

# Heart murmurs and heart disease

[cats.org.uk](http://cats.org.uk)



A large, stylized silhouette of a cat in a light purple color, set against a dark blue background. The cat is in a pouncing or walking pose, with its front legs extended forward and its tail curved upwards. The silhouette is positioned behind the text, which is in white.

**It is worrying if your cat is diagnosed with a heart condition. This guide will help you if you are concerned about your cat's heart health.**

### **The heart**

The heart is a muscle that pumps blood around the body, providing it with oxygen and nutrients. It has four separate chambers, an atrium and ventricle on the left and the same on the right. Each chamber is separated from the next by valves which prevent the backflow of blood. The normal pumping and shutting of valves in the heart causes the 'lub-dub' heart sounds.

## **Heart murmurs**

Normal heart sounds are 'lub-dub'. Heart murmurs are an extra sound, typically a 'whoosh', caused by turbulent blood flow through the heart. Heart murmurs are very common in cats. One study showed more than one third of cats have a heart murmur. Although a murmur may signify a problem with the heart or its blood vessels, around half of healthy cats with a heart murmur don't have any underlying structural disease. Of those that do, many live quite normally without ever developing any signs of disease. It is possible for cats to have significant heart disease without having a heart murmur.

When a murmur is heard, it may be due to:

- heart disease
- another condition unrelated to the heart
- an insignificant ‘innocent’ murmur

Heart murmurs in cats can also come and go. Murmurs may be noticed when a cat is stressed and the heart rate has increased but be gone a few minutes later when the cat has calmed down. They are graded according to their intensity, usually grade one to six. The grade can also change.

On its own, a heart murmur is not a reliable indicator of heart disease, although louder murmurs, or those accompanied by other signs, are more likely to be significant.

## **My vet has heard a heart murmur in my cat, should my cat have further tests performed?**

Speak to your vet about the options for investigating a heart murmur. Tests can be used to diagnose if a murmur is significant and can be useful for monitoring cats.

The majority of cats diagnosed with a heart murmur will either have no heart disease, or only mild heart disease. A small number of cats will be found to have significant heart disease.

If your cat has more severe underlying heart disease, it can be helpful to know this in advance of them being given a general anaesthetic or fluid therapy. It also allows you to be aware of signs of heart disease, so you can monitor your cat at home.

If your vet hears a murmur, they may recommend testing for other diseases which can affect the heart. These include:

- hyperthyroidism
- high blood pressure
- anaemia

Find out more:

[cats.org.uk/elderly-cats-health-issues](https://cats.org.uk/elderly-cats-health-issues)

## **Heart disease**

Cats can be affected by a range of heart disorders.

- Congenital disorders. Cats are born with these. In some cases, surgical correction may be possible
- Acquired disorders. These are not present when a cat is born and develop over time. The most common in cats are diseases of the heart muscle, known as cardiomyopathies

## **Hypertrophic cardiomyopathy (HCM)**

This is the most common heart disease in cats and can affect cats of almost all ages. The cause is usually unknown. Other diseases can contribute to HCM and your vet may want to perform additional testing to look for these conditions. A genetic defect has been identified in Maine Coon and Ragdoll cats and some breeds have a higher incidence of HCM than others. However, it is a common condition of domestic shorthairs and longhairs (moggies) too.

Cats with HCM develop thickening of the heart wall, especially of the left ventricle. If the disease progresses, the thickening can make it harder for the left atrium to empty blood into the ventricle. This can cause enlargement of the left atrium, and signs of heart disease, explained below.

Many cats affected with mild HCM live normal lives and never develop symptoms. A minority of cats develop severe HCM and show signs of heart disease.

## **Signs of heart disease**

### **Heart failure**

In cats more severely affected with heart disease, back-pressure of the blood can lead to fluid pooling in the lungs or in the space around the lungs,

affecting a cat's ability to breathe. The heart may be less effective at pumping blood through the body, reducing the oxygen received by tissues. This is known as heart failure, and signs can include:

- breathing difficulties. This is the most common sign of severe HCM
- weakness and lethargy
- pale gums
- a reduced appetite

Treatment with diuretic injections or tablets to clear the fluid is required and sometimes other heart drugs can be helpful. The condition cannot be cured, but depending on the severity of the disease the signs may be controlled for a period of time.

## **Aortic thromboembolism**

In some cats with severe HCM, enlargement of the atrium can lead to a blood clot forming in the heart. If this dislodges it can become stuck at the narrow end of the body's largest artery, the aorta. This blocks off the blood supply to the hind legs. It is called an aortic thromboembolism. Signs of this lodged clot are severe with cats showing extreme pain and paralysis of the hind legs. Owners often think their cat has been involved in a road traffic accident, the onset of the symptoms are that sudden and severe.

Treatment can be difficult and sadly, affected cats may need to be euthanased. For those cats who do survive, drugs will be recommended to try to prevent the recurrence of clot formation. Cats may also need medication for the underlying heart disease.

## **Sudden death**

Many owners are unaware their cat has any underlying heart disease until the cat shows severe clinical signs or dies suddenly. Sometimes, cats may show no signs of significant underlying heart disease until exposed to a trigger. This could be a general anaesthetic or the administration of intravenous fluids because of another illness. Sadly, HCM can be a cause of sudden death in young cats who may not have shown any prior signs of disease.

## **How is heart disease diagnosed?**

There are a number of different tests available to diagnose heart disease and often several tests may be used in conjunction.

- Ultrasound scan, or echocardiography, is the most useful test to check the heart structure and assess blood flow. This may need a specialist veterinary cardiologist or veterinary surgeon with additional training. The scan measures the heart muscle thickness and chamber size and assesses



the valve function. Cats with both a thickened left ventricle and an enlarged left atrium are thought to have a higher risk of developing signs of heart disease

- Clinical examination. The vet will ask questions about the cat's history, behaviour and lifestyle. They will assess the cat's breathing, gum colour and pulse quality and look for clinical signs of heart disease. Using a stethoscope the vet will listen to the rate and rhythm of the heartbeat and the cat's breathing and lung sounds
- Blood tests. Heart biomarkers can be used to identify cats with significant heart disease
- X-rays can help the vet to assess the size, shape and position of the heart outline within the chest or look for changes within the lungs
- Electrocardiogram (ECG) to measure the electrical activity of the heart
- Tests to rule out other disorders, such as measuring the cat's blood pressure, testing for anaemia and hyperthyroidism
- In cats who have died suddenly, post-mortem examination may reveal HCM

## **What can I do for my cat?**

Unfortunately, it is difficult to predict which cats will go on to develop more severe heart disease or failure. Large scale studies are ongoing. Research is also looking into drugs which may help prevent heart disease progressing.

For those cats with signs of HCM, oral medication and regular reviews can be helpful. You will be advised to monitor your cat closely at home, by counting their respiratory rate while they are sleeping. Consult your vet if the rate starts to increase, as this may indicate progression of the disease.

## **What does the future hold?**

Many cats affected with mild HCM live normal lives, never developing any symptoms of their heart disease. Only a minority of cats develop severe HCM and signs of heart disease.

If significant disease is present, treatment may help. However, heart function is likely to deteriorate over time and treatment will then become less effective. Sadly, if a cat's quality of life becomes poor, they may need to be euthanased, and your vet can support you with this decision.

The following vet-approved guides are available to download from [cats.org.uk/information-leaflets](https://cats.org.uk/information-leaflets)

## **Essential guides**

**Behaviour: Understanding your cat's behaviour** W84009

**Behaviour: Managing your cat's behaviour** W84010

**Bringing your cat home** W84002

**Caring for your cat** W84001

**Caring for your kitten** W84015

**Cats and people** W84014

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**End-of-life, grief and loss** W84007

**Feeding and obesity** W84004

**Feral cats** W84017

**Indoor and outdoor cats** W84012

**Keeping your cat safe** W84005

**Microchipping** W84008

**Moving home** W84003

**Neutering** W84006

**Pregnant cats, birth and care of young kittens** W84018

## **Veterinary guides**

**Arthritis** W83201

**Cat flu** W83216

**Digestive disorders: vomiting and diarrhoea** W83218

**Feline immunodeficiency virus (FIV) and feline leukaemia virus (FeLV)** W83209

**Feline lower urinary tract disease (FLUTD)** W83202

**Fleas and other parasites** W83215

**Heart murmurs and heart disease** W83211

**Hyperthyroidism** W83212

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**Kidney or renal disease** W83206

**Skin disorders** W83204

**Teeth and oral health** W83214

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**Cats and pregnant women: toxoplasmosis**

**Cats and the law**

**Cats with disabilities**

**Diabetes**

**Feline asthma**

**Feline coronavirus (FCoV) and feline infectious peritonitis (FIP)**

**Feline parvovirus (FPV)**

**Hypertension**

**You and your vet**

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