



Understanding your pet's

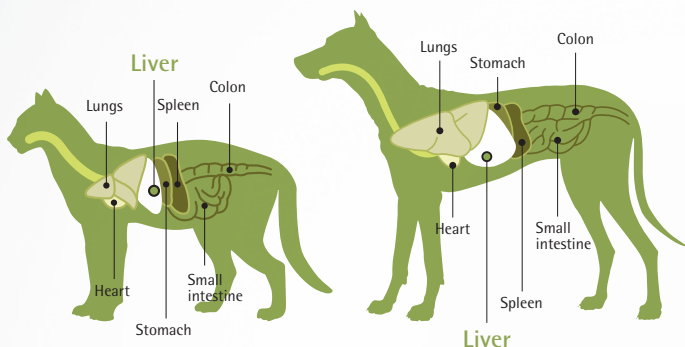
LIVER CONDITION



Your Pet, Our Passion.®

Why is the liver so important?

The liver is one of the largest organs in your pet's body, and it's vital for their good health. Just as in humans, the liver performs many essential functions.



Liver functions:

- Producing hormones, proteins and glucose (energy).
- Clearing the blood of waste products, drugs and toxins.
- Making clotting factors to stop excessive bleeding.
- Producing immune factors and helping fight infection by removing bacteria from the blood.
- Helping digest and absorb fat and other important nutrients.
- Storing useful nutrients such as vitamins, iron and energy.

With all these vital functions, it's easy to see that reduced liver function can have an effect on your cat or dog's health. Fortunately, the liver has the amazing ability to regenerate itself, and can still function when up to 75% of it is diseased or removed.

This means that a specially formulated diet can play an important part in minimising the clinical signs of disease and helping to aid repair of your pet's liver.

What causes liver disease in dogs and cats?

There are many reasons why your pet's liver function can be affected. These include:

- Infection by viruses or bacteria.
- Intoxications (poisons).
- Hepatitis (liver inflammation) often of unknown cause. This sometimes leads to scarring (cirrhosis), especially in dogs.
- Tumours.
- Genetic problems in some breeds (e.g. excessive liver storage of copper in Bedlington Terriers).
- Inherited problems with the liver's blood vessels (portosystemic shunts). These are more common in dogs than cats.
- Fatty liver disease (hepatic lipidosis) in cats.
- Inherited problems are most common in younger cats and dogs. Other forms of liver disease are more likely in older pets.

What are the signs of liver disease in dogs and cats?

Liver disease can be either long term (chronic) or start suddenly (acute).

- Cats and dogs with chronic liver disease often show vague non-specific signs like loss of appetite, lethargy and weight loss.
- The signs of acute liver disease are often much more obvious. They can include vomiting and diarrhoea, jaundice (yellowing of skin, the whites of the eyes and gums), abdominal swelling and excessive thirst and urination. Animals with acute disease may also have abdominal pain and fever.

Cats with liver disease often drool excessively, but this is not usual for dogs. Dogs and cats with very severe liver disease may build up large amounts of toxins in the blood. These can affect the brain, leading to disorientation, confusion and seizures. This is known as "hepatic encephalopathy".

How is liver disease in dogs and cats diagnosed and treated?

Liver disease can often be tricky to diagnose. Your vet may need to test blood and urine samples and perform liver function tests such as comparing blood collected before and after a meal. Ultrasound or x-rays of the abdomen can help show any liver abnormalities. A liver biopsy can also give very useful information about exactly what the condition is, allowing for more effective and targeted treatment.

The choice of treatment depends very much on your vet's diagnosis. Acute liver disease often requires hospitalisation, intravenous fluids (a drip) and sometimes feeding via a tube if your pet is not eating.

There are many medications for both acute and chronic liver disease patients. Depending on the specific condition, your vet will choose the most appropriate ones to help your pet. But whatever the condition, changing your pet's diet will be an essential part of managing their liver disease.



How the right diet will help your pet.

Feeding a specially formulated diet is very beneficial to dogs and cats with liver disease. The adapted nutrition helps support the liver, slows disease progression and helps your pet feel better, but also helps prevent weight loss and (in affected dogs) reduces copper accumulation in the liver.

Diets for dogs and cats with liver disease should be:

- Formulated with the optimal type and level of protein to help prevent malnutrition and help reduce the likelihood of hepatic insufficiency.
- High in energy to help prevent weight loss.
- Highly palatable to encourage affected pets to eat.
- Highly digestible to help reduce the liver's workload.
- Low in copper and fortified with zinc to help reduce hepatic copper accumulation in dogs.
- High in antioxidants and omega-3 fatty acids to help neutralise free radicals and support natural anti-inflammatory processes.
- Specially formulated to help support urinary tract health in cats which are prone to urinary conditions when under stress (such as when they are ill).

PURINA® PRO PLAN® VETERINARY DIETS HP Hepatic Canine and Feline have all these benefits and are ideal diets to help support dogs and cats with liver disease.

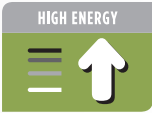
How Canine HP Hepatic benefits your dog.



Selected protein sources.
To help reduce toxin accumulation and help maintain liver function.



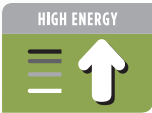
Low copper.
To reduce hepatic copper accumulation.



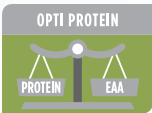
High energy content.
To help maintain a positive energy balance.

Canine HP Hepatic is also a complete and balanced diet for dogs of all ages from puppies to seniors.

How Feline HP St/Ox Hepatic benefits your cat.



High energy content.
To help maintain a positive energy balance.



Optiprotein.
Adapted protein level to help reduce toxin accumulation and help maintain liver function.



High palatability.
To encourage consumption and help prevent malnutrition.

PURINA®: a name you can trust.

PURINA® PRO PLAN® VETERINARY DIETS are backed by strong science, and the latest nutritional findings are applied to bring you some of the most innovative and effective formulas.

With your vet's care and advice and by feeding Canine HP Hepatic or Feline HP St/Ox Hepatic, you can be sure you're giving your pet the best possible care and nutrition to help manage their liver insufficiency.

Feeding guidelines.

The following is recommended as a guideline only. You may need to adjust the amount fed to maintain your pet's optimal weight which is influenced by factors such as environment, activity, body condition and breed. Provide fresh water in a clean container daily. Canine HP Hepatic is also suitable for puppies, please ask your vet for the feeding guidelines.

Canine HP Hepatic for the management of liver conditions in dogs:

Dog body weight (kg)	Daily feeding quantities (adult maintenance)
2.5	65
5	105
10	165
15	215
25	305
35	385
45	455
70	610

Feline HP St/Ox Hepatic for the management of liver conditions in cats:

Cat body weight (kg)	Daily feeding quantities (adult maintenance)
2	30
3	40
4	55
5	70
>5	+ 14 g per additional kg of BW

PURINA®
PRO PLAN®
VETERINARY
DIETS



Your veterinary clinic details:

**For more information about PURINA® PRO PLAN® Veterinary Diets,
contact your local sales representative or visit www.purina-proplan.co.uk/veterinarydiets**

Ask the Experts

**UK: 0800 212 161 IE: 1800 509 368 8am – 6pm, Monday to Friday
Nestlé Purina UK Commercial Operations Limited, 1 City Place, Gatwick, RH6 0PA**

Please note that all indications for PURINA® PRO PLAN® Veterinary Diets mentioned in this leaflet are for the dietary support of cats and dogs with the listed conditions and do not preclude appropriate medical management. The veterinary diets should be used under veterinary supervision. ®Reg. Trademark of Société des Produits Nestlé S.A.



Your Pet, Our Passion®