

**Abnormal Body Condition**

CACHEXIA IN DOGS AND CATS



Cachexia is the loss of lean body mass (LBM) and body weight that occurs with chronic disease, such as congestive heart failure (CHF), cancer, respiratory, or kidney disease.

This condition is important to identify and address because it is associated with diminished immune function, increased morbidity, and shorter life spans.¹⁻³

The disease-associated loss of LBM and weight is the result of complex metabolic changes and systemic effects from chronic inflammation of disease.⁴ While nutrition cannot “cure” cachexia, it can help address some of these metabolic changes, as well as the specific needs linked with the underlying disease.¹

Key Messages

- Routine nutritional assessments that include body weight, body condition, and muscle condition scoring, are key to early identification of LBM loss.¹
 - Tracking only body weight may miss the loss of lean body mass that may be masked by increased body fat or fluid gain.⁵
- Decreased protein and calorie intake often coincides with, and worsens, cachexia.
 - Anorexia is present in 34–84% of dogs and cats with heart disease, and may be secondary to fatigue, dyspnea, medication, altered food preferences, and/or altered neural control of appetite in cachexia.⁶⁻⁹
 - Strategies include feeding meals more frequently, in varied locations, and using flavor enhancers (avoid high sodium levels for pets with heart failure and avoid high phosphorus for pets with kidney disease).¹
 - Review homemade diets with a board-certified veterinary nutritionist to ensure the diet is nutritionally balanced and complete, and provides adequate calories and protein for the individual patient.
 - Guidelines suggest about 2.55 gram of protein/kg body weight for healthy adult dogs and about 5 grams/kg body weight in healthy adult cats while also assuring adequate calorie intake.¹⁰
 - More protein may be beneficial—only restrict protein if it is medically essential.
 - Review all dietary supplements as they may unintentionally contribute to anorexia through adverse interactions with other medications.¹

(continued on next page)

Key Messages (continued)

- Fish oil supplementation, high in the long-chain omega-3 fatty acids EPA and DHA, can decrease inflammatory cytokine production and improve food intake.¹¹
- Flax seed oil or other plant-based omega-3 fatty acids are ineffective sources of EPA and DHA in dogs and cats.¹²
- There is an “obesity paradox” with CHF cachexia in dogs and cats (and people), and renal cachexia in dogs: Higher body weights are linked with longer survival times.
- This emphasizes the importance of avoiding unintended weight and muscle loss.^{13–16}

References

1. Freeman, L. M. (2012). Cachexia and sarcopenia: Emerging syndromes of importance in dogs and cats. *Journal of Veterinary Internal Medicine*, 26, 3–17.
2. Ineson, D. L., Freeman, L. M., & Rush, J. E. (2019). Clinical and laboratory findings and survival time associated with cardiac cachexia in dogs with congestive heart failure. *Journal of Veterinary Internal Medicine*, 33(5), 1902–1908. doi: 10.1111/jvim.15566
3. Santiago, S. L., Freeman, L. M., & Rush, J. E. (2020). Cardiac cachexia in cats with congestive heart failure: Prevalence and clinical, laboratory, and survival findings. *Journal of Veterinary Internal Medicine*, 34(1), 35–44. doi: 10.1111/jvim.15672
4. Berardi, E., Madaro, L., Lozanoska-Ochser, B., Adamo, S., Thorrez, L., Bouche, M., & Coletti, D. (2021). A pound of flesh: What cachexia is and what it is not. *Diagnostics*, 11(1), 116. doi: 10.3390/diagnostics11010116
5. Hutchinson, D., Freeman, L. M., Schreiner, K. E., & Terkla, D. G. (2011). Survey of opinions about nutritional requirements of senior dogs and analysis of nutrient profiles of commercially available diets for senior dogs. *International Journal of Applied Research in Veterinary Medicine*, 9(1), 68–79.
6. Freeman, L. M., Rush, J. E., Cahalane, A. K., Kaplan, P. M., & Markwell, P. J. (2003). Evaluation of dietary patterns in dogs with cardiac disease. *Journal of the American Veterinary Medical Association*, 223(9), 1301–1305. doi: 10.2460/javma.2003.223.1301
7. Laviano, A., Inui, A., Marks, D. L., Meguid, M. M., Pichard, C., Rossi Fanelli, F., & Seelaender, M. (2008). Neural control of the anorexia-cachexia syndrome. *American Journal of Physiology-Endocrinology and Metabolism*, 295(5), E1000–E1008. doi: 10.1152/ajpendo.90252.2008
8. Mallery, K. F., Freeman, L. M., Harpster, N. K., & Rush, J. E. (1999). Factors contributing to the decision for euthanasia of dogs with congestive heart failure. *Journal of the American Veterinary Medical Association*, 214(8), 1201–1204.
9. Torin, D. S., Freeman, L. M., & Rush, J. E. (2007). Dietary patterns of cats with cardiac disease. *Journal of the American Veterinary Medical Association*, 230(6), 862–867. doi: 10.2460/javma.230.6.862
10. Churchill, J. A., & Eirmann, L. (2021). Senior pet nutrition and management. *Veterinary Clinics of North America: Small Animal Practice*, 51(3), 635–651. doi: 10.1016/j.cvsm.2021.01.004
11. Freeman, L. M., Rush, J. E., Kehayias, J. J., Ross, J. N., Jr, Meydani, S. N., Brown, D. J., Dolnikowski, G. G., Marmor, B. N., White, M. E., Dinarello, C. A., & Roubenoff, R. (1998). Nutritional alterations and the effect of fish oil supplementation in dogs with heart failure. *Journal of Veterinary Internal Medicine*, 12(6), 440–448. doi: 10.1111/j.1939-1676.1998.tb02148.x
12. Bauer, E. (2007). Responses of dogs to dietary omega-3 fatty acids. *Journal of the American Veterinary Medical Association*, 231(11), 1657–1661. doi: 10.2460/javma.231.11.1657
13. Finn, E., Freeman, L. M., Rush, J. E., & Lee, Y. (2010). The relationship between body weight, body condition, and survival in cats with heart failure. *Journal of Veterinary Internal Medicine*, 24(6), 1369–1374. doi: 10.1111/j.1939-1676.2010.0584.x
14. Oreopoulos, A., Padwal, R., Kalantar-Zadeh, K., Fonarow, G. C., Norris, C. M., & McAlister, F. A. (2008). Body mass index and mortality in heart failure: A meta-analysis. *American Heart Journal*, 156(1), 13–22. doi: 10.1016/j.ahj.2008.02.014
15. Parker, V. J., & Freeman, L. M. (2011). Association between body condition and survival in dogs with acquired chronic kidney disease. *Journal of Veterinary Internal Medicine*, 25(6), 1306–1311. doi: 10.1111/j.1939-1676.2011.00805.x
16. Slupe, J. L., Freeman, L. M., & Rush, J. E. (2008). Association of body weight and body condition with survival in dogs with heart failure. *Journal of Veterinary Internal Medicine*, 22(3), 561–565. doi: 10.1111/j.1939-1676.2008.0071.x

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.