

Diabetes Mellitus

What is it and how can I help my pet?

Use this handout to learn more about what diabetes mellitus is and what you can do to protect your pet's health.

Diabetes occurs in the pancreas, which serves two vital purposes in both dogs and cats: it makes the enzymes required for digestion, and produces the hormone insulin. Insulin is responsible for regulating glucose in the bloodstream and delivering it to the body's cells. Diabetes mellitus occurs in cats and dogs when the pancreas fails to regulate glucose levels throughout the body. Blood sugar levels remain high despite the body's cells being starved for energy. This means that your pet feels crummy, and is at risk for serious damage to internal organs such as the kidneys.

What are signs of diabetes mellitus?

The most common symptoms are:

- increased thirst
- increased appetite
- increased urination

Other symptoms can include:

- lethargy
- weight loss
- dull coat
- dogs may develop cataracts

This is a non-specific symptom that can also be present in a number of other diseases, so a comprehensive diagnostic work-up is important.

Glucose acts as the primary energy source for body cells; therefore, when the cells are deprived of it they begin to break down body fat instead, causing weight loss. In turn, the dog or cat must eat more. Frequent urination is caused by too much glucose in other parts of the body which attracts water and must be flushed out through the bladder. Thus, animals will be thirsty more often.

How is diabetes mellitus diagnosed?

In the past glucose testing had been the standard for the diagnosis of diabetes mellitus; however, now veterinarians know that glucose testing by itself is not sufficient. Your veterinarian will likely begin with a full chemistry panel, which will rule out other diseases as well as help determine the severity of diabetes present and whether damage to other organs has occurred as a result of the diabetes. Both blood glucose and urine glucose levels can indicate diabetes but because both are affected by stress (especially for cats), a fructosamine level will be recommended to confirm the diagnosis.

How is diabetes mellitus managed?

The good news is that diabetes is generally manageable. With the right [medications](#), [diet](#) and [weight loss](#), diabetes can usually be controlled. The goal of treatment is to prevent high blood sugar or hyperglycemia, provide stable blood sugar levels and avoid hypoglycemia. Insulin is the primary treatment for both dogs and cats. There are several different types of insulin available, each with a different duration of action. In addition to medications, diet and weight loss are just as important when it comes to treating diabetes in pets. Recent nutritional studies show that switching to a low-carbohydrate and high-protein canned food diet is the most effective dietary routine for most diabetic cats. Keep in mind that grain-free diets have been shown to increase the risk of heart disease, so it is best to speak with one of our veterinarians about what, if any, nutritional changes are necessary for your particular pet. Weight loss is also important because obesity is a common cause of insulin resistance. Fatty tissue releases factors that impair the effects of insulin. To promote weight loss, you should exercise your pets in addition to following your veterinarian's dietary suggestions. Encourage active play and exercise for both dogs and cats.

Diabetes mellitus is managed primarily in the home, although, emergency treatment will be done at the clinic. One of the first things you should do is set up a regular monitoring protocol with your veterinarian. By consistently monitoring your pet's glucose and fructosamine levels you can ensure proper treatment dosages and an improved quality of life.

At home it will be crucial that you follow your veterinarian's instructions which may include:

- Insulin injections multiple times per day
- A change of diet
- Feeding your pet at the same times every day

It's important that you work this treatment into your daily routine and make sure it's kept up even if you need to be out of town. The good news is that neither insulin nor syringes are overly expensive, but there might be an initial cost to balance out your pet's levels.

Fortunately, the diagnosis of diabetes does not have to be a death sentence. When caught early and with proper treatment, diabetes can be controlled and the complications of the disease can be delayed or even avoided. If you think that your pet has diabetes or may be at risk, take them to your veterinarian for an exam and screening tests. Of course, the prevention is the best treatment for any disease. We may not be able to change genetics or stop aging, but we can do something about obesity. Help your furry friend lower their chances of developing diabetes by fighting obesity with diet and exercise.

Started giving insulin? There are a few things to remember:

Please take a **pre-insulin blood glucose** to ensure your pet's blood glucose is **not below 7 mmol/L** – DO NOT GIVE INSULIN IF IT IS!

Feed your pet when giving insulin to prevent low blood glucose

Take a **blood glucose 3 hours after giving insulin** – if their blood glucose is below 3 mmol/L rub sugar or syrup on their gums to prevent low blood glucose

Your pet will likely adjust to the insulin and requires a **recheck blood glucose curve in 1 month** to adjust the dose as needed

Store your insulin in the centre of the fridge for the most stable temperature – the temperature is often too warm if it is stored in the door.

If you have ANY questions, concerns or your pet's blood glucose is not responding appropriately, don't hesitate to call us. Response to insulin can be affected by many different issues, such as underlying Cushing's disease, urinary tract infections and other diseases that may be tested for and treated to control your pet's diabetes.

If you have any questions, please call Cascade Vet Clinic at (250) 295-0312.