

FACT SHEET

Heart Conditions

The heart

The heart is a circulatory pump whose purpose is to supply oxygen and nutrients to the body by pumping blood, which at the same time removes waste products such as carbon dioxide from the body. It is a muscular organ located in the thoracic cavity (chest) and contains four chambers; two on each side, all separated by valves.

Oxygenated blood enters the left side of the heart from the lungs through the pulmonary veins into the atrium. It is then pumped through into the ventricle via valves that consist of flaps that allow the blood to flow only in one direction.

The blood is then distributed throughout the body via the aorta, this being the main artery of the body, supplying all the tissues of the body with the oxygen and nutrients they require.

Once the tissues have used the oxygen, the blood becomes deoxygenated, containing carbon dioxide and other waste products that need to be removed. The network of veins throughout the body transport the deoxygenated blood to the largest vein in the body called the vena cava, which returns the blood to the right atrium of the heart. It then goes through the valves into the ventricle, and back up to the lungs through the pulmonary artery.

In order for the heart to work efficiently as a pump, the cardiac muscles have to contract in sequence with each other. These muscles push the blood from the chambers through the valves, which then shut preventing blood flowing back in to the previous chamber. The sound that you hear and call the heart beat is actually the noise of the valves opening and closing in sequence.

The normal heart rate for a dog is 70-120 beats per minute depending on the size and breed.

The most common conditions, which can affect heart rate are:

- Age (younger animals often have a much faster heart rate)
- Temperature
- Illness
- Anxiety and excitement

Congenital problems (present at birth)

These include failure of the muscular walls separating the chambers of the heart to form correctly, i.e. a hole in the heart, heart valve faults and wrongly positioned or narrow blood vessels. These problems are often only identified once the young animal starts moving about and is seen to be slower or weaker than its littermates. Problems of this nature are usually serious but may be correctible through surgery.

Acquired problems

The most commonly acquired problems are linked with the heart valves. Ageing can gradually cause the valves to degenerate so that they become inefficient, allowing blood to flow back through them. This can be a hereditary problem, as seen in certain Cavalier King Charles bloodlines, or it may arise from a bacterial or viral infection.

Another common problem is called Dysrhythmia; this is when the heart rhythm is incorrect causing the heart to beat abnormally.

Signs to look for

If you suspect that your pet has a heart condition, it is often the case that the problem is quite advanced before you realise. This is because animals can cope, showing no signs for a long time.

When the pump is damaged, or is starting to fail, the circulation of blood is reduced. There is a tendency for blood to pool behind the heart and the watery component of blood (plasma) passes out of the blood vessels and collects in surrounding areas such as the chest and abdomen.

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- You may start to notice a slight cough. This is due to build up of fluid in chest
- Low exercise tolerance
- Breathlessness
- Anorexia, due to lethargic depressed feeling
- Swollen abdomen, due to build up of fluid in abdomen
- Pale or blue mucous membranes (gums) due to lack of oxygen getting through to tissues
- Poor circulation can ultimately lead to failure of other organs including the liver and kidneys and consequently a decline in general health

Diagnosis

Your veterinary surgeon will listen to the animal's heart through a stethoscope, but in order to find out even more detail your veterinary surgeon may also take an X-ray to check the size and shape, or an electrocardiogram (ECG) to test the electrical discharge from the heart.

Treatment and management of heart disease

Your veterinary surgeon will be able to advise you on the best course of action for your pet. Often there is no cure, but the condition can be controlled with the use of drugs and good management. The prescribed drugs will aim to increase blood flow to the tissues and remove the excess fluid from the chest and abdomen therefore allowing the heart to work more easily.

Problems with the heart beating at the wrong speed or rhythm can be treated with certain drugs used to change and regulate the heart rate. In some extreme cases a pacemaker may be fitted.

Management

- Exercise should be reduced and allowed in controlled small amounts.
- Overweight pets are stressed more by heart disease than pets of normal weight so a strict low calorie diet should be given to reduce weight to normal levels. Naturediet Senior/Lite is a complete dog food, which is low in calories and should be fed to a target weight according to breed standards. No additives or tit bits should be given.
- Drugs can be used to slow and strengthen the heartbeat or to correct rhythmic abnormalities.
- Diuretics can be used to remove excess fluid and salts out of the body via the kidneys and urine.
- Salt levels in your pet's diet should be kept to a minimal amount according to normal requirements in order not to exacerbate fluid retention.

How can Naturediet help?

Naturediet contains no artificial ingredients, colouring agents, flavour enhancers, preservatives, processed meat or bone meal and has no added salt.

All food products contain some natural salt but Naturediet equates to only 0.18 grams per 100 K/Cals of metabolised energy. This is less than most proprietary dog foods, and a well-recommended diet to give any dog with a heart problem. Naturediet is made from only high quality natural ingredients, which are easily digestible and palatable for the pet that is reluctant to eat.

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