

**Hepatic Disorders**

# CANINE CHRONIC HEPATITIS



The World Small Animal Veterinary Association defines chronic hepatitis as a combination of inflammation, liver cell death, fibrosis, and regeneration.<sup>1</sup> Most cases of canine chronic hepatitis are idiopathic, although chronic hepatitis may also occur secondarily to infection or toxins/drugs (especially excessive copper accumulation in the liver and drugs such as phenobarbital) or may be immune-mediated.<sup>2</sup> Predisposed breeds include Bedlington Terriers, Labrador Retrievers, English and American Cocker Spaniels, and Doberman Pinschers.<sup>2</sup>

Since the liver functions as the body's central metabolic organ, chronic hepatitis may alter metabolism of proteins, lipids, carbohydrates, vitamins, and minerals, resulting in varying degrees of malnourishment. Pets often exhibit non-specific signs, such as lethargy, nausea, vomiting, or diarrhea. Gastrointestinal signs in particular may decrease appetite, contributing to malnutrition.<sup>3</sup>

Nutritional support plays a key role in the management of chronic hepatitis. While meeting the dog's individual nutritional requirements, diet can also help reduce inflammation and fibrosis and support hepatic regeneration.<sup>4</sup>

**Key Messages**

- Contrary to previous views, most dogs with chronic hepatitis do not require dietary protein restriction. Instead, increased levels of protein may be needed in affected dogs to maintain lean body mass and guard against cachexia,<sup>2,5</sup> which is associated with diminished immune function, increased morbidity, and shorter life span.<sup>6</sup> Only restrict protein if the pet is exhibiting signs of hepatic encephalopathy (HE), which may develop in pets with end-stage cirrhosis. Even then, a balanced protein intake is key to reduce the risk of hyperammonemia.<sup>2</sup>
- Highly digestible, high biologic value protein is recommended.<sup>2</sup>
- Start with a level of 2.1–2.5 g protein/kg body weight/day in the diet. Provided that the pet shows no signs of HE, gradually increase the level of protein in 0.3–0.5 g/kg increments to the maximum level the pet will tolerate.<sup>2,7</sup>
- The protein source may be important. Non-meat protein sources, such as soy, are better tolerated in dogs at risk for hepatic encephalopathy.<sup>8,9</sup>
- To meet energy requirements, a highly palatable, digestible diet should be fed. Increased levels of fat provide increased energy density and improve palatability of the diet. Do not restrict fat unless a bile duct blockage is present.<sup>10</sup>
- Supplementation with vitamin E and zinc may lessen oxidative injury and fibrosis.<sup>5</sup>
- Supplementation of fish oil, a source of the long chain omega-3 fatty acids eicosapentaenoic acid and docosahexaenoic acid, may reduce inflammation.

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## Key Messages (continued)

- Increase intake of B vitamins if the pet is polyuric and polydipsic due to increased urinary losses. Supplement vitamin K (which is stored in the liver) only if clotting parameters are abnormal.<sup>2</sup>
- If the owner elects a homemade diet, consult with a veterinary nutritionist to ensure the diet is nutritionally balanced and complete.
- Feeding strategies to encourage appetite include:
  - Warming the food to room temperature.
  - Offering small, frequent meals, which provides more opportunities for the pet to eat. (Where a risk of hepatic encephalopathy exists, the strategy also serves to reduce the level of the post-prandial ammonia burden.<sup>11</sup>)
  - Encouragement by the owner, e.g., hand feeding if this doesn't stress the pet.
- Regularly reassess weight, body condition score, and muscle condition score.

## References

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