FELINE HP ST/OX HEPATIC MANAGEMENT™

Complete dietetic dry pet food for adult cats for the support of liver function in the case of chronic liver insufficiency.

RECOMMENDED FOR & NOT RECOMMENDED FOR

- ✓ Liver failure
- ✓ Cholangitis/Cholestasis/Hepatitis
- ✓ Portosystemic shunt
- ✓ Hepatobiliary neoplasia
- ✓ Hepatic copper accumulation
- ✓ Hepatic encephalopathy

- ✗ Not suitable for pregnancy, lactation and growth
- ✗ Hyperlipidemia
- ✗ Hepatic lipidosis (except when associated with hepatic encephalopathy)

1.5 kg

KEY BENEFITS

High energy
to help maintain a positive energy balance

Adapted level of protein
to help maintain body weight, reduce accumulation of toxins and maintain liver function

High palatability
to encourage consumption and prevent malnutrition

ADDITIONAL BENEFITS & CHARACTERISTICS

Helps reduce ammonia reabsorption and production in the large intestine
Increased levels of dietary fibres. Added prebiotics (dried chicory root)

Low copper to help reduce hepatic accumulation
Low copper level

Helps counteract some nutritional deficiencies that may occur in liver disease
Increased zinc levels

Hepatosupportive and slows progression of hepatic disease
Contains antioxidant vitamins C and E

Long-chain omega-3 fatty acids to help maximise natural anti-inflammatory processes
0.55% of energy coming from EPA and DHA

COMPOSITION

Corn#, dried chicken protein#, pork fat, pea protein#, digest#, corn protein meal#, dried beet pulp#, dried chicory root, dried egg#, minerals, fish oil.

Protein sources.

KEY NUTRIENT VALUES*	
Moisture	6.5%
Protein	28.0%
Fat - Omega-6 fatty acids - Omega-3 fatty acids	22.0% 3.1% 0.5%
Carbohydrate	35.0%
Crude fibre	2.0%
Crude ash	6.5%
Vitamin E	609 IU/kg
Copper	0.5 mg/100g
Zinc	23.3 mg/100g
Linoleic acid	2.8%
Arachidonic acid	0.10%
Sodium	0.2%
Metabolisable energy (ME)[1]	424 kcal/100g

* Typical analysis in the final product as fed.
[1] Calculated following NRC 2006 equations.

FEEDING GUIDELINES

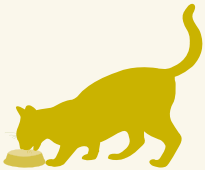
The recommended period of use is initially up to 4 months but the diet can be used long-term where appropriate, under veterinary supervision. Water should always be available.

ADULT MAINTENANCE	
Body weight (kg)	Daily feeding quantity (g/day)
2	25
3	40
4	55
5	65
> 5	+ 15 g per additional kg of BW

THE ROLE OF DIET IN FELINE HEPATIC DISEASE

Because the liver is central to the digestion, absorption, metabolism and storage of many nutrients, nutritional support is fundamental in the management of cats with hepatic disease.

PROVISION OF A HIGHLY PALATABLE HIGH ENERGY DIET



Chronic liver disease cause malnutrition due to impaired nutrient intake associated with anorexia and nausea, and due to maldigestion and malassimilation of food often associated with hepatic fibrosis and portal hypertension[1]. Malnutrition has been proven to have a significant negative impact on the outcome of hepatic patients[2], and preventing malnutrition and maintaining optimal body weight should be major nutritional goals of a hepatic diet. This is achieved by provision of a highly palatable, high energy diet.

PROVIDE ADEQUATE PROTEIN TO PRESERVE MUSCLE MASS

Reduced liver function can also lead to a decline in stored hepatic glycogen and lipids, necessitating the catabolism of muscle protein in order to meet ongoing energy needs. Given that approximately 50% of body ammonia is temporarily stored in muscle, and muscle is the primary site of ammonia detoxification outside the liver, muscle catabolism can potentiate hyperammonaemia and hepatic encephalopathy[3]. Therefore another important goal of nutritional management of liver disease should be to provide adequate protein to preserve muscle mass whilst not exceeding the liver's capacity to prevent the accumulation of toxic metabolites and consequent hepatic encephalopathy.

FACILITATE HEPATIC CELLULAR REGENERATION

A third goal when nutritionally managing feline hepatic disease should be to facilitate hepatic cellular regeneration by providing nutrients which are hepatoprotective (e.g. zinc[4]), ameliorate inflammation (e.g. long chain omega-3 fatty acids[5]) and help reduce oxidative damage[6] (e.g. antioxidants such as vitamins C and E).

1. Center SA. (1998) Nutritional support for dogs and cats with hepatobiliary disease. *J Nutr.* **128**: 2733S-46S.
2. Meyer HPT and Roudebush P. (2010) Hepatobiliary Disease In: Hand MS *et al* (eds). Small Animal Clinical Nutrition, 5th edition. *Mark Morris Institute, Topeka, KS*: 1155-1180.
3. Rothuizen J, *et al.* (2001) Inherited liver diseases: New findings in portosystemic shunts, hyperammonaemia syndromes, and copper toxicosis in Bedlington terriers. In: Proceedings 19th Annu Vet Forum. *Am Coll Vet Int Med.* Denver: 637- 639
4. Meyer HPT, *et al.* (2010) Hepatobiliary Disease In: Hand MS *et al* (eds). Small Animal Clinical Nutrition, 5th edition. *Mark Morris Institute, Topeka, KS*: 1155-1180.
5. Scorletti E, *et al.* (2013) Omega-3 fatty acids, hepatic lipid metabolism, and nonalcoholic fatty liver disease. *Annu Rev Nutr.* **33**: 231-48.
6. Center SA, *et al.* (2002) Liver glutathione concentrations in dogs and cats with naturally occurring liver disease. *Am J Vet Res.* **63**: 1187-97.

CLINICAL ADVANTAGES WITH THE USE OF FELINE HP ST/OX HEPATIC MANAGEMENT™

Feline HP ST/OX Hepatic Management™ is specifically designed to meet the precise needs of cats with liver disease:

Highly palatable to encourage consumption, promote good patient compliance and prevent malnutrition.

High energy density diet adapted to the hypercatabolic state to help maintain body weight and prevent excessive tissue catabolism.

Selected sources of protein and adapted levels to reduce accumulation of toxins and maintain liver function.

↓Cu **Low copper level** to reduce hepatic accumulation.

Added dietary fibre and prebiotics (chicory root) to help reduce ammonia reabsorption and production in the large intestine.

Antioxidants (Vitamin C and E) to protect hepatic tissue and to slow progression of hepatic disease.

Vit C Vit E

Fortified with zinc to help reduce the risk of depletion which may occur in liver disease.

Zn

Ω3 **Long chain omega-3 fatty acids** to counteract inflammation.

The reassurance of a diet that **reduces the risk of urinary stones** formation (ST/OX security).