Diseases & Conditions Contributing to Dog Obesity

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Dogs may become overweight for many reasons. Whether the obesity is due to simple overfeeding or a result of a disease process, the bottom line is the same: the dog is taking in more calories than he is using. Regardless of the cause of obesity, the owner is ultimately responsible for regulating the dog's caloric intake and use, and in seeking veterinary assistance in maintaining the dog at the optimal weight. Humans are the main cause of obesity in dogs.

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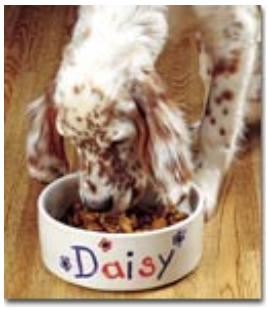
Some of the more common diseases and conditions which can contribute to obesity in the dog are discussed below.



1. Food type, availability, and palatability: Some dogs will only eat what they need and do fine if their food is available free choice (available at all times). Others will eat as much as is available and then look for more. Some dogs are finicky and others will eat just about anything. So the amount and type of food that is fed and the eating tendencies of the dog can determine how likely it is a dog will become overweight.

   The type of food fed has a direct bearing on the tendency of a dog to become overweight. Table scraps, treats, even premium high-energy dog foods can contribute to obesity. A 7-year-old labrador whose main occupation is laying in front of the hearth does not need a high-energy dog food, whereas his brother who is a field dog and lives in an outside kennel has high energy needs and a premium high energy food is in order.

2. Activity level: Activity level plays a major role in determining the caloric needs of a dog and thus his tendency to become overweight. An active dog will use more calories. In addition, an active dog's mental state may make him less likely to eat more because of boredom or stress.

3. Neutering and spaying: Neutering and spaying dogs lowers their metabolic rate such that they require fewer calories than intact dogs. In addition to changes in metabolism, androgens and estrogens (male and female sex hormones, respectively) stimulate roaming behavior and general physical activity. Estrogen, in addition, has the effect of decreasing appetite. Spayed animals never have the extra energy demands of pregnancy or raising a litter.

   > Neutered and spayed dogs, in general, need fewer calories than intact dogs.

   Since their energy needs are less, if we feed them what we would feed intact dogs, neutered and spayed dogs will, of course, gain weight. In truth, most neutered and spayed dogs are overfed and underexercised and are twice as likely to become obese as intact dogs. Neutering and spaying in themselves do not cause obesity, it is how <u>we</u> care for the dogs afterwards that predispose them to becoming overweight.

4. Genetics and breed predispositions: Are some breeds simply more prone to becoming overweight? The answer is yes. This does not mean all dogs of that breed may have the tendency, but it does mean owners of those breeds of dogs should be especially vigilant about monitoring their dog's weight. Those breeds which are more prone to becoming overweight include Labrador Retrievers, Dachshunds, Beagles, Cairn Terriers, Cocker Spaniels, Collies, Shetland Sheepdogs (Shelties), and Basset Hounds. Other breeds tend to have a lower incidence of obesity. I do not think I have ever seen an overweight Greyhound, but I am sure it does occur.

   Genetic factors which influence the type and characteristics of fat produced by the body have been shown to contribute to obesity in rats and mice. Such factors may occur in dogs.

5. Age: Dogs tend to become overweight when they are between 2 and 12 years of age, especially around the 6 year mark. As dogs become 'senior,' the tendency to become overweight decreases. Young dogs, too, in general, are less likely to be overweight, since their energy requirements are high since they are growing and are generally more active. A dog becoming overweight when under two years of age is a real warning sign. This dog will tend to be overweight his entire life, so weight reduction should occur as soon as possible and every effort should be made to maintain the optimum weight.

6. Social environment: Many people will acknowledge they eat more when they are stressed, and often eat less nutritious food. For me, large amounts of chocolate come to mind. Animals have similar responses to stress. This stress could include new persons entering the household (e.g.; a baby), changes in the household routine, etc.

   Some nutritionists feel dogs may overeat simply because they are bored and there literally is not much else to do. Some dogs may not get into the garbage can because they are hungry, but because they need something to do - the food they find is just a bonus.

   Dogs who live in a multi-dog or even multi-pet households often tend to eat more and/or faster than those in one-dog

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households. The change in behavior when other animals are present is called 'social facilitation.' The competition for food, whether perceived or actual, makes some dogs much more focused on their food and can lead to obesity.

7. Physical Environment: Maintaining body temperature is an energy-consuming task. When a dog is in an environment with a temperature below freezing, his calorie requirements may increase by as much as 30%. Conversely, an inside dog uses relatively few calories to maintain normal body temperature.

8. Medications: Various medications can influence metabolism and appetite. These include the glucocorticoids such as prednisone and dexamethasone, the barbiturates such as phenobarbital which is used to control epilepsy, and a class of drugs called benzodiazepines which includes valium.

The following possible contributors to obesity account for less than 5% of the cases of obesity in humans, and a similar proportion is likely in dogs as well.

1. Hypothyroidism: In the disease hypothyroidism, the dog's body produces less thyroid hormone. Thyroid hormone influences metabolic rate. Less thyroid hormone means lower metabolic rate and lower energy needs. A normal dog will become overweight if he develops hypothyroidism and is fed the same amount he was fed when he was healthy.

   Depending on the breed, many veterinarians will check an overweight dog for hypothyroidism before a weight reduction program is instituted. It is very difficult to get a hypothyroid dog to lose weight even when fed a weight reduction diet. By treating the hypothyroidism in conjunction with starting a weight control program, chances of success are much higher.

2. Cushing's disease (hyperadrenocorticism): Cushing's disease (hyperadrenocorticism) is a disease in which the adrenal gland produces too high a level of glucocorticoids. Glucocorticoids can alter metabolism and cause an increase in appetite and an increased deposition of fat. Again, in addition to starting a weight control program, the Cushing's disease must be managed if the dog is to successfully lose weight.

3. Insulinoma: An insulinoma is a tumor that occurs in the pancreas. It is a tumor consisting of the cells that produce insulin. A dog with an insulinoma produces too much insulin. Insulin tends to increase food intake and promote the generation of tissue, including fat.

4. Adult onset diabetes: If an increase in insulin can contribute to obesity it seems contradictory that diabetes mellitus, in which there is decreased insulin production, could also contribute to weight gain. There is, however, in dogs a type of diabetes called non-insulin dependent diabetes mellitus (NIDDM) in which obesity can occur. It is one of those 'which came first, the chicken or the egg' conditions. It occurs when an overweight dog must increase his insulin production, which then causes an increase in appetite and fat deposition. Then as the disease progresses, the production of insulin can not keep up with the demand and increased blood glucose levels and increased fat deposition occur. The dog ultimately becomes diabetic and severely obese.

5. Pituitary gland and brain diseases: The pituitary gland is often called the 'master gland' because it produces hormones itself and regulates the production of hormones from most of the other glands. If the pituitary gland is functioning abnormally, changes in the levels of various hormones can change the dog's metabolism, appetite, and fat deposition.

   The hypothalamus in the brain regulates appetite. Hypothalamic abnormalities could account for rare instances of increased appetite resulting in obesity.

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