What is a senior cat diet and when to feed it?

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Our expectations from the diets we provide our pets change throughout their lives.

Nutrition at any life stage is expected to provide energy, essential nutrients according to requirements and to be digestible; however, nutrition is often expected to provide additional benefits, particularly as pets age and experience age related changes in physiology and metabolism.

Some of the physiological changes that may occur with aging include a decline in skin and coat quality, a decrease in sense acuity, slowed metabolic rate, a decrease in digestive function, a decrease in lean body mass, a decrease in metabolic flexibility, a decrease in immune function and behavioral and a cognitive decline. In addition, senior cats are also at higher risk for certain age-related pathologies including kidney disease, neoplastic disease, orthopedic disease, endocrine disease, gastrointestinal disease, and more. Some diseases may be managed nutritionally to alleviate clinical signs improve wellness and prolong life. However, it is unknown whether some of these diseases may be prevented with nutritional modifications such as nutrient increase or restriction.

Another important challenge is how to define when a cat becomes senior and when a diet change may be helpful. Whether or not aging is similar in various cat breeds is an open question. We know that ageing differs substantially between dogs of varying breeds; however, this appears to be correlated to body size variability which is less variable in cats. The definition of 'senior' is controversial: should a senior life-stage be defined as an age where cats are nearing their end-of life? Should it be defined as an age where they are at higher risk for age-related diseases? Or perhaps when their nutritional requirements change?

The American Animal Hospital Association (AAHA) and the American Association of Feline Practitioners (AAFP) have defined mature-adult life stage as cats in the ages of 7-10 years and senior cats as cats above the age of 10 years (Quimby et al. 2021); however these life stages are somewhat subjective and there is a lack of data to help better define life stages in cats.

Nutritional requirements are established and specified in the accepted nutritional guidelines such as the National Research Council (NRC) and by the Association of American Feed Control Officials (AAFCO) to support cats during growth, reproduction and during maintenance as adults; however, there are no requirements established for senior cats. As a result, any pet food manufacturer that produces a diet marketed as senior may formulate the diet according to their preference as long as the product meets the nutritional requirements for an adult cat. A recent survey of 31 senior cat diets showed that diets formulated for senior cats are not significantly different from adult diets in caloric density, protein, fat, and several key minerals including calcium, phosphorus, sodium, magnesium and potassium (Summers et al. 2020a). It might be argued that certain supplements, such as marine and fish oils that provide long-chain polyunsaturated omega-3 fatty acids (eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA)) can be recommended to many senior cats as EPA and DHA modulate inflammation and have been shown to be beneficial in many age-related diseases such as orthopedic disease, dermatological disease and chronic kidney disease.

Chronic kidney disease is especially common in senior cats, with recent data suggesting that approximating 35% of the presenting complaints to veterinary referrals for cats over 12 years (Lulich et al. 1992). Recent studies have shown that diets with high dietary phosphorus may lead to chronic kidney

disease in healthy cats; likely depending on the form of phosphorus (organic vs. inorganic) and depending on the ratio of the calcium to phosphorus content which are parameters that impact phosphorus bioavailability (Coltherd et al. 2018; Alexander et al. 2019; Coltherd J 2019). While it is unknown whether the negative impact of high dietary phosphorus observed in these experiments occurs in client-owned cats, surveys have shown that some commercial diets exceed the amount of total phosphorus evaluated in these studies and shown to cause deleterious effects and some diets also have a calcium to phosphorus ratio below 1. This was true for products marketed for adult senior and non-senior cats (Summers et al. 2020a; Summers et al. 2020b). As there are no current phosphorus maximums or ranges for calcium to phosphorus ratio in AAFCO, it raises the question whether establishing interim maximums pending new data would be prudent.

For conclusion, no general recommendation regarding feeding senior feline diets can be made partly due to the lack of data and partly due to the high variability between products. Nutritional modifications should be made as needed according to medical considerations for each patient.

References

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