

Understanding Diabetes and Risk Factors Chances are you've heard of diabetes, a disease caused by increased levels of blood sugar, known as glucose. You may also be aware that diabetes is a growing problem in the U.S. But what you may not know is that dogs and cats can also develop diabetes and many of the causes and risk factors for pets are similar to those of humans, although some are not.

To better understand diabetes, it's helpful to know how glucose works in a healthy pet as well as a pet that has the disease.

In a healthy pet:

- The pet eats food that contains carbohydrates, protein and fat.
- The body breaks down the carbohydrates and proteins to form glucose.
- When it is needed, glucose is carried to each cell through the bloodstream by a hormone called insulin. Glucose is the main source of energy for the dog's or cat's cells.
- The cells then metabolize or "burn" this glucose to make energy that is used for all functions of the pet's body.



In a diabetic dog or cat:

- The pet eats food that contains carbohydrates, protein and fat.
- The body breaks down the carbohydrates and proteins to form glucose.
- The pet lacks the hormone insulin so glucose cannot be transported into the cell.
- The pet's glucose then remains in the blood at increased levels and the cells have to find other substances for energy.
- The body starts to metabolize fat to produce ketones as an alternate energy source.
- The ketones build up in the blood stream which will eventually lead to coma and death.

Subclinical and Clinical Diabetes

You may have heard the terms "subclinical" or "clinical" used in reference to diabetes. It's important to know the difference:

- If your vet diagnoses your pet with **subclinical** diabetes, it means your pet has diabetes, but just no recognizable symptoms.
- If your vet diagnoses your pet with **clinical** diabetes, it means your pet has diabetes, along with recognizable symptoms, such as increased thirst, increased urination and weight loss.
- Note that in the presence of another disease or condition (such as pregnancy) your subclinical pet will usually become clinical.

Risk Factors for Dogs and Cats

Although any dog or cat can have diabetes, some pets are at greater risk. For instance, diabetes typically occurs in older dogs and obese pets. Additionally, unsprayed female dogs are more likely to develop it and, with cats, neutered males are at greater risk.

Insulin resistance caused by diseases, such as:

- In cats: Acromegaly which is a disorder caused by excess production of growth hormone.
- In dogs: Hyperadrenocorticism, also known as Cushing's disease, which is a condition that results from the overproduction of glucocorticoid, a hormone.
- Insulin resistance caused by medications such as steroids or progestins.
- Insulin resistance caused by genetics.
- Insulin resistance of certain breeds of dogs such as Australian terriers, Beagles, Samoyeds, Keeshonds appear more susceptible. Burmese cats are also more at risk.

Awareness Is Key to Your Pet's Continued Good Health

You may now recognize that your pet is at risk for diabetes and have concerns. However, being aware of risk factors early on is a positive first step, and means you can take action to potentially avoid the disease. For instance, if your pet is obese or inactive, you can take steps to include regular exercise in your pet's routine to help it lose weight. Or, if your pet is older or is an at-risk breed, you can learn more about the signs of diabetes and can seek diagnosis or treatment sooner rather than later.

Fortunately, diabetes is a treatable condition in dogs and cats. If you discover your dog or cat has the disease, you can work together with your vet to treat it, and your pet can live a long, happy life.