

How to Monitor Blood Glucose Levels at Home

BACKGROUND

If your pet recently has been diagnosed with diabetes, home monitoring of your pet's blood sugar (blood glucose) is an important way of making sure the correct amount of insulin is being given.

Checking the blood glucose levels at home is easy and can provide more accurate results than when the pet arrives at the veterinary hospital. Many pets become stressed when visiting the hospital, which can temporarily elevate the blood glucose and give an inaccurate reflection of the diabetes.

Monitoring the blood glucose levels is easy. It can take some time to become comfortable with the technique, but it is important to understand that it is a safe and comfortable procedure.

GETTING STARTED

Equipment/materials needed:

- Recommended blood glucose home monitor
- Glucose strips
- Sterile lancet or needle
- Cotton ball
- Alcohol
- ± Petroleum jelly/Vaseline

TROUBLESHOOTING BEFOREHAND

You should not attempt to take a blood glucose reading when your pet is agitated or stressed. Your veterinarian will indicate the times you should check the glucose levels. Sometimes, a *blood glucose curve* will be recommended whereby several readings will be needed throughout one day.

You should be able to complete this procedure alone. However, if you have a pet that is active, you may need the help of another person to keep the pet still for a few seconds. If your pet becomes difficult to handle, discontinue the process and call your veterinarian to discuss other options.

PROCEDURE

- In cats, place a cotton ball on the nonhaired (inside) surface of the ear flap, and hold it in place with your left thumb and forefinger if you are right-handed. The cotton ball provides a buffer to reduce the risk of needlestick injury to yourself. The process is the same in dogs, although dogs with thick haircoats may first need to have the hair shaved away from a patch of the ear flap.
- Apply a thin film of petroleum jelly/Vaseline to the outermost 1/4 to 1/2 inch, or 0.5 to 1 cm, of the ear flap (margin), on the haired side, directly where you will be pricking with the needle or lancet. This very thin film will cause the blood to bead on the skin surface, making it easier to collect.
- The goal is to get a drop of blood from the raised, branch-like network of blood vessels just below the skin surface. This is painless because no significant nerve endings are in this region.
- Take the needle in your right hand and place it horizontally so the tip is touching the raised blood vessel that arcs around the margin of the ear flap, on the haired side. DO NOT aim the needle perpendicularly (directly at) the surface of the ear flap, because you risk going through the ear flap entirely and injuring your own left finger with the needle.
- Prick the tip of the ear with a sterile lancet or needle. This is a quick, superficial prick meant to draw a tiny amount of blood

(1 drop). The depth of the prick is very little but still deep enough to reach the small vein. In a cat this means approximately 1 mm (1/16 of an inch); in a large dog with thick ear flaps, like a golden retriever, the needle prick may extend to 5 mm (1/4 of an inch). This should be absolutely painless.

- Place the drop of blood on the glucose strip, and insert the glucose strip into the meter according to the instructions for that device.
- Place mild pressure on the ear flap directly on the site of the needle prick for 30 to 60 seconds to stop bleeding.
- Record the reading.



View of the haired side of the ear flap (pinna) in a cat. Note the branch-like pattern of raised veins near the margin.



Correct use of a needle to draw a drop of blood from the ear vein. The needle is directed horizontally across the ear flap, to enter the vein from the side. This is to avoid a needlestick injury to yourself.

If your pet's glucose reads "low" or less than 50 mg/dL (2.8 mmol/L), you should contact your veterinarian to discuss whether an immediate treatment is necessary. If your pet's glucose reads "high" or greater than 300 mg/dL (16.7 mmol/L), you should likewise call your veterinarian. A low glucose can sometimes require immediate attention; a high glucose is not an immediate emergency, but your veterinarian must be notified because it can cause deterioration of the diabetes over time. You will be given instructions on how to proceed.

AFTERWARDS

Many or most pets become accustomed to having blood glucose sampled this way. Make sure to reward your pet with a

diabetic-friendly treat after each blood sampling to make this a pleasant experience they eventually may look forward to. (Store-bought processed dog and cat treats are often high in calories and fat and can adversely affect glucose levels.)

Make sure your pet is receiving an appropriate diet recommended by your veterinarian for the treatment of diabetes. It is very important to regulate your pet's food intake. Ensure your pet is exercising regularly, as exercise can affect glucose levels. Your pet's food, insulin, and exercise schedule should remain the same every day, preventing false elevation or a decrease in glucose levels.

FREQUENTLY ASKED QUESTIONS

If my pet does not eat, should I check the glucose levels and give the insulin?

If your pet does not eat for one meal, you should only give a half dose of insulin. You can check the glucose levels, making note that your pet did not eat that meal. If your pet will not eat for 24 hours, you should call your veterinarian.

What if the bleeding does not stop on the tip of my pet's ear?

Hold pressure on the tip of the ear for several minutes. The bleeding will stop in virtually every case; if not, you should contact your veterinarian.

My pet seems very weak. Should I check the glucose level?

Yes. If the glucose is low, apply some Karo syrup on the gum line of your pet's mouth and call your veterinarian. Do *not* give insulin at that point.

Is it safe to prick the same location of the ear each time?

It is advised to switch ears with each prick. You may change the location so long as it is anywhere on the nonhaired surface of the ear flap, preferably toward the tip.

Practice Stamp or Name & Address