



## DIABETES MELLITUS

### ABOUT THE DISEASE

One function of the pancreas gland is to produce insulin, which maintains a sugar (glucose) metabolism. **Diabetes mellitus (DM)** develops when there is not enough insulin to maintain a glucose metabolism and excess sugar builds up in the blood stream.

Symptoms of **DM** commonly include an increase in thirst and urination, weight loss, and an increase in appetite. Canine patients can develop poor vision due to the formation of diabetic cataracts. Whereas feline patients can develop a poor hair coat, yellow discolorations to the skin, gums, and whites of the eyes (icterus/jaundice), and hind limb weakness.

Patients often can have kidney and urinary bladder infections secondary to **DM**. Routine dental cleanings will help reduce systemic stress which may make regulation of diabetes difficult.

In veterinary medicine, **DM** is often simplified into:

- Non-Insulin-Dependent – where the body's ability to utilize insulin is abnormal or diminished.
  - This form is often managed through prescription diet and attempts to find underlying disease(s).
- Insulin-Dependent – where the pancreas does not produce enough insulin.
  - This form is managed through insulin injections and prescription diet.
  - Almost all canine patients and 50-70% of feline patients have this form.

Please see the document for Diabetic Ketoacidosis (DKA), which contains information on a more advanced form of **DM**.

### OBTAINING A DIAGNOSIS

Routine blood and urine testing are typically all that is required to diagnose **DM**.

A more unique test, called fructosamine, can help with early disease detection in more subtle cases.

Fructosamine levels are helpful in tracking the long-term management of **DM** once insulin therapy is started. Many patients have fructosamine levels checked twice per year, otherwise more frequently if the patient is difficult to regulate.

### TREATMENT

A prescription diet and weight management program are essential for proper treatment of **DM**. An important part of treatment is regular visitations to the veterinarian, often 2-3 times per year.

Prescription diabetic diets help stabilize blood sugar, aid in weight loss, and maintain a healthy appetite. These prescription diets can be obtained through a veterinarian, but many can be acquired online with a written prescription.

Lifelong insulin therapy is required in all dogs and most cats. Patients generally require insulin two times per day.

Once an insulin regimen is started or altered, monitor for signs of low sugar levels (hypoglycemia). This can cause disorientation, sluggishness, seizures, coma, and even death.

At scheduled rechecks, special testing will help determine changes in insulin therapy. These tests include glucose testing, glucose curves, fructosamine levels, urine testing (+/- urine culture/sensitivity), and extended blood work.

Maintaining good oral health through routine cleanings and extractions of bad teeth will improve regulation of **DM**.

### TIPS FOR SUCCESS

- There is no substitute for a veterinary prescription diabetic diet and a weight management program.
- Only administer insulin AFTER a patient eats their meal. Do not administer insulin if patient is not eating.
- **DM** is a treatable condition, but requires commitment in time, money, and attention.
  - Serious and life-threatening complications can arise if left untreated or not regulated appropriately.
- Offer food, sugar-containing substances, or syrup if signs of hypoglycemia are noted.
- Follow recommended recheck and testing protocols recommended by a veterinarian to help regulate blood sugar.
  - Contact a veterinarian immediately if you observe any symptom of illness outside of regular rechecks.