

## Veterinary KINsights

### The Unique Feline 1.0 Fit or Frail

#### KEY POINTS

- Frailty is a gradual reduction in body system reserve with age
- Cats experience age-related changes in digestion and metabolism
- Body composition includes body weight, fat, and muscle
- Cats may experience both disease and age-related changes in body composition
- Changes in body composition may have clinical implications for the patient
- Monitoring trends in body composition over time aids early recognition of changes
- Pet owner education and involvement are important for at home monitoring
- Early recognition may lead to improved patient outcomes

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#### THE AGING FELINE IS UNIQUE

Frailty is a term used, in humans, to describe the gradual reduction in body system reserve with age over time.<sup>1</sup> Even though the term frailty is not routinely used in veterinary medicine, aging feline patients are at risk for similar age-related changes particularly when it comes to maintenance of body weight, fat stores, and muscle mass. Weight loss, either through their primary pathophysiologic effects or alterations in chemical pathways controlling appetite and resulting decreased food intake, can compound the effects of frailty with age. When it comes to nutrition, cats have unique requirements which can make them intolerant to even brief periods of inadequate nutrition or reduced food intake regardless of the cause.<sup>2</sup>

In addition to illness related changes, cats experience age-related changes in digestion and metabolism as they transition through life stages, from kittens to seniors, and early identification is important.<sup>3</sup> Malnutrition has been linked to many negative effects on patient health, including suppression of the immune system, prolonged recovery from illness, delayed wound healing, and longer time spent in the hospital.<sup>2</sup> Actively monitoring the nutritional status of our patients is so important that the World Small Animal Veterinary Association (WSAVA) developed a global initiative to encourage routine nutritional assessment of small animal patients during each physical examination, referring to this as the 5<sup>th</sup> vital assessment.<sup>4</sup>

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## GLOBAL RECOMMENDATIONS

Recognizing changes in the nutritional status of our aging feline patients requires additional assessment and monitoring, beyond dietary habits and numbers on the scale.<sup>5</sup> A complete nutritional evaluation is essential.

For more information on complete nutritional assessment go to <http://www.wsava.org/guidelines/global-nutrition-guidelines>.

## BODY COMPOSITION – MORE THAN A NUMBER ON THE SCALE

The term body composition is used to describe, collectively, assessment of and changes in body weight, body fat, and overall lean muscle mass. Aging cats may experience loss of any combination of these components. Loss of muscle mass may be related to the aging process itself, a syndrome referred to as sarcopenia.<sup>6</sup> Alternatively, loss of muscle may be due to the presence of inflammation and underlying disease, with or without concurrent changes in appetite, a syndrome known as cachexia.<sup>6,7</sup> In addition to loss of muscle mass, cachexia is also associated with loss of body weight and fat.

## OWNER RECOGNITION

In overweight cats, it can be particularly challenging for owners to recognize loss of muscle, as excess fat can mask muscle loss resulting in delayed recognition.<sup>8</sup> This may be compounded by the fact that the cat may not be showing obvious signs of illness or changes in appetite or food intake. Assessing body composition on each patient routinely and educating pet owners on how to monitor for changes at home aims to optimize care for our aging feline patients. Monitoring trends and identifying changes early may lead to earlier identification of underlying disease and potentially improved outcomes for some patients.

## BODY WEIGHT

Body weight may change rapidly or slowly over time and is best monitored with repeated measurements and trending. While patient assessment and decision making is individualized, generally a loss of 10% or more of body weight should be considered clinically significant and warrants further investigation.<sup>9</sup> Loss of significant body weight, in combination with clinical signs or other signs of disease, warrants further evaluation. Using a consistent and reliable method to weigh cats is essential to identifying these changes over time. When assessing ill patients, factors such as hydration will affect the number on the scale as total body water equals roughly 60% of total body weight.<sup>10</sup> Patients that are dehydrated will likely weigh less and body weight should be reassessed once the patient is rehydrated and monitored throughout the duration of illness.

## BODY CONDITION

Assessment of body fat involves examination of specific anatomic regions of the cat and assignment of a body condition score (BCS). The Nutritional Assessment Guidelines from the WSAVA refer to a 9-point scale and suggest a goal BCS of 4-5 out of 9 as being ideal.<sup>4</sup> Cats with an ideal BCS will have a somewhat noticeable waist line caudal to the ribs and a slight fatty layering that is palpable on both sides of the rib cage. A BCS of <4 is considered under ideal weight and a BCS score >5 is over ideal weight. It is important to record BCS in the medical record for each patient during every physical exam. Tracking BCS over time will allow for negative trends or small changes to be identified early, which ultimately could translate into earlier identification of underlying disease.

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For more detailed information, including images on how to assess a BCS on cats, can be found on the WSAVA website at <http://www.wsava.org/guidelines/global-nutrition-guidelines>.

## MUSCLE CONDITION

It is equally important to evaluate muscle mass in our aging feline patients. Loss of skeletal muscle mass is a big contributor to frailty in humans and can result in increased risk of falling, disability, increased hospitalization, and mortality.<sup>1</sup> Muscle loss can occur as part of the normal aging process or as the result of various underlying diseases in veterinary patients.<sup>6</sup> This change can be more challenging for cat owners to detect and may result in delayed visits to the clinic. Assessment of muscle mass involves both visual inspection and palpation of the muscles along the head (temporal region), shoulders, spine, and pelvis. Muscle mass can be described as normal, or as exhibiting mild, moderate, or severe loss.<sup>4</sup> It is important to note that muscle loss and fat loss can occur concurrently or independent of one another and both changes may be clinically important and warrant further investigation.

More detailed information, including images on how to assess muscle mass in cats, can be found on the WSAVA website at <http://www.wsava.org/guidelines/global-nutrition-guidelines>.

## SUMMARY

Changes in body composition can occur in the presence or absence of an underlying disease and can have particularly important consequences on the health of aging cats. Early detection starts with owner education and involvement in assessment of body composition. Assessing body composition (i.e., body weight, body condition and muscle condition) can be performed routinely, at each clinic visit, along with monitoring to identify trends. Identification of changes includes assessment of historically recorded notes for body weight, BCS, and muscle mass. Recognition of changes may lead to earlier identification of changes suggestive of frailty or underlying disease and may improve outcomes for our aging feline patients.

## References

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