

FACT SHEET

Kidney Failure

The kidney

Dogs, like all mammals, have two kidneys situated in the upper abdomen, just behind the liver, one either side of the midline. The main functions of the kidneys are to remove nitrogenous waste products from the body and maintain fluid balance by removing all excess water and salts.

The kidneys act as filter units for the blood system, anything contained within the blood that is not required by the body will be removed, filtered out by the kidneys, and eventually leaving the body in the urine. Any products that are useful to the body are reabsorbed.

Oxygenated blood from the heart enters the kidneys through the renal arteries, which branch off into a network of smaller capillaries within the kidneys called glomeruli. Blood is filtered in the glomeruli and collects in the renal tubules.

The protein and fibrinogen (blood clotting plasma protein) remains in the blood whilst the remaining fluid which contains glucose, salts and nitrogenous waste passes through the tubules and the vital substances such as the glucose, some of the salts and water are reabsorbed.

This selective re-absorption prevents the loss of any useful substances from the blood stream. The remaining liquid contains toxic nitrogenous compounds and excess salt and water, which pass out of the kidneys down the ureter into the bladder, as urine.

Signs and symptoms of kidney failure

If you are observant you will be able to detect certain signs of kidney failure early. These signs can include excess thirst sometimes drinking exceptional amounts of water along with frequent urination and passing large volumes of pale urine. The animal may also have a poor appetite and lack energy. If untreated, symptoms will progress and the inevitable toxin build up will cause vomiting, diarrhoea, dehydration, weight loss and anorexia.

In extreme cases foul smelling breath will be noticed together with inflammation of the mouth and mouth ulcers. This stage of the condition is called uraemia and if emergency treatment is not administered at this stage, convulsions will occur followed by coma and death.

Treatment

The function of the kidneys is to clean the blood of toxins. Therefore, any unusable substance entering the body only adds to their workload. It is therefore advisable to avoid foods, which contain chemical additives, such as preservatives, colourings and flavour enhancers as these place unnecessary strain on the kidneys, ultimately exhausting their capacity.

As most of the metabolic waste products derive from protein sources it is important to feed a diet that contains a good quality, highly digestible protein source at an appropriate level. This way the body will be able to use it effectively and there will be very little left over for waste, reducing the workload of the kidneys.

Diets that contain excess salt should be avoided; excess salt in the blood stream will place strain on the kidneys and other organs such as the heart.

When the condition is in the later uraemia stage, emergency procedures will need to be administered as quickly as possible to limit kidney damage. This will involve your veterinary surgeon giving an intravenous infusion of large quantities of fluids to replace any essential salts lost by the damaged kidneys. This will also flush the body of toxic waste. If this treatment is successful it is more than likely that a lot of the kidney tissue will be damaged. Attentive after care will be needed to help prolong your pet's quality of life.

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How can Naturediet help?

Naturediet products contain a high quality protein that is easily assimilated by the body. This means there are only very small quantities of waste material for the kidneys to process. Naturediet is a completely natural appetising product with no added salt, preservatives, flavourings or colourings, all of which would otherwise place extra pressures on the kidneys. Naturediet is suitable for long term maintenance and helps prevent kidney problems from occurring.

Naturediet provides a lower protein diet called Naturediet Senior/Lite; this is suitable for dogs that have suffered from kidney failure as it has a lowered protein level and is often recommended for long term feeding in these instances.

All of the Naturediet product range are easily digestible and come conveniently packaged in a container suitable for use within microwave ovens. This is particularly useful when feeding a dog with a poor appetite as the aroma of the product when heated often stimulates a dog to eat.

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