

General Information Regarding Diabetes Mellitus

- Diabetes mellitus is a condition of insulin deficiency. Insulin allows glucose (sugar) that the body absorbs and manufactures to enter the body cells for utilization. Without insulin, the glucose cannot enter cells and the body experiences a state of starvation. Because the glucose cannot enter into the cells, it builds up in the blood and overflows into the urine. The symptoms that your pet may have been exhibiting, (excessive drinking and urination, increased appetite, weight loss) are due to high glucose in the blood and urine, and starvation of the body cells.
- A diabetic may develop ketones. Ketones are the result of the body's abnormal metabolism of fat during severe diabetes. Ketones are toxic acids. A life threatening condition called ketoacidosis may develop (diabetic ketoacidosis or DKA).
- Uncontrolled diabetes can also result in a decreased immune system or poor wound healing.
- 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. It is very important to follow instructions closely, and to keep in touch with your veterinarian. Diabetic pets can live long healthy lives if treated properly.

Treatment

- Diabetes mellitus is treated by injecting insulin under the skin, using an insulin syringe. 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. Some cats are put on Purina DM or Hill's W/D. Please ask your veterinarian which food is recommended for

your cat. It is very important that your cat eats consistently, so we will feed a less ideal diet if we have to.

- Diabetic pets should be fed twice a day 10 to 30 minutes BEFORE getting insulin, (to prevent hypoglycemia from an empty stomach). If your pet likes to nibble on dry food throughout the day this is usually okay; however, discrete meals are the best.
- 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 ketodiastix (available over the counter) which measure urine glucose and ketones.

- Once a day, preferably in the morning, please catch some urine in a paper cup and dip your pet's urine. 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, decrease the insulin dose by 1 units the next time you give it. You should also call your veterinarian. 2. If your cat is unable or unwilling to eat, give small spoonfuls 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 pet 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 pet'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: Remember keep the insulin refrigerated, and discard opened bottles after 2 months. Syringes require a prescription by your veterinarian.

•Ketodiastix 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.