

## Stabilising the Healthy Diabetic Cat

In cats with a free roaming lifestyle it is often necessary to accept a less stringent level of glycaemic control than in dogs. Fortunately as cats rarely develop cataracts and show less marked postprandial hyperglycaemia this is not usually a problem and a degree of control that eliminates clinical signs and allows maintenance of stable body weight is usually attainable.

Two thirds of diabetic cats require insulin; oral hypoglycaemics and diet can be considered for overweight cats or for those whose owners cannot manage injections.

### Diet

There has been much interest recently in low carbohydrate high protein diets for diabetic cats, they are formulated on a similar principle to the Atkins's diet, hence the name Catkin's diets! These include Royal Canin diabetic and Hills m/d. These are a more natural diet for cats that are after all obligate carnivores. One American study found cats fed this type of diet had better glycaemic control, lower insulin requirements and were more likely to discontinue insulin all together. Prior to this work there was also some evidence for the use of high fibre diets in diabetic cats. Therefore both types of diets can be tried; the high fibre ones should not be used in thin cats. Many cats can also be successfully stabilised on their usual food.

For cats used to being fed twice daily this can continue with one meal given with the morning injection and the second one either with the second injection, or 6-8 hours later for those on SID therapy. If the cat prefers to snack this can continue.

### Insulin

There are two choices of insulin for cats, either PZI (Insuvet) or lente (Insuvet or Caninsulin).

PZI can be used once or twice daily; lente forms must be used twice daily. Caninsulin comes in small vials which saves wastage as really a vial should be discarded a month after opening, also the syringes designed for this enable more accurate dosing in small pets. Recommended starting doses are 1-2 iu/cat/dose for all types. With twice-daily regimes the injections should be 10-12 hours apart.

### Initial routines for stabilisation - There are two main choices:

#### ***Minimalist regime***

- Start the diet and insulin therapy
- Every 2 weeks examine the cat, check appetite, thirst, weight, serum fructosamine
- Adjust insulin by 0.5-1 unit per dose accordingly
- Once the cat appears clinically stable and has an acceptable fructosamine (usually 350-450nmol/l) decrease the check ups to q6-12 weeks.
- For indoor cats the owner can also test the urine for glucose and ketones eg weekly

#### ***In depth regime***

- Start diet and insulin therapy
- Every 3 days check blood glucose at the estimated nadir (4-6 hours post injection) Aim for 5-14 mmol/l. Increase by 0.5-1iu per dose as necessary.
- Test fructosamine every 2 weeks
- Once the cat appears stable and the blood glucose is within the acceptable range perform a blood glucose curve.
- Long term check ups every 6-12 weeks with a nadir glucose and fructosamine are usually appropriate, further curves are only required if instability is suspected

### Glucose curves

If a cat suffers from stress hyperglycaemia this will be a pointless exercise! A glucose curve is performed by testing every 2 hours for one interinsulin injection period. This helps establish whether the insulin is lasting long enough, giving good control all day and the ideal time to perform any future nadirs. Human glucometers are invaluable for measurement of blood glucose, some owners are now able to use these at

home, this minimises stress for the cat. Ideally they should receive instruction from their vet before using these and it is important they still liaise with their clinic for advice on dose adjustment.

#### **Treatment of non insulin dependant diabetes mellitus**

This is only appropriate for clinically well, non-ketotic cats that are obese or of normal bodyweight. A combination of oral hypoglycaemics and diet are used (see above for diets). The aim of the drugs is to stimulate insulin secretion from the pancreas therefore the pancreas must have some functional capacity. The most commonly used group of drugs are the sulphonylureas e.g. glipizide (Glibinese), they are not licensed.

- Give glipizide 2.5mg BID with food. May need to increase to 5mg BID. May take 1-2 months to take effect.
- Check after 2 weeks; ideally test blood glucose, liver enzymes, serum fructosamine
- Side effects can include vomiting, hypoglycaemia, raised liver enzymes, and jaundice
- If the cat becomes unwell at any time or ketotic it must be given insulin.