

# FELINE DIABETES UPDATE

Feline diabetes is on the upswing and has become a hot research topic over the past few years. These recent studies are changing the way we treat diabetic cats. This handout is an update on preventing and managing diabetic cats.

Diabetes is an inherited disease but it often will not ever develop if a cat is maintained at a healthy weight. The more obese a cat becomes the more likely it will become diabetic. The risk is highest in middle aged cats 8-12 years old and males are affected twice as often as females. Free choice feeding increases the risk and diets high in carbohydrates, especially grains like wheat and corn, are also a factor. Cats with large abdominal fat deposits (big bellies) are more likely to become diabetic than cats with their fat more evenly distributed.

The best prevention and most important treatment for feline diabetes is to feed your cat a prescription diet made for diabetes management at an amount that will maintain a normal, lean body weight. The dry versions of these diets contain about 15% carbohydrate and the canned versions only 5% because more carbs are needed to create a dry food that holds together and doesn't get rancid than are needed in canned diets. Cats already overweight will usually lose weight on these diets, so both the weight loss and the diet itself are important. For cats that won't eat canned food, the dry versions will do but canned is preferred.

It has been known for several years that many cats will go into remission and not need to receive insulin injections on either the canned or the dry versions of the high protein diabetes diets but we now know that the canned versions are more effective. Dr. Deborah Greco, the leading researcher of feline diabetes in the country, reports remission rates as high as 90% on canned DM or Hill's M/D. It takes time for these diets to alter a cat's metabolism so we will usually start a cat on insulin and then taper off of it as the body changes in response to the new diet.

Dr. Greco believes that all cats with diabetes suffer from diabetic neuropathy, even those without significant lameness. Affected cats usually develop an odd, crouching gait and have difficulty jumping up but they can have milder nerve pain that doesn't cause clinical lameness. (Human diabetics can suffer from this as well and report pain and tingling in their feet.) This painful condition is caused by the build-up of sorbitol deposits on the nerves. Sorbitol is a sugar produced in diabetic pets that the body doesn't utilize well. In dogs it is deposited in the eyes, which is why most diabetic dogs become blind eventually. In cats it is nerve function that is affected, at least until the blood sugars come down and the diabetes is under control. She recommends pain medication, usually gabapentin, for all newly diagnosed diabetic cats to keep them more comfortable.

For years we have been telling clients that the oral medication called Glipizide that some humans take to keep their blood sugar down doesn't work well for cats. However, Dr. Greco got a response rate of 72% when she used glipizide combined with the high protein canned diabetes diets for those cats that didn't go into remission from the diet change alone. If your cat will eat the canned food and is easy to medicate this is now an option to use instead of insulin. Many cats actually are easier to give an injection to than to get a pill into, so it will depend on the cat. Glipizide works more slowly than insulin and can cause kidney and liver problems that will need to be monitored for. It also should not be used in cats with ketosis.

Glargine insulin is proving to be better at putting cats into remission than the older PZI insulin. We are already starting most of our new diabetics on Glargine and will continue to do so. Changing to Glargine from PZI will require doing a glucose curve and extra blood sugars to regulate the cat on the new insulin so it's not inexpensive to switch but it might work better to get a cat off insulin altogether.

The way we monitor cats to establish insulin dosages is changing too. Dr. Greco relies more on fructosamine and urine sugar levels and less on blood sugar levels. She does NOT allow blood glucose monitoring at home for cats. She believes it is terribly inaccurate, will destroy the human-animal bond the client has with the pet and cause chronic stress, which then leads to problems regulating the diabetes.

For cats on insulin, she proceeds for newly diagnosed diabetics as follows:

1. Send home with low carbohydrate/high protein diet and 2 units of Glargine twice daily, Glucotest strips
2. Once she's getting negative Glucotest readings for 2 days, she decreases Glargine to 1 U twice daily.
3. Once she's getting negative Glucotest readings for 2 days, she decreases Glargine to 1 U once daily.
4. Once she's getting negative Glucotest readings for 2 days, she takes them OFF insulin.
5. 4 weeks later she'll do a fructosamine level.

How to interpret blood glucose (BG) and fructosamine (FR) results:

If FR <400 and BG <180, you have EXCELLENT control.

If FR >400 and BG <180, you have poor owner compliance – insulin doses are being missed or given improperly

If FR <400 and BG <60, you have over regulation and the insulin amount should be decreased

If FR <400 and BG >180, you have stress hyperglycemia from the visit to the hospital

If FR >400 and BG >180, you have poor control and the insulin dose or type needs to be changed

For cats on Glipizide here's how she monitors:

If fructosamine is >450 and the pet is symptomatic, change to insulin (required in less than 10% of cases).

If fructosamine is >450 and the pet is not symptomatic, continue Glipizide and recheck in 4 weeks.

If fructosamine is <450, discontinue Glipizide and recheck in 4 weeks. If it is then above 450, resume Glipizide. If it is less than 450, continue just the low carb diet.

Our new laboratory has a nice diabetic cat panel of tests that is reasonably priced and should be done at least twice a year. It includes a chemistry panel, including blood glucose; complete blood count (CBC); fructosamine level and urinalysis. This is probably what we will recommend that you do next time we see your cat. Please call if you have questions now, otherwise we will be discussing these changes with your next visit.