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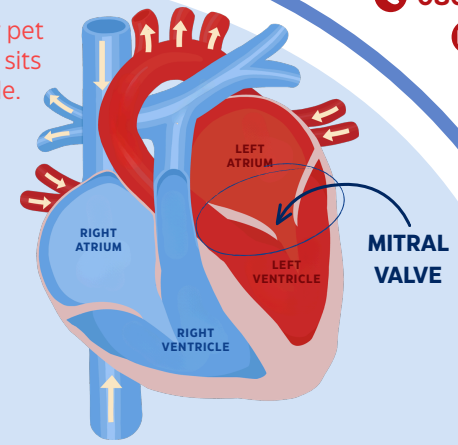
INFO: Mitral valve dysplasia

WHAT IS MITRAL DYSPLASIA?

A **congenital defect** (an abnormality your pet was born with) of the **mitral valve**, which sits between the left atrium and left ventricle.

The malformed valve leaflets **do not close properly**, so the valve **leaks**, and blood can flow backwards into the left atrium from the left ventricle.
This creates turbulence in the blood flow which we can hear as a **heart murmur** (a 'whooshing' noise) when we listen with a stethoscope.

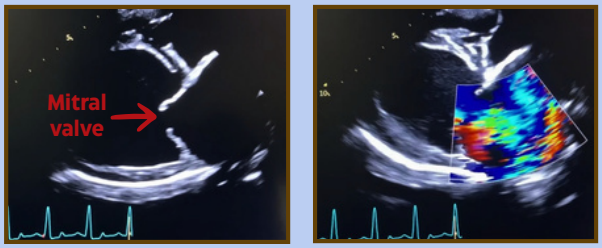
This becomes worse over time, leading to heart **enlargement** and eventually **congestive heart failure** (CHF).



HOW DO YOU DIAGNOSE MITRAL DYSPLASIA?

- Your vet may hear a **heart murmur** ('whooshing' noise) - this simply indicates a change to the normal blood flow, it **does not tell us what the cause is.** They may recommend a heart scan to investigate.
- **Echocardiography** (heart ultrasound scan) is the only way to definitively diagnose mitral dysplasia. It is used to look at the heart structures and function, assess severity of disease to determine appropriate treatment and look for other defects.
- **ECG** monitors electrical activity, checking heart rate and rhythm. Patients can develop irregular rhythms (arrhythmias) as disease progresses.

Echocardiography showing mitral dysplasia and the leak (green)



WHAT ARE THE CLINICAL SIGNS?

It is common for young patients to have no clinical signs and still have severe structural changes.

Clinical signs can include:

- Lethargy
- Reduced exercise tolerance
- Persistent cough
- Breathlessness / increased respiratory rate or effort
- Weakness or collapse
- Decreased appetite
- Increased thirst

Speak to your vet if you think your pet may have any of these signs.

HOW IS MITRAL DYSPLASIA TREATED?

We start medication to support heart function if the heart is **enlarged**, and when the patient develops **pulmonary oedema** (fluid in the lungs) in congestive heart failure.
Medications we may use are:

- **Pimobendan:** to support the 'pump' function of the heart
- **Diuretics:** to remove pulmonary oedema
- **ACE inhibitors:** improve circulation and help the heart pump more efficiently.
- **Spironolactone:** weak diuretic and slows heart scarring.
- **Anti-arrhythmic/rate control drugs:** to slow heart rate in fast arrhythmias and reduce dangerous irregular beats

Surgery may be an option to **improve long term function** of the mitral valve. This is performed under **cardiac bypass** for specific patients in CHF

Mitral dysplasia is hereditary - patients with it should not be used for breeding.

HOW ARE PATIENTS WITH MITRAL DYSPLASIA MONITORED?

IN THE CLINIC:

- **Echocardiography** is used to track structural changes over time, and look for signs of changes which may require additional treatment.
- **ECG** is indicated if patient develop new clinical signs (such as weakness or collapse) as this may indicate a change in heart rhythm when the heart is enlarged. An ambulatory 24 or 48-hour ECG (Holter) may be used to assess heart rate and rhythm at home, away from the clinic.
- **Blood tests** to check kidney function, hormones and other organs are useful before starting medication and to assess effects of long term medication

AT HOME:

- Measuring **sleeping respiratory rate (SRR)** and the change in trend (increasing or decreasing) allows us to assess whether pulmonary oedema (fluid in the lungs) is present and check how well patients are responding to CHF medication.

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