

Diabetes Mellitus In Cats
Hampden Veterinary Clinic

Newly Diagnosed Diabetic Cat

General Information

Diabetes Mellitus(DM) is a disease where your cat has high blood sugar but is unable to use the sugar to energize or fuel their body. Diabetes is common in people, dogs, and cats but treatment options can vary based on triggers, type of diabetes, and species.

Sugar metabolism or break down/processing of sugar is vital to fueling your body. Imagine a car that has a full tank of gas BUT you don't have a car key to allow your car to access the fuel and start the engine. Similar to that patient with diabetes have a full tank of gas but are unable to access the energy/fuel.

Cats with Type I Diabetes have reduced or complete lack of insulin secretion. In type II diabetes there is impairment of insulin release or insulin resistance due to other diseases or conditions present in the patient. Obesity, recurrent pancreatitis, and chronic steroid, hormone use, other endocrine or hormonal diseases or certain types of cancers have been linked to inducing diabetes in cats. Type II Diabetics will originally require insulin but may see resolution of diabetes after use of insulin. This is thought to be due to the "glucose toxicity" or damaging effects of high blood sugar on the insulin secreting cells. Treating the high levels of sugar in the blood stream is thought to allow the insulin secreting cells to heal and perform normally again. According to one paper, neutered male cats were 1.5 times more likely to develop diabetes and patients weighing more than 15 lbs also had a higher risk of diabetes.

Clinical signs of DM include increased drinking, urination, weight loss, and ravenous appetite. In some patients they can present in ketosis (diabetic ketoacidosis) or with neurological changes. Let untreated or poorly controlled, patients can have problems with infection, wound healing, and neurological problems. Owners report larger urine clumps in the litter box or an increase in frequency of needing to change the litter.

To treat diabetes mellitus, we administer insulin by injection, usually twice a day. If insufficient amounts are given, diabetes remains uncontrolled. Conditions that can contribute to uncontrolled diabetes include: incorrect handling, storage, or administration of insulin; infections; other diseases such as hormonal problems, or too much variation in diet or exercise.

If too much insulin is given, the blood sugar may drop too low (hypoglycemia), which can be dangerous or even life threatening. Our aim is to establish the correct insulin protocol for your pet without significantly affecting your pet's lifestyle or your own. This involves close communication with your veterinarian, and may involve periodic trips to the veterinarian's office.

There are several types of insulin. We generally start with the type of insulin that works best in most cats. We may find that your cat needs a different type of insulin. It is very important to follow instructions closely, and to keep in touch with your veterinarian. Diabetic pets can live long healthy lives.

Treatment

Diabetes mellitus is treated by injecting insulin under the skin, using an insulin syringe. Your cat is being treated with Prozinc insulin, given 2 times a day. Pick the times (twelve hours apart) you are most likely to be home, e.g. 7 am and 7 pm. It is okay for the insulin dose to be given up to one hour early or late. It is okay to skip a dose once in a while if unavoidable.

Log Book

It is helpful to keep a logbook during treatment so we can keep track of your pet's therapy and symptoms. The log should include the date, the urine dipstick glucose and ketone results of that day (if obtained), the insulin doses and times, and any other notes you feel are important, such as vomiting or appetite. You should bring your log whenever you bring your cat to the vet.

Feeding

Your veterinarian may recommend a special diet for your cat. We often recommend Royal Canin Diabetic diet wet food. It is very important that your cat eats consistently, so we will feed a less ideal diet if we have to.

Diabetic cats should be fed twice a day 5 or 10 minutes **BEFORE** getting insulin, (to prevent hypoglycemia from an empty stomach). If your cat likes to nibble on dry food throughout the day this is usually okay.

If your pet does not eat or eats less than half of their meal, give only **half** their insulin dose.

Insulin

Insulin should be kept in the refrigerator. Insulin bottles should be replaced every two months even if not expired, and should also be replaced once the bottle is 2/3rds empty. Be careful to monitor the expiration date as well. Avoid exposure to heat or sunlight.

The insulin must be gently but thoroughly mixed just before administration. It can be rolled between your hands or tilted back and forth. It should **NEVER** be shaken. Give the insulin injection as shown, under the skin, after your pet has eaten.

If you ever feel some of the insulin did not go under the skin, **DO NOT** give it again.

Urine Dipsticks

Urine dipsticks are extremely useful to help you monitor your cat's diabetes at home. They give us a rough estimate of the blood sugar and also monitor for ketones. We recommend you use ketodiasix (available over the counter) which measure urine glucose and ketones.

Some suggestions for obtaining a drop of urine to sample: place plastic wrap lightly over litter; use non-absorbable litter material such as aquarium gravel, regular gravel, or NoSorb; use a torn paper towel as litter; or cover a jar lid with material such as a stocking and hide it in the litter as a trap. Even very wet clay litter will not work.

Trouble Shooting

Hypoglycemia

The most important problem that can occur is hypoglycemia (too low blood glucose). This can occur in the following situations:

- Incorrect calculation or measurement of the dosage.
- Insufficient mixing of the insulin solution.
- Insulin given in spite of cat's failure to eat, or if he/she vomits his/her food.

The signs of hypoglycemia are: weakness, loss of balance, incoordination, blindness, collapse, muscle twitches or seizures. If you see any of these signs:

1. If the cat is alert and conscious, offer food. If he/she eats, watch closely and if all appears well, skip the insulin and give us a call.
2. If your cat is unable or unwilling to eat, give 5 to 10 cc of Karo syrup orally. If no improvement is seen within 15 minutes, take him/her to the veterinarian. Once the pet is recovered, do not give any more insulin without speaking to a veterinarian.

The best way to avoid a hypoglycemic crisis is to abstain from giving insulin when you are not sure whether to give it or not. Definitely **do not give insulin** in the following situations:

- You are not sure whether or not she/he received the insulin.
- You think you gave the wrong amount of insulin.
- The cat moved when you gave the injection and some of the insulin may not have been injected.

Not Eating

If your cat does not eat, or vomits after eating, give only **half** the required amount of insulin. If this occurs again, call your veterinarian for further instructions.

Ketones

If the ketones on the urine dipstick are positive, please call right away. This is a sign that we need to check him/her and readjust insulin dosages.

Monitoring

Assessment of how well we are doing will be determined by (1) your cat's attitude, urination and drinking, (2) urine dipsticks, and (3) periodic blood glucose curves.

While urine glucose measurements are a useful tool for at-home monitoring, they are not particularly reliable in many instances. They give a rough idea of the blood glucose level over the past several hours. They do not indicate the peak or trough blood levels, nor the duration of action of the insulin.

Supplies

Insulin Prozinc Insulin

Remember keep the insulin refrigerated, and discard opened bottles after 2 months. Syringes require a prescription by your veterinarian.

Insulin syringes u40

Ketodiasix are an over the counter item. It is important to leave the cap on the bottle when not in use.

Please try to anticipate your needs and refill supplies in advance.

Remember - Call your doctor if:

Signs of hypoglycemia, as described above.

Ketones seen on dipstick

Persistently high glucose readings

Persistently negative glucose readings

Fluctuating glucose readings

Not eating well (two consecutive meals)

Vomiting, diarrhea, or any other unexpected problems

Daily Routine Summary

1. Try to dip urine once a day if possible and record.
2. Feed twice daily, 12 hours apart.
3. Give insulin injections twice daily, after meals (12 hours apart), according to urine dipstick results.

Please don't hesitate to call if you have any questions or concerns. Often a quick phone call can clear up questions and prevent a more serious situation from developing.

Insulin Dose:

Prozin Insulin : 1 unit twice daily