

Cardiovascular Disorders

CONGESTIVE HEART FAILURE (CHF) IN CATS

Cats with cardiac disease often escape early disease detection because they may not have a suspicious heart murmur or show clinical signs of heart failure until they present in respiratory distress or with paralysis from aortic thromboembolism.

Care for cats with CHF is based on managing clinical signs and supporting heart function, and nutritional modifications contribute to these goals.^{1,2}



Key Messages

Dietary recommendations focus on maintaining cats' caloric and protein intake, avoiding high sodium intake, providing omega-3 fatty acids, and monitoring for nutrient deficiencies.^{3–5}

- Anorexia is a common problem in cats with CHF, so maintaining lean body mass with adequate calorie and protein intake is important.
 - Calorie intake should be prioritized over dietary sodium restriction. Keeping a cat's appetite up may require creative feeding strategies such as offering a variety of (appropriate) food options and feeding locations, or warming the food to body temperature.³
 - The goal for protein intake should be approximately 5 g/kg to 7 g/kg body weight (approximately 35% to 45% of calories) and should be restricted only if medically essential.⁶
 - Body and muscle condition scores should be recorded, along with body weight, at every veterinary visit.³
- Moderate sodium restriction can help control edema and congestion.
 - Keep in mind that reduced dietary sodium intake can stimulate physiological responses that conserve the body's sodium, which could worsen CHF signs, and diets with less salt are often less palatable.³



Sodium can sneak into cat diets: More than **30%** of cats with heart disease get treats, and **34%** of cats receive their medications with food that may be high in sodium, according to one source.⁸

(continued on next page)



- Supplementing with omega-3 fatty acids (e.g., fish oil with DHA and EPA) may help reduce inflammatory mediators and oxidative stress, reduce platelet aggregation, and help improve appetite.⁷
- Serum potassium concentration may be affected by medical management or underlying conditions and should be monitored and supplemented if needed.³
- Taurine supplementation is recommended for cats with global left ventricular systolic dysfunction, unless whole blood taurine concentrations are in the normal range.^{3,5}

Dietary history can be critical.

- High-sodium foods and treats, or small amounts of human food, can unintentionally add excessive sodium to a cat's diet.⁸
- Ensure the diet provides complete and balanced nutrition, including B vitamins; one study found lower plasma levels of vitamins B6 and B12 in cats with cardiomyopathy and arterial thrombembolism compared to healthy cats.⁴

References

- 1. Côté, E., Edwards, N. J., Ettinger, S. J., Fuentes, V. L., MacDonald, K. A., Scansen, B. A., Sisson, D. D., & Abbott, J. A. (2015). Management of incidentally detected heart murmurs in dogs and cats. *Journal of Veterinary Cardiology*, 17(4), 245–261.
- Fox, P. R., Keene, B. W., Lamb, K., Schober, K. A., Chetboul, V., Luis Fuentes, V., Wess, G., Payne, J. R., Hogan, D. F., Motsinger-Reif, A., Häggström, J., Trehiou-Sechi, E., Fine-Ferreira, D. M., Nakamuri, R. K., Lee, P. M., Singh, M. K., Ware, W. A., Abbott, J. A., Culshaw, G., ... Tachika Ohara, V. Y. (2018). International collaborative study to assess cardiovascular risk and evaluate long-term health in cats with preclinical hypertrophic cardiomyopathy and apparently healthy cats: The REVEAL Study. *Journal of Veterinary Internal Medicine*, *32*(3), 930–943. doi: 10.1111/jvim.15122
- 3. Luis Fuentes, V., Abbott, J., Chetboul, V., Côté, E., Fox, P. R., Häggström, J., Kittleson, M. D., Schober, K., & Stern, J. A. (2020). ACVIM consensus statement guidelines for the classification, diagnosis, and management of cardiomyopathies in cats. *Journal of Veterinary Internal Medicine*, 34(3), 1062–1077.
- 4. McMichael, M. A., Freeman, L. M., Selhub, J., Rozanski, E. A., Brown, D. J., Nadeau, M. R., & Rush, J. E. (2000). Plasma homocysteine, B vitamins, and amino acid concentrations in cats with cardiomyopathy and arterial thromboembolism. *Journal of Veterinary Internal Medicine*, *14*(5), 507–512.
- 5. Pion, P. D., Kittleson, M. D., Rogers, Q. R., & Morris, J. G. (1987). Myocardial failure in cats associated with low plasma taurine: A reversible cardiomyopathy. *Science*, 237(4816), 764–768. doi: 10.1126/science.3616607
- Laflamme, D. P. (2020). Understanding the nutritional needs of healthy cats and those with diet-sensitive conditions. *The Veterinary Clinics of North America: Small Animal Practice*, 50(5), 905–924. doi: 10.1016/j.cvsm.2020.05.001
- 7. Freeman, L. M. (2010). Beneficial effects of omega-3 fatty acids in cardiovascular disease. *Journal of Small Animal Practice*, *51*(9), 462–470.
- 8. Freeman, L. M., & Rush, J. (2016). Nutrition in cardiovascular disorders. In F. W. K. Smith, Jr., L. P. Tilley, M. A. Oyama, & M. M. Sleeper (Eds.), Manual of canine and feline cardiology (5th ed., pp. 394–403). Elsevier.

The Purina Institute aims to help put nutrition at the forefront of pet health discussions by providing user-friendly, science-based information that helps pets live longer, healthier lives.



Advancing Science for Pet Health