



### PRESENTING CLINICAL SIGNS

History: Previously diagnosed with a VSD (possibly bidirectional), dynamic LVOT obstruction, and PA narrowing. Doing well. Grade 4/6 murmur noted bilaterally. Did well during neuter today.

DATE

2/23/23

### ECHOCARDIOGRAPHIC FINDINGS

2D, M-mode, and Doppler study. This exam is compared to the one performed 1/19/23.

### PERFORMED BY:

Dr. Brian Barnes

### INTERPRETED BY

Keith Blass, DVM,  
MS, DACVIM  
(Cardiology)

### PATIENT

Rose 2 SPCA

Left atrial size is normal. There is systolic anterior motion of the mitral valve leaflets creating dynamic obstruction to flow in the left ventricular outflow tract, with mild secondary mitral regurgitation. Left ventricular wall thickness is normal. Left ventricular internal dimensions are normal. Left ventricular systolic function is hyperdynamic. There is a defect in the perimembranous ventricular septum, with shunting of blood through the defect. The shunt appears to be left-to-right via color Doppler imaging, however, spectral Doppler imaging suggests right-to-left shunting. The aorta and aortic valve appear normal. Right atrial size is normal. The tricuspid valve appears normal, though mild tricuspid regurgitation is present. TR velocity is consistent with an elevated right ventricular systolic pressure. There is mild right ventricular hypertrophy. The main pulmonary artery and pulmonic valve appear narrow. The pulmonic valve leaflets subjectively appear normal, though there is significantly increased flow velocity across the valve. Trace pulmonic insufficiency is present. No pericardial effusion or cardiac masses are seen.

A bubble study shows bubbles entering the aorta from the right ventricle through the ventricular septal defect.

### SPECIES

Feline

ECG during echo: Sinus rhythm

LA - 11.5 mm (prev. 12.5 mm)

LA/Ao - 1.20 (prev. 1.20)

IVSd - 5.6 mm (prev. 4.8 mm)

LVPWd - 5.3 mm (prev. 4.9 mm)

### BREED

LVIDd - 9.0 mm (prev. 8.4 mm)

LVIDs - 3.4 mm (prev. 3.5 mm)

### DSH

FS - 62% (prev. 58%)

RA - 12.0 mm (prev. 12.0 mm)

RVPWd - 6.0 mm (prev. 6.0 mm)

### SEX

LVOT - 4.10 m/s (prev. 4.29 m/s)

RVOT - 5.89 m/s (prev. 5.23 m/s)

### M

TR - 3.50 m/s (prev. 3.60 m/s)

### AGE

8 mo

### ASSESSMENT/RECOMMENDATIONS

This examination is very similar to the one performed last month, though the bubble study today does confirm that there is right-to-left shunting of blood through Rose's VSD. While I can't say whether Tetralogy of Fallot is present via 2D imaging, the hemodynamic effects of the Rose's flow abnormalities are very similar to the presence of Tetralogy, as she has pulmonic stenosis, right ventricular hypertrophy, and a right-to-left VSD. Given this, Rose is at risk for the development of exercise intolerance, syncope, cyanosis, right-sided congestive heart failure, and polycythemia, therefore, careful monitoring for these is recommended.

### WEIGHT

3.4 kg

### HOSPITAL NAME

Westview VH

If Rose is not polycythemic, it suggests that there is not significant right-to-left shunting through his VSD, and, given the presence of dynamic LVOT obstruction, it's possible that he could have a bidirectional shunt that is balancing any possible volume overload in either direction.

### REFERRING VET

Dr. Barnes



No therapy is recommended at this time. Should Rose develop relevant polycythemia, periodic phlebotomy may be warranted.

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A recheck echocardiogram is recommended in 4 months, sooner if new clinical signs compatible with cardiac dysfunction (ex. labored breathing, collapse, abdominal distension, limb paralysis, cyanosis) develop.

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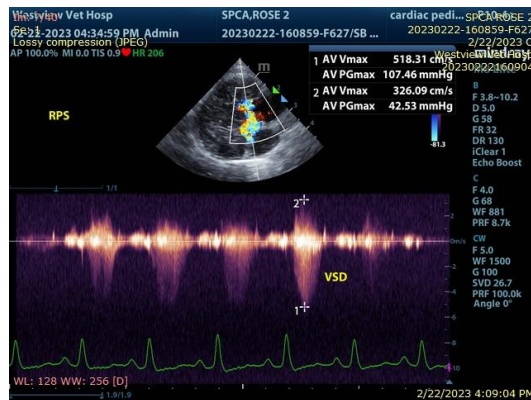
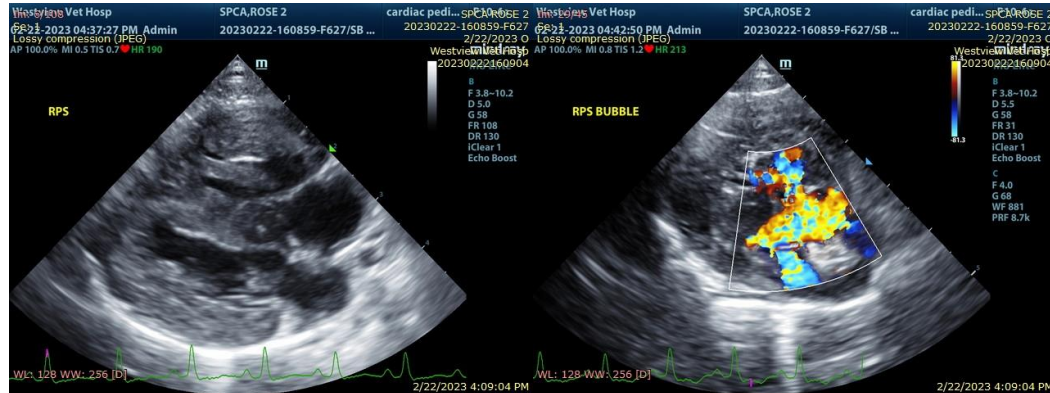
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REFERRING VET

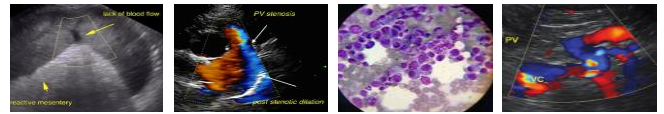
Dr. Barnes



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.

Keith Blass, DVM, MS, DACVIM (Cardiology)  
KeithBlass@gmail.com  
631-804-5754



**DATE**

2/23/23

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Dr. Brian Barnes

**INTERPRETED BY**

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MS, DACVIM  
(Cardiology)

**PATIENT**

Rose 2 SPCA

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