Inadequate Protein in Cats

Inadequate protein intake can result in a loss of lean body mass (LBM) and leave the cat in a compromised state.\(^1,2\) Traditionally, minimum protein requirements have been set by measuring the minimum amount of protein needed to maintain nitrogen balance. Nitrogen balance is defined as having nitrogen intake equal nitrogen losses (mainly in urine and feces). The question has arisen whether nitrogen balance is an adequate measurement of protein requirements or whether measurement of lean body mass is a better option.

Study Design

- 20 MN (male neutered) adult cats (4-8 years) were randomly assigned one of three different diets.
- Initially, all cats were fed a baseline (34% Protein) diet for 1 month, followed by either a 20% (5.7g/100kcal ME), 26% (7.3g/100kcal ME) or 34% (9.5g/100kcal ME) protein diet for 2 months.
- The attending veterinarian and veterinary technicians assigned to the study were blinded to the specific dietary treatments.

At the beginning and end of the study:
  i) Urine and feces were collected over a 96 hour period for each cat for a nitrogen balance assessment.
  ii) DEXA (Dual Energy X-ray absorptiometry) scans were performed on all cats to assess LBM.

Results

- All cats completing the study were able to maintain nitrogen balance.
- Regression analysis of the data shows that a daily protein intake of 1.5 g protein/kg of body weight should be sufficient to maintain nitrogen balance.
- A mean intake of 5.2g protein/kg of body weight was needed to maintain LBM.

Conclusion

- Nitrogen Balance Studies have significant limitations when determining protein requirements.
- Cats on low protein diets can maintain nitrogen balance despite losing LBM.
- A typical healthy adult cat, that consumes 50 – 60 kcal/kg body weight per day, should have 30 – 40% of the calories in its diet coming from protein.

All Purina Veterinary Diets® essential care® feline products have been designed with high protein levels to meet the unique dietary needs of cats.

References:

To learn more, ask your Territory Manager about the “Benefits of Protein in Feline Nutrition – Question & Answer Sheet”, visit www.PurinaVeterinaryDiets.ca or call 1-866-884-VETS(8387), 8:30 am to 4:30 pm EST.