

Canine Myxomatous Mitral Valve Disease

Stages and Recommendations



ABCDs
of MMVD



Canine
Formulary

A

B1

B2

C

D

← The length of each stage tends to shorten as the disease progresses →

**At Risk
for Developing
Valve Disease**



Staging guides clinical management. Not every dog progresses through all stages.

**Heart
Murmur**

**Grade 3/6
Heart Murmur
and
Cardiomegaly***

**Respiratory
Signs and
Congestion**

**Escalating
Treatment
and
Recurrent
CHF**



**THRESHOLD TO
START MEDICATION**

- Annual auscultation
- Client education

- **Diagnostics**
- **Medications**
- **Management**

- Grade heart murmur
- Radiographs (monitor every 6 to 12 months)
- Blood pressure
- ± Echocardiogram
- Monitor sleeping respiratory rate to detect subtle increases in respiratory rate

- Radiographs
- Echocardiogram or **POCUS**
- Blood pressure
- Pimobendan
- Monitor for signs of **CHF**: cough, shortness of breath, syncope
- Monitor sleeping respiratory rate (daily)
- Discuss mitral valve repair surgery
- Evaluate diet**

- Radiographs/**POCUS**
- Echocardiogram or **POCUS**
- Labwork
- Blood pressure
- Furosemide
- Pimobendan
- **ACE** inhibitor
- Spironolactone
- Monitor sleeping respiratory rate (daily)
- Discuss mitral valve repair surgery
- Evaluate diet**

- Radiographs
- Labwork
- Blood pressure
- Echocardiogram or **POCUS**
- Furosemide ↑ (or torsemide)
- Pimobendan ↑ q8h
- **ACE** inhibitor
- Spironolactone
- Evaluate diet**
- Discuss quality of life with owner
- Consultation with a cardiologist may be beneficial

ACE, angiotensin-converting enzyme; **CHF**, congestive heart failure; **POCUS**, point-of-care ultrasound; **VHS**, vertebral heart score; **VLAS**, vertebral left atrial size.
*Cardiomegaly defined by echocardiography as left atrium-to-aortic root ratio ≥ 1.6 and left ventricular internal diameter in diastole normalized to body weight ≥ 1.7 . If only radiographs are possible, then cardiomegaly defined by **VHS** ≥ 11.5 and **VLAS** ≥ 3.0 .
**Consider a diet without excessive sodium content that is nutritionally balanced and highly palatable to maintain optimal body condition.

Keene BW, et al. ACVIM consensus guidelines for the diagnosis and treatment of myxomatous mitral valve disease in dogs. *J Vet Intern Med.* 2019;33(3):1127-1140.