

**Abnormal Body Condition**

SARCOPENIA IN DOGS AND CATS



Sarcopenia is the age-related loss of lean body mass (LBM) that occurs unrelated to disease. With age, the rate of protein catabolism often exceeds protein synthesis.

This imbalance leads to progressive loss of lean body mass with loss of strength, diminished quality of life, and shorter life span.¹ Although this condition occurs in both dogs and cats, it seems to be more clinically significant in cats.

There is no single known cause of sarcopenia. The multifactorial etiology of this slowly progressive condition includes inadequate intake of protein or calories, altered protein turnover with decreased protein synthesis and increased protein catabolism, chronic increase in inflammatory cytokines, mitochondrial dysfunction, and increased oxidative stress.^{1,2}

While nutrition cannot prevent sarcopenia, the earlier this condition is identified the more opportunity there is to help delay age-related changes in body weight and body composition of older pets.

Key Messages

- Routine nutritional assessments that include body weight, body condition, and muscle condition scoring, can aid in earlier identification of LBM loss.
 - Tracking only body weight may miss losses of lean body mass that may be masked by increased body fat.^{2,3}
- Ensure dietary protein is adequate to minimize LBM loss, and only restrict protein if medically essential.
 - Older dogs and cats have higher protein needs than younger animals.⁴⁻⁶
 - Inadequate protein intake increases the rate of loss of LBM in aging dogs, while abundant protein slows the loss.⁷
 - 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.⁸
 - Specific amino acids may play a role in reducing loss of LBM.
 - For example, one study showed that increasing dietary lysine, independent of total protein, helped reduce loss of LBM in aging cats.⁹

**DID YOU
KNOW?**

Preserving LBM in aging cats enhances longevity: A longitudinal study of aging showed that non-obese cats had a 2% increased chance of survival for every 10-gram increase in LBM.¹²

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Key Messages (continued)

- Ensure calorie intake is adequate, keeping in mind that older dogs often need fewer calories while older cats may need more calories to meet their nutritional needs.⁸
- Calorie density varies widely among pet foods—from more than 600 kcal/cup to less than 250 kcal/cup. Ensure that any weight loss is not the unintended result of switching to a lower calorie food.³
- Changes in appetite and/or decreased food intake are common in senior pets.
 - Strategies to keep senior pets eating include feeding meals more frequently or using flavor enhancers.
 - Avoid flavor additives that are high in sodium for pets with heart failure, or high in phosphorus for pets with kidney disease.¹
- Fish oil supplementation, high in the long-chain omega-3 fatty acids EPA and DHA, can decrease inflammatory cytokine production and improve food intake.¹⁰
- Flax seed oil or other plant-based omega-3 fatty acids are ineffective sources of EPA and DHA for these species.¹¹

References

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