

Supporting dietary food for dogs with heart problems



*My dog has heart problems...
what do I do now?*



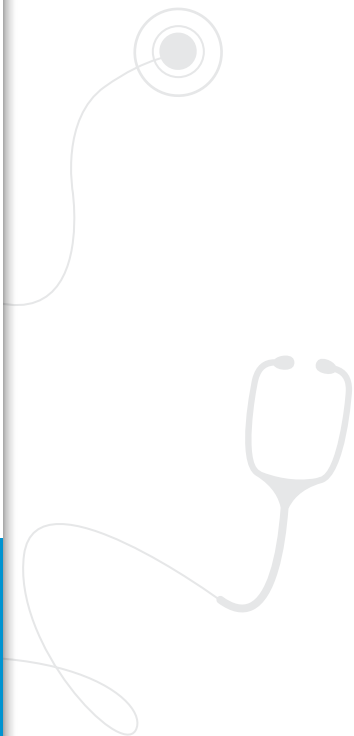
Veterinary exclusive



reliable and affordable dietary pet food



Veterinary exclusive



In the veterinary practice, patients with heart problems are becoming more common. This is partly due to the fact that dogs live longer lives, but also because improved diagnosis methods have increased the detection rate of these disorders. The increased popularity of breeds where heart disease frequently occurs is also an important cause. In this brochure you will find more information about the identification, treatment methods and in particular, the role TROVET food plays in dogs with heart problems.

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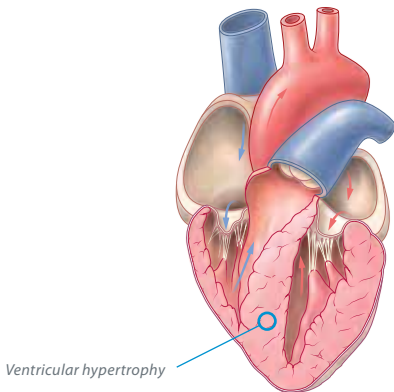
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Heart conditions are all the conditions affect the heart structure or function. These occur primarily in older dogs. The main causes are leaking heart valves and disorders of the heart muscle tissue itself. In humans, the diet has a very large influence on arteriosclerosis. However, dogs are able to metabolise large amounts of fat, with only minimal effects on blood cholesterol levels. In dogs, a sudden heart attack or the development of arteriosclerosis is very rare. Dogs usually have slowly developing diseases that develop over ranges from several months to years.

What forms of heart disease are there?

Heart diseases can be broadly classified into five categories. Combinations of these anomalies can also occur.

1. Valvular insufficiency
2. Heart muscle disorder
3. Anomalies pericardium
4. Congenital heart defects
5. Cardiac arrhythmia



1. Valvular insufficiency

The heart valves ensure that the blood flows in the correct direction. If these valves do not close properly, blood may flow in the wrong direction, inside the heart chambers. This creates a kind of leakage. This is called valvular insufficiency. Less blood is circulated through the body with each heartbeat. However, the body requires sufficient blood and energy. To provide a sufficient amount of blood and energy to the body, the heart responds by beating faster. This results in an increased heart rate, even when the animal is at rest. This anomaly is most common in small dog breeds, like the Cavalier King Charles Spaniel, Yorkshire Terrier and Maltese.

2. Heart muscle disorder

The heart muscle gives the heart the ability to pressurise blood and pump it through the body. When the heart muscle is damaged, the heart may be less able to build pressure and pump blood through the body, which results in an impaired blood circulation. This is called cardiomyopathy. Due to the lower pressure in the heart, the heart valves may also close less well, which subsequently may result in valve insufficiency.

3. Anomalies pericardium

The pericardium is a double-walled tissue layer which functions as a protective membrane, wrapped around the heart. There is always some moisture in the pericardium, resulting in smooth movements of the heart, relative to the lungs and thoracic diaphragm. The pericardium also ensures that the heart remains well in place. The most important pericardium condition is an over-filling of the pericardium with moisture. When there is too much moisture in the pericardium, for example, by a tumour or an inflammation, the heart function is impeded and can barely pump blood.

4. Congenital heart defects

A birth defect is a defect in the development of the fetus or a genetic fault. Certain genetic disorders are more common in specific breeds. For example, Boxers with heart problems often suffer from a narrowing in the aorta. English bulldogs often suffer from a narrowed pulmonary artery.

5. Cardiac arrhythmia

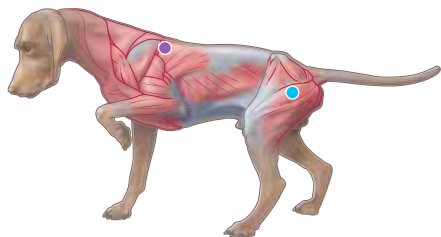
Cardiac arrhythmias can arise in combination with one of the above mentioned disorders. However, they can also arise spontaneously or as a result of other diseases, blood disorders, an accident or medication.

Symptoms of heart problems

Emaciation in dogs with heart problems can have several causes. Dogs can experience loss of appetite, due to stuffiness and problems with their stamina.

An advanced stage of heart failure in dogs may accompany swelling of the abdomen. This is a sign that the heart is no longer able to properly circulate the blood through the body. This results in elevated blood pressure and the egress of the fluid from the blood vessels in the abdominal cavity. This then leads to free fluid in the abdominal cavity, which is observable as a bloated abdomen, also called ascites. For dogs with ascites, generally antihypertensives and diuretics will be prescribed to reduce fluid accumulation.

The fluid in the bloated abdomen can displace the stomach, liver and pancreas, causing the animal to feel nauseous. Nausea results in decreased food intake. Insufficient food intake can cause excess muscle tissue breakdown to release much needed energy, where otherwise primarily fat is used. Typical areas where the muscle tissue breakdown is observed, are the muscles in the shoulderblades and hind legs. This phenomenon is referred to as cardiac cachexia.



● *Shouder blades*

● *Hind legs*

How to recognise heart problems in dogs?

- > Coughing a lot
- > Wheezing
- > Rapid respiration, even when resting
- > Reduced apetite and emaciation
- > Swollen abdomen
- > Rapidly tired and less stamina
- > Fainting

An early diagnosis of heart problems leads to a better prognosis. The recognition of the mentioned symptoms is therefore of great importance and are the most common. If your dog shows one or multiple symptoms, this does not automatically mean that your dog has a heart condition. Therefore, it is advised: if your dog exhibits any of these symptoms, you should contact your veterinarian.

How to get the correct diagnosis?

The veterinarian is, together with you, the designated person to monitor the health of your dog. If the veterinarian suspects a heart condition, he will advise you to let your dog get examined.

Potential examinations include:

Electrocardiography (ECG)

The ECG device measures the electrical activity generated by the heart. The data from these tests provide insight into the heart rhythm and other heart functions.

Echocardiography

Echocardiography gives a unique opportunity to look into the heart of the pet. Ultrasound provides information about the functioning of the heart, the movements of heart muscle and valves, and the proportions of the different parts of the heart relative to each other.

Radiograph

Changes in shape, size and position of the heart can be imaged by X-rays. They show a potential enlargement of the heart and fluid accumulations in the thoracic cavity.

Blood pressure measurement

The blood pressure measurement in the dog is similar to the measurement of the blood pressure in humans. It is important that the measurement is done in a quiet setting. The dog gets a cuff around the leg. Thereafter,



the sound of the blood flow is searched with sensor of the blood pressure monitor.

Once it is found, the cuff is inflated until the signal has become inaudible. Next, the cuff is deflated. Once the signal is audible again, the systolic pressure is known. This value is of particular importance in dogs.

Treatment

If an acute treatment for a heart problem in your dog is required, this may be followed by admission at the veterinary practice for a certain period. A next step could be that the heart disease is treated by administering proper medication, lifestyle changes and special food.

Medication

Medication to support the cardiac function often forms the basis of the treatment of heart problems. There are several different types of medication which may require the veterinarian, depending on the cause. Diuretics may be prescribed to prevent unwanted fluid accumulation, or antihypertensives to reduce the workload of the heart.

You should realise that the medication in chronic heart problems does not heal the dog. Therapy with medication is especially targeted against the symptoms, so that quality of life and chances of survival are increased.



Nutrition

Dietary food for dogs with heart problems focuses on the improvement of the nutritional status of the dog. This food provides nutrients that are important for the functioning of the heart. It is specially formulated to replenish nutrients that are lost as a result of drug use.



Dogs with heart problems often have a decreased appetite. By increasing the palatability of the food, the chance of sufficient energy and nutrient intake is increased. It is important to follow the nutritional advice of the veterinarian.

Only provide healthy snacks and no extras like cheese cubes or sausage. These are often high in salt and thus not optimal for the heart function of the dog.

TROVET Regulator | Ω HD

Regulator is an easily digestible food, formulated with a relatively high fat content. This fat is on one hand to increase palatability and on the other hand to provide as an easy metabolisable energy source for the body. The diet contains extra taurine and L-carnitine. These nutrients support good cardiac function and are often reduced in dogs with chronic heart problems.

Additionally, Regulator is rich in energy and fatty acids. Omega 3 fatty acids have been shown to support the function of the heart and to help prevent cardiac arrhythmia. The increased energy content, in combination with omega



3 fatty acids, reduce the risk of weight loss as a result of heart failure, also known as cardiac cachexia.

Regulator is relatively low in salt, to support optimal blood pressure. An increased level of potassium compensates the potassium loss caused due to the use of diuretics.

Food for dogs with heart problems only supports a proper heart function and must not be seen as a stand-alone therapy.

TROVET Treats

TROVET has an extensive range of responsible rewards, also known as treats. Most treats are suitable for both healthy dogs and cats, as well as dogs and cats with a special dietary requirement or prescription diet. The TROVET treats are cookies in different shapes and are an ideal reward that can be used during training, after a walk or just as a snack.

The special thing about TROVET treats is that, besides the taste, they are formulated in such a way that they fit well with various diets. Giving 'regular' treats to dogs or cats that get dietary food, can negatively affect the efficacy of these foods. Therefore, carefully choose a treat that fits the situation of your dog or cat. Always ask your veterinarian for more information and advice. TROVET treats are available exclusively via your veterinarian.

For pet owners, there is a more detailed treat brochure 'I want to give my dog or cat something extra besides dietary food... what do I do now?'. You can find these at your veterinary practice or at www.trovvet.com.

Treats suitable for dogs with heart problems:

- > Hypoallergenic Treat (Duck) | HDT - neck
- > Hypoallergenic Treat (Horse) | HHT
- > Hypoallergenic Treat (Horse) | HHT - tendon
- > Hypoallergenic Treat (Lamb) | HLT
- > Hypoallergenic Treat (Ostrich) | HOT
- > Hypoallergenic Treat (Rabbit) | HRT
- > Hypoallergenic Treat (Venison) | HVT
- > Hypoallergenic Treat (Venison) | HVT - tendon
- > Low Calorie Treat (Lamb) | LCT
- > Multi Purpose Treat (Lamb) | MLT
- > Multi Purpose Treat (Rabbit) | MRT





reliable and affordable dietary pet food

For the complete range of TROVET products, visit: www.trovvet.com



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TROVET

De Vergert 4 - 6681 LE Bommel - The Netherlands

T: +31 (0)481-470240 | E: info@trovet.nl | W: trovet.com