

# Feline Diabetes Regiment

## 1. Diet change: "Cat-kins Diet"

-The goal is to decrease the carbohydrate intake. One can of Fancy Feast twice daily is recommended. Fancy Feast is high in protein and fat and low in carbohydrates. Try to avoid flavor which have gravy (the starch in the gravy is a carbohydrate) or rice.

1 - can of Fancy Feast (105 cal/can) twice daily should meet the daily caloric requirements for most cats

## 2. Insulin Therapy

-PZI insulin is beef based insulin, which is very similar to the molecular make-up of the cat's natural insulin. This insulin is produced specifically for animals and can not be purchased in a human pharmacy

\* PZI insulin must be refrigerated. It should not be shaken.

\* PZI insulin is measured in different syringe than the more common human insulin products. It needs to be given in a syringe called a U-40 syringe.

\* The insulin and syringes can be purchased from our clinic. Please allow us 1 week to order the insulin and make sure it is delivered.

\* As of October 2007, the cost of PZI insulin is \$76 per vial and the syringes are \$16 for a box of 100 syringes.

## 3. Location of the Insulin Injections

\* There have been studies suggesting cats do not efficiently absorb insulin solutions given in the subcutaneous space at the shoulder/neck area.

\* Give the injections low on the sides of the flank or the abdominal area. The injections are given under the skin. Each syringe should be used only once then discarded.

#### 4. Insulin Regulation Monitoring

\* Traditionally we have monitored a single blood glucose 6 to 12 hours after the insulin injection.

\* A fructosamine blood level may also be recommended. A fructosamine level will assess the blood sugar over the previous 1 to 3 weeks. This level eliminates the possibility of obtaining a high blood sugar reading that might be caused by stress or other fluctuations in blood sugar through out the course of a single day.

\* The cost of a fructosamine level as of October 2007 is \$50. It is submitted to an outside lab. Results are usually available within 1 week of the appointment.

#### 5. Urine glucose Monitoring

\* Elevated glucose in the blood will spill over into the urine. As an owner, you can monitor your cat's regulation at home by checking his/her urine glucose.

\* Purina produces a product called Glucotest. These small paper strips are mixed in with the litter in the box. When your cat urinates on the strips, the strips will change color. This color change will remain consistent for 12 hours. The unused strips can remain in the litter box for 5 days. The company recommends discarding the unused strips and litter after 5 days.

\* In a multi-cat household, the diabetic cat can be separated in a room with the litter box for several hours until he/she urinates. An alternative would be watching for the cat to use the litter box and placing a few strips immediately into the soiled litter, then note the color change.

\* If the color strips turn dark red or brown, this indicates higher levels of glucose in the urine.

\* Note: do use baking soda in the litter box or baking soda containing litters. Also do not touch the strips with your skin. These may all cause inaccurate results.

\* The urine glucose strips come in a packet. Each packet will last for 5 days. Each packet costs \$6.

\* This monitoring system can be tailored to fit each individual patient.

### Starting PZI Insulin therapy:

\* Most cats are started on 1 unit of insulin. The cat is fed 1 can of Fancy Feast. Fifteen minutes after eating, the insulin may be given. Give the directed amount of insulin subcutaneously (under the skin) at the level of the flanks or abdomen. This procedure is then repeated 12 hours later. Do not leave food available through out the day and make sure your cat does not have access to dry food.

\* If your cat does not eat his/her meal, the insulin dosage should be decreased by half. If you are not sure how much to give, contact your veterinarian. If there is any evidence of altered mental activity: seizures, staggering,, disorientation, or twitching, this may be a hypoglycemic episode. Offer your cat dry food, honey, Karo or Maple syrup and contact the office immediately. After 6 PM, the emergency contact number is 1-800-432-6019. The answering service will contact the doctor on-call.

\* The Glucose strips can be used daily to monitor your cats urine glucose level. The following chart should be used to help determine the amount of insulin to be given. We realize the strip's cost may limit their use in some patients. In the beginning of the treatment schedule it would be helpful to monitor the urine daily or every other day. Once the glucose levels are maintained in a normal range, the strips can be used periodically to monitor control of the diabetes. Keep a log of the results of your cat's urine test strip results. This will allow us to see trends in the urine glucose.

### Glucotest Result Insulin Dose

Negative for 2 days If giving more than 2 units decrease the insulin dose by 1 unit and contact your veterinarian.

Negative for 2 days If giving 1 unit twice daily, decrease the insulin to once daily and contact your veterinarian.

Negative for 2 days If giving 1 unit once daily, stop the insulin and contact your veterinarian.

Note: Negative is light yellow, tan or light pink

\* If the insulin is decreased and the strips once again indicate the presence of glucose in the urine (300mg/dl or higher), you will need to increase the insulin dosage by one unit or increase to a twice daily frequency of administration.

Your veterinarian will determine when to re-check your cat. Feed and give insulin as usual on the morning of the appointments. Do not allow food to be available during the day. At the clinic, we will draw a blood sample to measure the blood glucose and/or fructosamine level. Adjustments can be made based on the results of the blood tests. Some cats will be regulated and may be able to be gradually weaned off their insulin. A percentage of cats will not be able to have their insulin stopped. This may be due to a loss ability of their pancreatic cells to produce natural insulin.

Signs that your cat is regulated on his/her diet and insulin are the following:

- \* decreased drinking/urinating
  
- \* trace to negative urine glucose
  
- \* stable body weight
  
- \* normal mid-day blood sugar
  
- \* normal fructosamine level

Any questions you may have regarding treatment of your cat's diabetes can be discussed with your veterinarian. Each case will need to be evaluated closely and altered based on the test results and clinical response. Try not to become frustrated. Diabetes is a complicated disease and is often difficult to control, but it is possible.