

FACT SHEET

Pancreatic Insufficiency

This information sheet has been designed by Naturediet to explain what exocrine pancreatic insufficiency or EPI is and how the disease can be managed.

Researchers have found that animals fed on dry and highly processed foods for a period of time soon show an enlargement of the pancreas. Organ enlargement (hypertrophy) implies pathology.

The pancreas

The pancreas is a gland that is situated in the abdomen close to the stomach and small intestine. Most of the gland is exocrine (enzyme producing) and is responsible for providing the pancreatic juice that deals with the digestion of food within the small intestine. Within this exocrine tissue are small islands of endocrine (hormone producing) tissue that produce insulin for the breakdown of sugars.

What is pancreatic insufficiency?

Pancreatic insufficiency arises from loss or damage to the exocrine tissue within the pancreas, this reduces the amount of digestive enzymes produced, which limits nutrient digestion and results in very loose motions, often described as cow pats. This condition is frequently seen in German Shepherds possibly due to a hereditary link.

Food processing

Natural protein sources such as fresh or lightly cooked meats have their own enzymes, which combine with the digestive enzymes from the pancreas to aid the digestive process within the body.

Highly processed foods upset this natural balance in two ways:

a) Processing destroys all the natural enzymes in the meat, which means that the pancreas is called upon to provide more enzymes to make up for the shortfall.

The extra production overworks the gland whose resources are finite. This is why it becomes initially enlarged, and ultimately worn out.

b) Digestive enzymes only work on specific substances whose digestion they aid, e.g. lactase enzyme can only attach to and break down lactose sugar, it cannot attach to or break down chicken protein. When a protein is highly processed, it can be de-natured and changed in form. This can result in the enzyme not fully recognising it is a natural substance requiring normal digestion.

The 'changed' protein does not have any of its own auto-digestive enzymes, nor is it able to be broken down by the body's digestive enzymes in the same way as natural proteins, leaving it partially undigested. The undigested portion is treated as waste material, which is detoxified by the liver and excreted by the kidneys, placing a burden on their resources.

Signs and symptoms

It is often the case that symptoms of pancreatic insufficiency do not start to occur until about 90% of the pancreas, has already been destroyed.

When the pancreatic juice is absent, food passes through the intestine incompletely digested. The faeces, which often smell particularly rancid, will contain exceptionally large amounts of undigested material including fat and muscle fibres. It will often appear to have a grey putty colour, which can be foamy in texture or liquid diarrhoea.

Animals that have this condition are unable to either digest or absorb their food properly, some animals will act ravenous at times and devour any food in sight, scavenging from dustbins and even eating other animal's faeces.

If untreated they will rapidly lose weight and condition, as they are not able to receive the nutrients from their food.

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Diagnosis

Your Veterinary Surgeon will make a preliminary diagnosis based upon an assessment of all the clinical signs. He will probably require a faeces sample, which when examined under a microscope will show traces of the undigested food.

Alternatively a blood test can be taken; this can measure the level of pancreatic enzymes, and the reading will estimate the amount of absorption that is taking place in the small intestine.

Management

Specific treatment is only possible by supplementing the deficient pancreatic enzymes. Your Veterinary Surgeon will prescribe these to you in tablet or powder form that can be sprinkled on your pet's food. The dietary management in these cases is extremely important due to the lack of enzymes to break down and digest the food.

The diet should have a restricted fat level with easily digestible carbohydrates that will supply most of the energy. The protein source should be of a high biological value.

How can Naturediet help?

Naturediet pet foods use only high quality natural meats, cereals and vegetables from human grade food sources. The ingredients are purely steam sterilised, a process which destroys food-borne pathogens, but retains all the natural goodness and enzymes.

Naturediet Chicken, Naturediet Lamb, Naturediet Rabbit and Turkey, Naturediet Fish, Naturediet Senior/Lite, and Naturediet Sensitive are excellent examples of diets that would be suitable. The fat content is low in these products and very low in Naturediet Senior/Lite. The carbohydrate is supplied in the form of rice, which is easily digestible and the protein is high in biological value containing all the essential amino acids from a natural meat source.

Where dietary treatment and enzyme replacements are successful there will be an improvement in the consistency and reduction in the volume of faeces. This in turn will be accompanied by a steady gain in body weight. Treatment however will have to continue for the rest of the animal's life.

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