

## [THE PET HEALTH LIBRARY](#)

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### **Insulin Administration in Dogs**

Insulin is the injectable medication you use to control your diabetic dog's blood sugar. When insulin therapy is started, the optimal dose for your pet is unknown and will have to be determined by trial and error. Most dogs will need insulin injections twice a day, though occasionally a patient is found where a single dose is long acting and once-a-day insulin works out. A dose will be selected based on what research has shown to be a good starting point, and after a couple of weeks your dog will return for a glucose curve where blood sugar levels will be mapped out over the course of a 10 to 24 hour period. The curve will show if the insulin is lasting long enough and if the dose should be raised, lowered, or kept the same. Alternatively, you can learn how to monitor your dog's blood glucose levels yourself but if you are a beginner you may want to master giving the injections before moving on to taking blood samples.

There are two commonly used insulins for dogs: Vetsulin®, which is of pork origin (pork and dog insulin are molecularly identical so essentially Vetsulin is canine insulin) and Humulin N, which is human insulin (produced through genetic engineering technology). There are other types of insulins but as these are rarely used in dogs, probably will not come up except for special circumstances so they are omitted from this discussion.

Vetsulin is available through your veterinarian's office or through veterinary pharmacies while Humulin N is available through any regular pharmacy.

**BE SURE YOU UNDERSTAND HOW MUCH INSULIN YOU ARE SUPPOSED TO GIVE YOUR PET.**

**DO NOT ADJUST YOUR PET'S INSULIN DOSE WITHOUT VETERINARY GUIDANCE.**

### **Storing Insulin**

The bottle you are currently using need not be refrigerated although if you have a supply of insulin bottles, it is probably best to refrigerate the bottles that are not in use.

- Do not use insulin that is past its expiration date. In fact, it is a good idea to change to a fresh bottle every 6 to 8 weeks.
- Do not use insulin that has been frozen. Insulin is not normally frozen but accidents happen, especially in smaller refrigerators.
- Do not expose insulin to direct light or heat.

## The Syringes

Human and veterinary insulins are made at different concentrations and thus each requires its own type of syringes for proper dosing. Insulin syringes are extremely small in diameter so that injection will not be painful. It is a rare patient that objects to insulin shots per se, but some dogs resent being held still. It is crucial that the injection goes into the dog rather than into the fur so let your veterinarian know if you would like a small spot shaved to facilitate the injection.

- Vetsulin is available at 40 units of insulin per cc and requires U-40 syringes.
- Humulin N is available at 100 units of insulin per cc and requires U-100 syringes.

Always be sure you have the correct syringes for your insulin.

Used syringes should be placed inside a thick plastic container, such as a liquid laundry detergent bottle or similar receptacle. If the needle is enclosed in such a container, the entire container can be closed up and disposed of in the regular trash at home. Specific containers can be purchased for needle disposal or the used syringes can be returned to the veterinary hospital for disposal if you prefer.

## How to Give the Injections



First, feed your dog. The blood sugar of a dog that has not eaten a normal meal but receives insulin may drop to a dangerously low level. If your dog is not eating, this could indicate a need for a checkup with your veterinarian. After your dog has eaten, you are ready to give the injection.

Before drawing up the insulin in a syringe, roll the bottle back and forth in your palms so that the white material in the bottom is mixed in to the rest of the solution. Do not shake the bottle as the insulin molecule can be damaged.

When drawing up the insulin, always hold the bottle vertically to avoid unnecessary bubbles in the syringe. Since insulin is being given under the skin, bubbles are not an enormous problem as it would be with an intravenous injection but we still want to minimize bubbles. If you get bubbles in the syringe, flick the syringe with your fingers until the bubbles rise to the top and then simply push the air out of the syringe with the plunger.



After you have the insulin dose ready in the syringe, it is time to get your dog. Be sure you can trust your dog to hold reasonably still for the shot. Most dogs do not require a second person to hold them still but some dogs are rambunctious and a helper is necessary. If you have such a pet but no helper, consider tying a short leash around a piece of furniture. (Use a slip knot in case of a choking emergency.) Some dogs are uncooperative and require a muzzle.

Lift up a fold of skin, ideally along the side of the body. This will create a small space for the needle. Insert the needle into this space and inject the insulin. Withdraw the syringe and needle when you are finished.



It is our policy not to give dosing information over the Internet.

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