



# WHAT IS MITRAL REGURGITATION?

## ABOUT THE DISEASE

**IN A NORMAL HEART** when the left ventricle (or lower chamber) pumps, the mitral valve snaps shut to prevent blood from flowing back into the left atrium (or upper chamber). As some dogs age, their mitral valves thicken and become leaky. Over time, this leak can worsen, eventually causing the left atrium to enlarge to accommodate the significant amount of blood that is pumping backwards through the diseased valve.

The swelling of the left atrium signals high pressure there, which is then transmitted back along to the blood vessels in the lungs. This buildup of pressure in the lungs pushes fluid into the air sacs. When fluid begins to accumulate in the lungs, this condition is known as pulmonary edema, or congestive heart failure (CHF).

While congestive heart failure may sound dire, it is not immediately fatal. Medical treatment can reverse or improve most signs of CHF.

## TREATMENT

**Medical treatment can delay the progression of mitral regurgitation to heart failure.**

If diagnosed with mild MR, your dog may simply be monitored and may live for many years without outward signs of heart disease. Dogs with moderate to severe MR may be prescribed one of the following medications to slow the progression of the disease:

### **PIMOBENDAN** (VETMEDIN)

This medicine slows progression of MR to heart failure by improving heart contraction and dilating blood vessels.

### **ACE INHIBITOR** (BENAZEPRIL or ENALAPRIL)

Angiotensin II promotes increased blood pressure and fluid retention, and it can be found in elevated levels in dogs with severe heart disease. This type of drug works to prevent the production of Angiotensin II and to thereby limit its effects on the heart.

## DID YOU KNOW?

Mitral Regurgitation is also known as myxomatous mitral valve degeneration (MMVD), chronic valvular disease (CVD) degenerative mitral valve disease, and endocardiosis.

# AT-HOME MONITORING

**Treatment for MR may involve a combination of home monitoring and medication.**

You should monitor your dog carefully for a cough or an increase in respiratory rate or effort. If you detect a cough or a resting breathing rate of greater than 40 breaths per minute, your dog will need a chest x-ray to assess whether pulmonary edema is present.

## HOW WE DIAGNOSE & MONITOR MR

**Your family vet or veterinary cardiologist may detect a heart murmur on the left side of your dog's chest during a physical exam. Such murmurs are graded on a scale from 1-6.**

**If MR is suspected, your dog may require some or all of these tests to assess the severity of the disease and to plan for treatment.**

## SIGNS OF CONGESTIVE HEART FAILURE

- Labored breathing
- Cough and/or increased respiratory rate while at rest
- Collapse with exercise

*Call your family vet or cardiologist immediately if you detect any of these signs.*

### ECHOCARDIOGRAPHY (HEART ULTRASOUND)

This non-invasive exam allows the cardiologist to closely evaluate the structure and function of the heart chambers and valves.

### CHEST X-RAYS

Chest x-rays are taken to evaluate the presence of pulmonary edema and to monitor progression of heart disease.

### DOPPLER BLOOD PRESSURE

As in people, high blood pressure can be present without clinical signs. As high blood pressure can hasten the progression of mitral regurgitation, Doppler blood pressure screening is typically recommended for MR patients.

### BLOODWORK

Because some cardiac medications can adversely affect the kidneys, periodic blood tests are necessary to monitor kidney function.

### ELECTROCARDIOGRAM & HOLTER MONITORING

Some dogs develop arrhythmia (rhythm disturbances) which can be monitored using electrocardiography (ECG). In some cases, a 24-hour ECG monitor known as a Holter monitor may be recommended.



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Our **exceptional, compassionate care** is available via mobile appointments at various veterinary hospitals and stationary cardiology appointments at **Animal Urgent Care** (Arvada) and **Veterinary Specialists of the Rockies** (Castle Rock).

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