

Hope for Cats with Diabetes

Diabetic cat foods, insulin and glucose monitoring help manage diabetes in cats.

Arnold Plotnick, DVM

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The future for cats with diabetes looks promising. Diabetic cat food, new types of insulin, home monitoring devices, oral medications and ideal feeding schedules make managing diabetes in cats easier for owners and help diabetic cats live longer lives.

Diabetes in Cats

Feline diabetes is a common glandular disorder estimated to affect 1 in 300 cats. Diabetes occurs from a decrease in insulin secretion from the pancreas and/or a decrease in the action of insulin, which is a hormone required for metabolizing carbohydrates.

There are basically two types of diabetes. Type 1 diabetes is comparable to insulin-dependent diabetes in humans; the body does not produce adequate amounts of insulin, and treatment requires insulin injections. Type 2 diabetes resembles non-insulin-dependent diabetes in humans; the body may secrete insulin but does it abnormally, and the tissues may not recognize the insulin. Cats with type 2 diabetes can sometimes be managed with oral medication and diabetic cat foods, but as the disorder progresses, insulin deficiency occurs, and insulin injections are ultimately required.

Currently, there is no reliable way to determine whether a cat is a type 1 or type 2 diabetic. Some experts think that type 2 diabetes is more common in cats than type 1, but the true incidence remains unknown.

Though all cats are at risk for diabetes, middle-aged and older males are more susceptible. Purebred cats tend to be at decreased risk for diabetes, except for the Burmese, which is four times more likely to be stricken with diabetes.

The classic clinical signs of diabetes include excessive thirst and urination, extremely good appetite and weight loss. Some cats also exhibit neurological dysfunction in their rear legs.

Diagnosing feline diabetes is usually straightforward. High blood sugar accompanied by sugar in the urine confirms the diagnosis. Some cats are very stressed while at the veterinarian's office, which can result in high blood sugar or hyperglycemia. However, these stressed cats rarely have sugar in their urine. In cases where a cat has high blood sugar and a trace amount of sugar in the urine, a blood test called fructosamine is available that allows veterinarians to differentiate stress-induced hyperglycemia from diabetes.

Diabetic Cat Food

Dietary issues have played an important role in the management of feline diabetes. For years, high-fiber diets were recommended in the initial management of diabetes. More recently, research has shown that for cats, as pure carnivores, diets low in carbohydrates and high in protein are more appropriate. According to research, the use of such diets can lower the insulin requirements of most cats with diabetes.

In some cases, the diabetes can be managed using diabetic cat food alone. It is impossible to predict which cats will respond to a high-protein diet and to what degree the insulin dose can be reduced. Diabetic cats transitioning to these new diets need close monitoring during the first few months to ensure that hypoglycemia (low blood sugar) doesn't occur. Cats with kidney disease also must be watched closely, as high-protein diets can increase the progression of kidney failure.

Cats with diabetes have been encouraged to eat several small meals throughout the day, to minimize fluctuations in blood sugar. However, a recent study suggests that although cats naturally like to nibble on food 10 to 20 times a day, those nibblers experience higher insulin concentrations than those that get fed once daily. Therefore, letting diabetic cats nibble throughout the day might increase the demand on their already-impaired pancreas to secrete insulin - contributing to pancreatic cell burnout. Cats predisposed to poor glucose tolerance or diabetes may do better if fed once daily. Further studies are necessary to determine the optimal feeding strategy for diabetic cats.

Managing Insulin

Most diabetic cats require insulin injections to control their diabetes. Years ago, most veterinarians administered a type of

insulin called protamine zinc insulin (PZI), which is derived mainly from cattle. Cats respond well to bovine insulin, because the molecular structure of feline insulin closely resembles bovine insulin.

However, when genetically engineered human insulin became available, veterinarians began using it to treat diabetic cats. Of the many forms of human-derived insulin, lente and ultralente insulin are the most commonly prescribed. Fortunately, cats respond well to these insulin types, although most cats require twice-daily injections.

A synthetic analogue, glargine insulin, was approved for the treatment of diabetes in humans. Veterinarians wondered if this insulin would also be effective in cats, especially if given only once daily. A recent study revealed the once-daily administration of glargine insulin to cats provided a significant blood glucose lowering effect, but was not as effective as twice-daily administration. Glargine does appear to provide superior control of the diabetes compared to lente and ultralente insulin.

Some cats with type 2 diabetes can rely on oral medications. Several oral medications are available to treat diabetes, but there is scant published data on the effectiveness of these drugs in cats. On the basis of limited data, glipizide and acarbose appear to be the most effective and have the least potential for toxicity in cats, when compared to troglitazone and metformin.

Studies are underway to determine which oral agents, either alone or combined with insulin, best control feline diabetes. For some cats, the diabetes resolves and the cats no longer need insulin.

If your cat requires insulin, it's important to monitor her blood sugar at home and look for signs of hypoglycemia (low blood sugar), as this condition could be fatal. Signs of hypoglycemia include weakness, wobbly gait, disorientation, vocalizing, blindness, walking in circles, seizures and coma. Death could be imminent. Keep corn syrup or honey on hand due to their high sugar content and rapid absorption rate, and rub on your cat's gums immediately, then rush your cat to the veterinarian or emergency clinic for evaluation.

Determining blood-sugar concentrations and serial blood-glucose curves are important aspects of long-term management in diabetic cats. You can obtain blood from your cat's ears and measure the blood-glucose levels using a portable glucose meter.