



Treatment of diabetic dogs

Diabetes is a metabolic problem. In the background is a lack of insulin, the cause of which may be insufficient insulin production by the pancreas or inadequate insulin uptake by the cells.

This results in high blood sugar level because glucose does not enter the cells. Insulin allows the uptake of glucose into cells.

Clinical symptoms of diabetes:

- 🐾 Increased water intake
- 🐾 Increased urination
- 🐾 Increased appetite
- 🐾 Weight loss despite a large appetite. Later, loss of appetite develops, vomiting,
- 🐾 diarrhea, blindness, coma, KIR symptoms, death. The reason for these is also the too high blood sugar level. Above a certain value, glucose is excreted in the urine, and it takes water with it - this causes increased urination, which causes a feeling of thirst so they drink more.

Diabetes is a life-threatening condition, but it can be well managed and maintained by adjusting insulin levels, diet and exercise.

Important! DO NOT give insulin that was originally made for human useing without consulting to a veterinarian!

The concentration of insulin developed for veterinary use is 40 IU/ml, while the concentration of human insulin preparations is 100 IU/ml. Administering the human preparation would cause severe, life-threatening hypoglycemia (low blood sugar) in the animal! However, the humane blood sugar measuring device is also suitable for measuring the blood sugar of a diabetic dog.

The insulin preparation is sensitive to environmental effects, some important information about its treatment:

- 🐾 Insulin must always be stored in the **refrigerator** immediately after it has been drawn into the syringe.
- 🐾 **Do not freeze** - freezing destroys the insulin.
- 🐾 Always store the insulin **bottle upright**.



- 🐾 Before use, carefully turn the bottle over a few times to mix the settled insulin suspension - **DO NOT shake the bottle**, because shaking can destroy the insulin! The best way is to roll the bottle between your palms.
- 🐾 Draw up the preparation into the syringe without bubbles!

Administration of the insulin preparation:

- 📺 Aspirate into the syringe very accurately and precisely the specified amount by the veterinarian and the owner, making sure there are no bubbles!
- 📺 Raise the skin to the place indicated by the owner - shoulder or back of the torso, insert the needle, then inject and withdraw the needle.
- 📺 After injecting, put the cap back on the needle so that you don't prick someone later during waste management.





Pro tipp:

If we have to administer insulin to the animal over several days, we should also be careful not to give the medicine in the same place but alternate the injection points so that the given skin area can regenerate before the next injection.

The diet of the diabetic dog:

- 🐾 Contains a high proportion of fiber
- 🐾 Contains complex carbohydrates
- 🐾 Contains little fat

Important information when caring for a dog with diabetes:


- 📺 Always give an insulin injection after a meal! We only give it when they have eaten their food!
- 📺 If they have not eaten or vomited the food, do not give them the full dose of insulin because this can cause a severe drop in blood sugar, i.e. hypoglycaemia. In such cases ask the owner about the required dose!
- 📺 Dogs undergoing insulin treatment have a strict diet and must receive their food and insulin injections at the same time every day. It is very important to accurately measure the doses given by the owner, and that the animal receives them exactly at the specified time! Always follow the instructions given by the owner regarding feeding and medication!

In general:

- In the case of 1 insulin injection per day: they should receive 1/3 of the daily dose in the morning before the insulin injection, then the remaining 2/3 of the dose 6-8 hours later, when the blood sugar level is the lowest.
 - In the case of 2 insulin injections per day: they should receive half of the daily food ration and 1 insulin injection in the morning and evening, every 12 hours.
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- 📺 Exercise is extremely important in the life of diabetic dogs. As a result of physical activity blood flow increases, so insulin uptake by cells can improve.



- It is important that the activity is kept at the same level, because the sudden strenuous, exhausting exercise can cause a drop in blood sugar. If this happens, put honey on the dog's gum.

 It is important that too low a blood sugar level is much more serious than too high!

The normal blood sugar level in dogs is: 3.3 mmol/l - 6.2 mmol/l

Blood sugar levels that are too low, **below 3.3 mmol/l**, are called **hypoglycemia**. It may happen that the blood sugar level of a dog treated with a set insulin dose also drops. Do not panic, but based on the list below, it is worth taking action and if necessary, call the vet!


Signs of hypoglycemia:

- 🐾 tremors
- 🐾 muscle twitching
- 🐾 restlessness,
- 🐾 some dogs will be extremely calm - so there are also changes in behavior must be observed
- 🐾 coma

What to do in case of hypoglycemia?

- 🐾 **Immediately apply honey** to the dog's gums or administer a glucose solution into the mouth - it is important that we make sure the dog can swallow, so as not to cause them to choke. Add the solution slowly!
- 🐾 If the animal has gotten better, let's give them some food!
- 🐾 Let's keep an eye on them for the rest of the day, maybe later their blood sugar drops again.
- 🐾 If the dog loses consciousness, or the condition of the dog deteriorates, notify the owner immediately and consult a veterinarian!

Blood sugar levels that are too high can lead to **diabetic ketoacidosis** (DKA).

 Too little insulin causes an abnormal rise in blood sugar. The cells are thus unable to obtain energy from glucose, as it remains in the blood. Alternatively, they obtain energy from fats, during which so-called ketones are produced. An increase in blood ketone levels is an abnormal condition that causes the following symptoms:


- Dejection



- Vomiting, nausea
- Loss of appetite

 Reasons for its formation:

- If the diabetic dog is treated with a too low dose of insulin.
- Existing, undiagnosed and untreated diabetes in the dog.
- A decrease in the effect of insulin due to the obesity of the diabetic dog and other comorbidities.

 This is a serious condition that requires immediate intervention, so if you experience symptoms, talk to the owner immediately and consult a veterinarian!