



## Diabetes in dogs.

Diabetes mellitus is a fairly common condition in dogs. It is a disease caused by a lack production of insulin by the pancreas (type 1) or an inappropriate response by the cells to insulin being produced (type 2). Any dog can develop Diabetes mellitus, but overweight dogs are prone.

### What happens in Diabetes mellitus?

Insulin acts on the body's cells to allow glucose into cells to be used as a source of energy. When there is a lack of insulin, or the cells don't respond properly to the insulin, glucose is not taken into the cells and the blood glucose level becomes too high. The body's cells need an energy source and if they are not able to use glucose then the body starts to break down it's own proteins (muscles etc). The breakdown of body protein can lead to toxic by products called ketones, which will make the dog very poorly.

### How do I know if my dog has Diabetes mellitus?

Common symptoms of Diabetes mellitus include

- Drinking a lot of water
- Excessive urination or increased 'accidents' in the house
- Weight loss despite constant hunger
- Increased appetite
- Lethargy/depression
- Dull, dry and thinning hair

If your dog is drinking a lot please make an appointment to see your vet. It is very useful to take a urine sample to the appointment and your dog may need to have blood tests.

### How is Diabetes mellitus treated?

Type 1 Diabetes mellitus is the commonest type in dogs. This means that diabetic dogs do not produce insulin from their pancreas. For this reason insulin injections are the treatment needed for Diabetes mellitus in the dog.

Insulin is provided in glass vials and can either be drawn up and injected using a syringe and needle or a simpler way is to use a VetPen which has a dial for selecting the dose and a button to press to give the dose once the needle is under the dogs skin. Insulin injections are given twice daily at 12 hour intervals. Your vet and veterinary nurse are there to support you with learning how to administer injections to your dog and will help you every step of the way.

## How do we monitor treatment?

Initial treatment and monitoring can be quite intensive. Some dogs require hospitalisation for fluid therapy while they start their insulin injections and begin to feel well again. Once insulin has been initiated, the blood glucose level must be monitored regularly to ensure the dose is correct and that the blood glucose is not going too low. Blood tests are needed at 7-14 day intervals initially. Once stabilised, which in some cases can take a couple of months, your dog will need blood tests every 3 months. It is usual to perform a blood glucose curve at these rechecks. A blood glucose curve involves taking small blood samples every hour for 12-24 hours and plotting these on a graph, your dog will probably be admitted to the surgery to do this. Based on results your vet will adjust the insulin dosage accordingly.

## Feeding and exercise

Insulin requirements are based on food intake and energy output ie exercise. For this reason we recommend that diabetic dogs are exercised regularly but that they do the same each day. If you take your dog for an extra long walk at the weekend this will use up more glucose than normal and leave your dog at risk of a 'hypo' (see below). It is also important that food intake is kept consistent. The same make and type of food and the same quantity should be fed each day. If your dog has a treat at lunchtime or bedtime, this is ok but it must be given every day to ensure insulin levels are correct. Feeding is best split into 2 equal morning and evening feeds because insulin is generally given twice a day, injections should be given AFTER the dog has eaten to ensure that the full food amount is taken in. If your dog does not eat they should only have half their insulin dosage and you should contact the practice for advice.

## Complications of Diabetes mellitus

Ketoacidosis can occur when insulin levels are too low and the body is unable to use the glucose and is having to breakdown other tissues for energy. Ketoacidosis can be life threatening and needs hospitalisation to correct it. If your dog is drinking a lot, becomes lethargic and starts to vomit please seek assistance from your vet quickly.

Hypoglycaemic episodes or 'hypos' result when the blood sugar level falls too low. This can happen if the insulin dose is too high, if your dog hasn't eaten properly, if your dog has been more active than normal or if your dog has vomiting or diarrhoea. The signs of a hypo are usually that the dog become restless, confused, shaky and listless. If this happens you should give honey, jam or sugar straight onto the gums to treat the immediate sign and then contact your vet for advice. The insulin dose may then be altered.

Urine infections are common in diabetic dogs Diabetics are more prone to infections generally because the high glucose level allows bacteria to grow. Urine infections are particularly common so if your dog shows signs or discomfort such as frequently squatting or trying to pass urine or licking the area a lot then please consult your vet.

Cataracts (cloudy lenses) are a very common complication of Diabetes mellitus in dogs. In fact 75% of dogs will develop cataracts within 9 months of diagnosis. Cataracts develop due to the high glucose levels causing a disturbance in the water level within the lens. Cataracts can be removed in many cases and this will usually give the dog their sight back. If your dog starts to develop cataracts please ask your vet about referral to a veterinary ophthalmologist.

## In summary

Diabetes is a treatable disease but needs commitment from an owner and a set routine to be established. Once stable and in a routine most diabetic dogs will lead happy lives.

If you have any questions please contact us, we are happy to help!

## Lanes Vets Locations & Contact Information.

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