cardiomyopathy
 Papillary muscle anatomic variation (vs. malformation) - the papillary muscle is likely a normal variant and has not been reported with HCM. Owing to the lack of MR it might simply represent a variation of normal. JDB
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Clinical Findings

The echocardiogram was performed as a screen for hypertrophic cardiomyopathy (HCM) phenotype.

Auscultation: sinus rhythm; no consistent murmurs or gallop sounds. An intermittent grade 1 murmur was evident on the lower right cranial sternal edge; likely functional.

Screening Exam for Feline Hypertrophic Cardiomyopathy; details: This examination includes subjective evaluation of long and short axis images from the parasternal (intercostal) right-sided acoustic windows. M-mode examination of the LV is also performed. The examination screens for ventricular hypertrophy using 2D long and short axis image planes as well as the standard M-mode images with the cursor placed dorsally to the posterior papillary muscle. Left atrial size is also assessed subjectively and by long-axis maximal diameter. Doppler studies are only performed if needed to evaluate gallop sounds or any murmurs if present.

Echocardiographic Findings

The echocardiographic examination was conducted from the right side of the thorax. A screening echocardiogram was requested and completed with mainly subjective evaluation of the heart to screen for hypertrophic cardiomyopathy. There is no clear evidence of cardiomyopathy or serious structural heart disease based on subjective imaging or diastolic measures of the LV walls or septum.

The papillary muscles appear normal.

There is no systolic anterior motion of the MV observed.

LV ejection fraction is normal.

There was physiologic tricuspid regurgitation

There was systolic fluttering of the aortic valve

The only unusual finding was that of additional "heads" to the papillary muscle - both posterior and anterior - without evidence of MR on multiple imaging planes.

<u>2D Measurements</u>		<u>M-Mode</u>		<u>Doppler Measurements</u>	
LA Diam	15.7 mm	IVSd	4.0 mm	MR Vmax	0.91 m/s (< 6.65)
LA2D/LVIDd	0.8 (0.8 - 1.1)	LVIDd	20.2 mm	MR maxPG	3 mmHg (90 - 170)!
IVSd-max-Laxis	4.8 mm	LVPWd	4.0 mm	PV Vmax	1.09 m/s (< 1.60)
IVSd-max-Sax	3.7 mm	IVSs	6.7 mm	PV maxPG	5.05 mmHg
LVPWd-max-Laxis	3.9 mm	LVIDs	10.5 mm	TR Vmax	1.2 m/s (< 2.8)
LVPWd-max-Saxis	4.7 mm	LVPWs	6.8 mm	TR maxPG	5.5 mmHg
		EDV(Teich)	13.0 ml		
		ESV(Teich)	2.3 ml		
		EF(Teich)	82.1 % (> 48.0)		



PATIENT DISCHARGE SUMMARY

OSU Case Number: 000450453
Client: Teresa/Edwin Sweeney
Patient: Gaylton Ladys Secret
Referring Veterinarian: Not Found
Date Admitted: 9/18/2015 **Date Discharged:** 9/18/2015
Patient Status: Released
Clinician: John Bonagura DVM, DACVIM

Pet Animals 614-292-3551
Pharmacy 614-292-1010
Business Office 614-292-1360

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Clinical Diagnosis:

No evidence of hypertrophic cardiomyopathy

Papillary muscle malformations vs. normal variation - no obvious functional significance

History and Clinical Problems:

Name: Gaylton Ladys Secret

Age: 1yr, 9mos

Sex: Female

Breed: Maine Coon

Examination today for overt cardiac disease.

Diagnostic Procedures and Physical Findings:

Examination was limited to evaluation (screening exam) of the heart

Auscultation: intermittent II/VI cranial right parasternal systolic function (innocent) murmur; normal heart rhythm

Weight: 5.0kg **T:** 101.7F (axillary) **P:** 210bpm **R:** 52 rpm

Echocardiography:

A screening echocardiogram was performed

This examination emphasized cardiac chamber size, wall thicknesses, and heart function

2D echocardiographic imaging was within limits of normal -

There was no evidence of hypertrophic cardiomyopathy

Ventricular systolic function was normal

Structural changes were noted including extra papillary muscles in the left ventricle with attachments to the false tendons; the posterior papillary muscle has a small rudimentary adjacent muscle; the anterior papillary muscle is comprised of two "heads" with chordal attachments to the mitral valve.

Color Doppler imaging - multiple planes - indicates no evidence of mitral regurgitation.

Mild tricuspid regurgitation was noted with Doppler flow

Surgical and Therapeutic Procedures: Screening ("CERF") examination of the heart

Cardiac auscultation by a board-certified cardiologist

2D and M-mode echocardiography

Doppler studies were performed only when a significant heart murmur was identified

Recommendations and Instructions: No therapy

Prognosis: This screening ("CERF") examination did not reveal any evidence of congenital or acquired heart disease.

Some disorders, such as hypertrophic cardiomyopathy (HCM) are classified as adult-onset, genetic heart diseases. These may develop later in life and for this reason the examination findings should be interpreted as "normal for this time frame".

Cats used for recurrent breeding should be re-evaluated at regular intervals (e.g., yearly) since HCM can develop later in life, even after a normal screening examination.

There are limited genetic tests available for identifying carriers and affected cats with HCM or congenital heart defects (those present at birth). Please discuss with the cardiologist any questions you might have about genetic testing - we can refer you to laboratories that offer this service. Currently, these services are available at Washington State University and University of California-Davis (check their websites).

As we discussed the significance of the additional papillary muscle structures cannot be determined with certainty.