**Diabetes Mellitus (DM) in Cats**

**What is diabetes mellitus?**

Diabetes mellitus (DM) is one of the common disorders seen mostly in middle age to old age cats.  It is a disease where the pancreas fails to produce sufficient insulin (or the body fails to respond to the insulin) to regulate the glucose (sugar) levels in the blood.  Being overweight for long periods of time significantly increases the risk of developing DM.

**What are the signs of DM?**

There are four classic signs of diabetes:

1. Weight loss
2. Ravenous appetite
3. Increased water consumption
4. Increased urination

Some of these signs may be difficult to appreciate in some cats because of their lifestyle.  For example, outdoor cats may drink from various sources.

**Why is insulin so important?**

All cells in the body need glucose as a source of energy.  Without insulin, the body is unable to use the glucose in the blood stream and will need to turn to other energy sources - fat and protein.  It is for this reason that you may be noticing rapid weight loss despite a ravenous appetite. If the body continues to burn fat and protein instead of glucose then dangerous waste products will be produced.  This is called diabetic ketoacidosis (DKA). It is an extremely serious condition and can be life threatening.

**How is DM diagnosed?**

Blood and urine tests will need to be performed to diagnose DM.  Stress can cause an elevation in glucose levels so sometimes a number of readings may need to be taken to demonstrate a persistent elevation in blood glucose.  Additional testing for other conditions or diseases may be indicated as the presence of these could make stabilisation difficult. Urinary tract infections are a common example.

**What are the implications for me and my cat?**

Blood glucose cannot be normalised without treatment.  Two things need to be considered prior to undertaking treatment - can the financial and personal commitments required to successfully control this disease be met?

Initially, the financial costs can be quite considerable, especially if your cat needs hospitalisation and treatment for DKA.  Some animals will be more difficult to stabilise than others, calling for regular monitoring blood tests in the first few months.  It can be frustrating, especially in the first few weeks, as things may seem to ‘not be working’. Don’t despair - with commitment and close monitoring, both at home and at the clinic, things *should* stabilise with time.

The personal commitment is also a very important consideration to make prior to embarking on treatment.  Treatment will require insulin injections twice daily (often for the rest of the cat’s life) and a VERY consistent diet.

**What is involved in treatment at home?**

Consistency is vital to proper management - 12 hourly administration of insulin and a consistent diet.

*Diet:* Food contains sugars which will in turn elevate the blood glucose.  If there are constantly DIFFERENT types and amounts of food on offer yet the SAME amount of insulin being injected there may be significant variation in blood glucose levels throughout the day.  For best control, it is recommended to feed the SAME FOOD and the SAME AMOUNT twice daily. There are prescription diets available which are low in sugars and specifically formulated for diabetic cats.  Some cats like to graze throughout the day. If defined meal times won’t suit your cat then we can look into options to accommodate this grazing behaviour. Once again, consistency is very important. Treats such as the odd bowl of milk will unfortunately lead to poorer control!

*Insulin:* Ideally, the insulin is given as an injection under the skin at the time of feeding.  If there is a concern the cat may not eat, then the insulin can be administered directly after the meal.  It is important they eat if they have had their insulin. If your cat is a grazer then we will discuss any changes/differences with you during the initial consultation.

If you are concerned about the injection hurting then remember:

* The injections are made with very tiny needles that will hardly be felt.
* The volume injected is TINY and will not cause pain.

We will demonstrate the correct drawing up and injection technique and ensure you are confident with this prior to taking your cat home.

It is important to closely follow our recommendations on diet and insulin dosage.  Too much or too little of either may have serious, even life-threatening, consequences.

**What monitoring is needed?**

*At home:* it is important to closely monitor your cat’s appetite, drinking habits and amount, weight and general demeanour.  Should you notice changes in any of these, then it is recommended to visit the clinic for a recheck.

*In clinic:* as cats are often stressed in the hospital, there are a couple of ways to achieve monitoring with minimal time in the clinic. This may involve placement of a sensor on the cat’s back or neck which can take readings for up to 2 weeks or taking blood for fructosamine (a reading of the AVERAGE blood glucose over the previous 10-14 days).

Regular urine tests can also help to assess the level of control.  These can be performed at home if you feel willing and able.

We will advise when and how regularly this monitoring should be performed.

**What if the blood glucose is too low?**
Hypoglycaemia is when the blood glucose level is too low.  This can occur if too much insulin is given or if an injection is accidentally given twice (eg by two different family members).  A common sign of this is tiredness or lethargy. Your cat may be unsteady on their feet. In severe cases, when the blood glucose is very low, seizures and/or unconsciousness can occur.  If you are concerned, then it is important to contact the clinic, day or night as this can be a life threatening emergency.

**Will my cat need insulin injections for the rest of its life?**

In many cases, yes.  Some cats may revert to a non-insulin dependent diabetic state whereby they can be controlled through strict dietary management.  Often though, they will once again develop the need for insulin injections to control DM months or years later.

**If you are concerned your cat may be diabetic it is best to visit the hospital for a consultation and to discuss your concerns with the vet.**