Obesity Prevention and Weight Maintenance After Loss

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KEYWORDS

• Dog • Cat • Overweight • Nutrition • Regain • Prophylaxis

KEY POINTS

- The process of inappropriate weight gain is insidious and many animals are at risk.
- Treatment of obesity is challenging and affected animals frequently fail.
- To prevent obesity, veterinary professionals should establish a program of body weight monitoring and body condition scoring assessments, starting during growth and then continuing throughout adult life.
- Body weight should be monitored regularly during the phase after weight loss to identify animals at risk of rebound.
- Feeding a therapeutic weight management diet during the weight maintenance phase significantly decreases the risk of regain.

INAPPROPRIATE WEIGHT GAIN IN DOGS AND CATS

Definition

Inappropriate weight gain typically arises from persistent dietary caloric intake in excess of maintenance requirements, leading to increased adipose tissue deposition. It is a major and ever increasing concern in companion animals and, depending on the degree increased adiposity, is classified as either overweight or obese. A dog or cat whose weight exceeds 10% of its optimal is classified as being overweight, and the term obese is used to define animals whose weight is 20% greater than optimal.[1]

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Prevalence of Inappropriate Weight Gain

There have been various peer-reviewed studies determining the prevalence of obesity and overweight, which suggest that 29% to 39% and 19% to 29% of dogs and cats, respectively, may be affected.[1] Most concerning is that the problem is becoming increasingly more prevalent, with a recent survey suggesting that the affected population of dogs and cats has increased by 37% and 90%, respectively, in the last 5 years.[2] Further, companion animal obesity is now of global significance, with a recent survey demonstrating that 44% of dogs in China were now classified as overweight.[3]

Onset of Inappropriate Weight Gain

A recent cohort study demonstrated that, for cats that become overweight later in life, body weight gradually increases through their adult years.[4] This is consistent with findings of cross-sectional epidemiologic studies that demonstrate that, in both dogs and cats, the relative prevalence of overweight is relatively low early in life, peaks during the middle-aged years, and lessens again later in life,[5,6] most likely as a result of the development of chronic diseases of old age. Thus, rather than developing suddenly, inappropriate weight gain is a gradual process that begins during early adult life, with adipose tissue accumulating gradually throughout the middle age years. This insidious pattern of onset can prove challenging both for owners and veterinarians because it is easily missed. Proactive monitoring is essential to spot the problem early and enable corrective measures to be implemented (see below).

Risk Factors for Inappropriate Weight Gain

A number of risk factors are known to predispose to the development of obesity in dogs and cats,[1,5,6] as outlined below.

Coexisting health problems

Many other diseases can alter energy flux, either by increasing energy intake or decreasing expenditure, and these can predispose to inappropriate weight gain (**Box 1**).

Rapid early life weight gain

In humans, a fast rate of growth predicts the likelihood of being obese during adulthood.[7] A similar phenomenon has also been reported in cats,[4] with genetic factors thought to be responsible.[8] However, it is not yet known whether rapid growth rates are a similar risk factor in dogs.

Box 1
Diseases that might predispose to inappropriate weight gain by altering energy flux

- Hyperadrenocorticism causes polyphagia and can predispose to increased energy intake.
- Side effects of some drugs, for example, glucocorticoids and anticonvulsants include polyphagia, which again might lead to weight gain.
- Neutering is a risk factor for inappropriate weight gain (see below), and may be required for treatment of diseases like pyometra.
- Orthopedic diseases decreases energy expenditure by decreasing physical activity.
- Hypothyroidism decreases energy expenditure by decreasing basal metabolic rate.