

# Diabetes Mellitus in Dogs and Cats

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Just as in humans, Diabetes mellitus is increasing in our pet population. It is estimated that diabetes strikes 1 in 200 dogs and cats. There are two types of diabetes:

**Type I Diabetes**—this is comparable to insulin dependant diabetes in humans. Treatment requires insulin injections. This is most common in dogs.

**Type II Diabetes**—this is most common in cats and is equivalent to non insulin dependant diabetes in humans. It may or may not require insulin injections.

## How do our pets acquire diabetes?

Some breeds of dogs such as the Standard Poodle, Golden Retriever and Miniature Schnauzer are genetically more susceptible to developing diabetes. These animals develop diabetes at a young age. In many dogs, diabetes is thought to be an immune mediated disease in which the cells of the pancreas are destroyed. For some dogs and most cats, though, there are two primary causes of diabetes:

- 1) a long-term diet that has been high in carbohydrates and
- 2) obesity and lack of activity.

A diet high in carbohydrates causes your pet's blood sugar to elevate quickly after eating. In response, the body produces insulin. Insulin's job is to push the blood sugar into the cells. On the surface of the cells of the body are insulin receptors, which act like little doors that open and close to regulate the inflow of blood sugar. After many years of consuming a high-carbohydrate diet, the doors begin to malfunction and shut down. This causes the body to produce more insulin and starts a vicious cycle of insulin resistance. Soon the pet's body is not able to produce enough insulin to push the blood sugar into the cells and diabetes results. Diabetes, then, is an exaggerated case of insulin resistance.

Older, overweight cats can develop diabetes in a very specific way. If these cats are given corticosteroids by injection or by tablet, diabetes can result. Experts in feline diabetes tell us that these cats were susceptible to diabetes in the first place and the cortisone simply triggered the problem. Although initially the cat may require insulin or diabetic tablets, this form of diabetes may go into remission with proper diet and further avoidance of steroids. If this happens, insulin may be discontinued in this patient.

## Symptoms of Diabetes Mellitus

Typical signs of Diabetes Mellitus in pets are increased drinking and increased urination as well as increased appetite. This is generally accompanied by weight loss. If nothing is done at this time, the next symptom is usually vision problems in dogs (cataracts) and weakness in the back legs of cats. If the pet is not treated at this point, the disease can lead to death.

## Treatment

Early treatment by a veterinarian can help prevent nerve damage and blindness and in the case of cats, may even lead to remission. The conventional treatment for diabetes mellitus is:

1. insulin injections or, in the case of some cats, pills which lower the blood sugar and
2. diet regulation.

Insulin injections are given once or twice daily depending on the animal and its needs. Your veterinarian will determine the amount and frequency of injections or tablets that your pet requires. Dosing with insulin generally starts on the low end and the blood sugar is slowly stabilized. This may require a few days of hospitalization, if your pet is very critical, or may be done on an outpatient basis if the diabetes is more stable. During this time the pet's blood sugar is monitored on an hourly basis to determine the correct dose of insulin. Once the correct dose is achieved your veterinarian will have you monitor your pet at home either with urine testing or blood testing.

Diet is a critical component of treating any diabetic animal. Diet is so important that sometimes diabetes in cats will go into remission just with diet alone! Diets for cats should be low in carbohydrates and higher in protein while dogs should have a higher fibre, moderate carbohydrate diet. In general, dry diets for cats are too high in carbohydrates and canned diets are preferable. Any semi moist diet should be avoided as these are very high in sugar. Commercial diets formulated especially for diabetic animals are available. Raw or home prepared diets that are higher in meats and lower in carbohydrates may be an alternative if they are properly balanced and supplemented for the pet's needs. A holistic veterinarian who is educated in nutrition should be consulted before trying a home made diet for a diabetic pet.

Holistic treatments of diabetes may include supplementation of the diet with herbs, vitamins or minerals depending on the pet's needs. Never take your pet off of insulin or stop his or her pills to use a "natural" treatment. Remember, insulin is a natural substance. Holistic medicine can help with the regulation of blood sugar and may decrease the amount of insulin required. There are Chinese herbs combinations such as Corn Silk, bilberry and gymnema that can help with diabetes control. Bitter melon, vanadyl, and ginseng a stabilizing effect for diabetics. Fish oil supplementation and other anti oxidants such as alpha lipoic acid are also helpful.

## Prevention

Just as in humans, diabetes can be prevented in pets. A high quality diet that is low in carbohydrates and higher in protein for cats will prevent obesity and diabetes. Cats are carnivores so meat diets that are properly supplemented are a good choice. Avoid feeding only dry foods as these are high in carbohydrates. Never feed semi moist foods as these contain large amounts of sugar. If your dog is in the high risk group for diabetes (i.e. Golden Retrievers, Poodles etc.), attention to diet and exercise is critical. Moderate carbohydrate diets either commercial, or well balanced homemade or raw diets can help to prevent diabetes in all breeds.

Prevention of immune disease by supplementing with anti oxidants, and immune support herbs is very helpful in susceptible breeds. Avoidance of over vaccination and toxin exposure (flea and tick insecticides) is recommended to prevent immune diseases in all dogs. Consult with a qualified holistic veterinarian for this advice.

Exercise is a great way to prevent and treat obesity. All dogs should be exercised 20 minutes twice daily. Walking or swimming are great exercises for dogs. For cats playing a few times daily can provide all the needed exercise. Play time can include ball chasing or string chasing. 10 to 15 minutes a day is usually sufficient.

Diabetes is increasing in our pets. It is a very treatable condition and need not shorten our pets' life span or quality of life. Like many other conditions, we can prevent this disease from affecting our companions with just a few lifestyle modifications. Strict attention to diet, avoiding junk food ( high carbohydrate, low fiber foods and treats) and guarding our pets from obesity are the best ways to prevent this disease.