

Key Facts:

- **The insulin must be kept in the refrigerator.**
- **The insulin bottle should be gently rolled to mix. Do not shake.**
- **Do not give insulin if your pet appears ill or is not interested in eating.**
- **Your pet will not become ill from missing an injection.**
- **The only immediate crisis that can occur with diabetes is from the over dosage of insulin. There is no such condition called insulin shock from not receiving insulin.**
- **If you cannot get a urine sample, then give the same dosage as yesterday.**
- **Don't' make a habit of giving scraps or different food.**
- **If your pet appears wobbly or weak, give honey or food immediately and seek medical attention.**

Newport Hills Animal Hospital



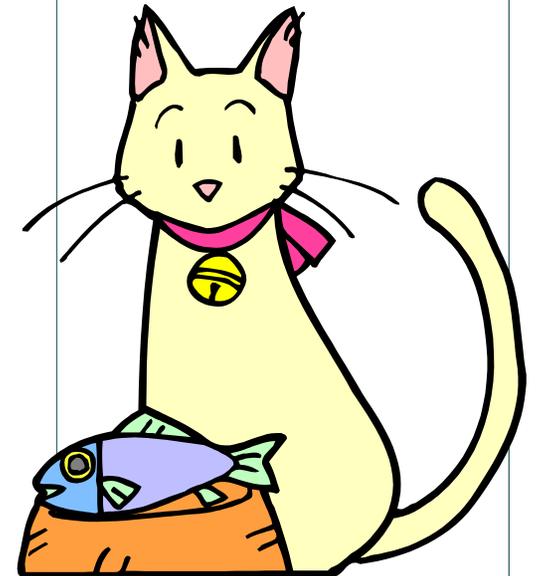
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*...large enough to provide state of the art medicine,
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Hospital

Diabetes In Dogs And Cats



Diabetes Mellitus is a disease caused by an insulin deficiency. Insulin is a hormone produced by the pancreas (a gland adjacent to the stomach) and is used by the body to regulate the amount of glucose (sugar) in the blood and it is necessary for glucose to enter the body's cells. Glucose is the chief source of energy for all cells. Without insulin the body and its cells starve.

Clinical signs: All dogs and cats with diabetes will have the following symptoms:

- Increased thirst
- Increased urination
- Increased appetite
- Weight loss

Some dogs and cats that have diabetes that are not being treated can develop a serious complication of diabetes called Diabetic Ketoacidosis. These patients are very ill with abnormalities present in the function of all parts of the body but especially in the liver, kidneys, and electrolytes. These patients are very dehydrated, very lethargic, they've lost their appetite and most are vomiting. Diabetics with ketoacidosis will die without intensive medical care.

Diagnosis: Diabetes is diagnosed by laboratory tests. A blood test will demonstrate an abnormally high glucose level in the blood and the presence of glucose in the urine. Diabetes can be a complicated disease to treat so the entire health of the patient is evaluated at the time of diagnosis. Typical tests would include:

- CBC and blood chemistry
- Thyroid function
- Urinalysis
- Urine culture
- Chest and abdominal X-rays

Treatment: All dogs and most cats need daily injections of insulin to maintain a healthy life. A certain dosage of insulin is given to keep blood glucose levels within a reasonable range. This requires feeding a

consistent diet so the amount of insulin given will match the amount of sugar being delivered to the blood stream following a meal. The type of insulin used will be based on the best possible insulin available for dogs and cats. Insulins used in the dog are human insulins that work reasonably well to control the symptoms of diabetes. Not all patients respond in a similar manner to the same insulin. During the initial few weeks of treatment, insulin dosages are adjusted to meet the needs of the individual patient.

Goals of treatment: It is impossible to regulate a dog or cat as consistently as a human. The multiple daily blood tests that would be necessary are impractical. Reasonable goals of treatment include:

- Normal water intake
- Normal urination habits
- Normal body weight
- Normal energy
- No large daily glucose fluctuations
- No urine ketones

Diet: Dogs and cats with diabetes must be fed a controlled diet. We recommend feeding diabetic patients the same amount twice a day. We do not recommend free feeding or feeding a lot of snacks.

- **Dogs:** Low carbohydrate, moderately high fiber dry dog foods. A diet we commonly feed is W/D.
- **Cats:** Low carbohydrate, high protein diets. We commonly use Purina DM, Hill's M/D and kitten canned foods.

Adjustment of insulin dosages: current technology does not allow for in home blood testing of glucose levels for your diabetic pets. For cats, we make insulin adjustments based on the amount of water the patient is drinking and from periodic blood tests done in the hospital. For dogs, the best method

of determining insulin dosages is to make adjustments based on the amount of glucose in the urine in dogs.

Urine Testing: Every morning a sample of urine is collected. A chemical test strip called a Ketodiastix is placed in the urine. There are two color pads on the end of the test strip. The top one measures the glucose levels in the urine. The bottom pad measures ketones. **Ketones should never be present in urine. Their presence indicates the diabetes is not well controlled and the patient is on the verge of becoming very ill.** Use the following scale to adjust the dosage of insulin:

<u>Urine Glucose</u>	<u>Adjust dosage of insulin</u>
Negative	decrease 1/2 unit
1/10% (trace)	no change in dosage
1/4% (1+)	no change in dosage
1/2% (2+)	increase 1/2 unit
1 % (3+)	increase 1/2 unit
2 % (4+)	increase 1/2- 1 unit

Your starting dose is _____ units twice a day.

Note: it takes 3-4 weeks to get a diabetic adjusted. This means making adjustments to insulin establishing the diet and determining what exercise level is appropriate. Once a reasonable dosage is established then most diabetics only need their urine checked twice a week.

Typical daily regimen:

- Urine collected in AM
- Insulin dose determined
- Patient is fed
- Insulin is given once patients eats
- Water is provided free choice
- Patient fed between 5-7PM (it doesn't have to be exactly 12 hours between shots)