

## How to give Insulin Injections

Three facts you should know:

1. Insulin does not cause pain when it is injected.
2. The injections are made with very tiny needles that your dog hardly feels.
3. The injections are given just under the skin in areas in which it is almost impossible to cause damage to any vital organ.

It is neither necessary nor desirable to swab the skin with alcohol to "sterilize" it. There are four reasons:

- 1) Due to the nature of the thick hair coat and the type of bacteria that live near the skin of dogs, brief swabbing with alcohol or any other antiseptic is not effective.
- 2) Because a small amount of alcohol can be carried through the skin by the needle, it may actually carry bacteria with it into the skin.
- 3) The sting caused by the alcohol can make your dog dislike the injections.
- 4) If you have accidentally injected the insulin on the surface of the skin, you will not know it. If you do not use alcohol and the skin or hair is wet following an injection, the injection was not done properly.

Insulin comes in an airtight bottle that is labeled with the insulin type and the concentration. It is important to make sure you match the insulin concentration with the proper insulin needles. Insulin needles show their measurement in "units per ml", which must correspond to the concentration of the insulin you are using.

Before using the insulin, mix the contents. Be sure to roll it gently between your hands. Do not shake it. The reason for this is to prevent foam formation, which will make accurate measuring difficult. Some types of insulin used in dogs have a strong tendency to settle out of suspension. When you have finished mixing the insulin, turn the bottle upside down to see if any white powder adheres to the bottom of the bottle. If so, more mixing is needed.

Insulin is a hormone that will lose its effectiveness if exposed to direct sunlight or high temperatures. It should be kept in the refrigerator, but it should not be frozen. If you have any doubt about your pet's insulin and how it was stored, it is safer to replace it instead of risking using ineffective insulin. Insulin is safe as long as it is used as directed, but it should be kept out of the reach of children.

Before injecting your dog with the insulin, check that there are no air bubbles in the syringe. If you get an air bubble, draw twice as much insulin into the syringe as you need. Then withdraw the needle from the insulin bottle and tap the barrel of the syringe with your fingernail to make the air bubble rise to the tip of the syringe. Gently and slowly expel the air bubble by moving the plunger upward.

When this has been done, check that you have the correct amount of insulin in the syringe. The correct dose of insulin can be assured if you measure from the

needle end, or "0" on the syringe barrel, to the end of the plunger nearest the needle.

Have the needle and syringe, insulin bottle, and dog ready. Then, follow these steps:

1. Remove the cap from the needle, and draw back the plunger to the appropriate dose level.
2. Carefully insert the needle into the insulin bottle.
1. Inject air into the bottle. This prevents a vacuum from forming within the bottle.
2. Withdraw the correct amount of insulin into the syringe.
5. Hold the syringe in your right hand (switch hands if you are left-handed).

Have someone hold your dog while you pick up a fold of skin from somewhere along your dog's back in the "scruff" region with your free hand. Try to pick up a slightly different spot each day.

6. Quickly push the very sharp, very thin needle through your dog's skin. This should be easy and painless. However, take care to push the needle through only one layer of skin and not into your finger or through two layers of skin. The latter will result in injecting the insulin onto your dog's haircoat or onto the floor. The needle should be directed parallel to the backbone or angled slightly downward.
7. To inject the insulin, place your thumb on the plunger and push it all the way into the syringe barrel.
8. Withdraw the needle from your dog's skin. Immediately place the needle guard over the needle and discard the needle and syringe.
9. Stroke and praise your dog to reward it for sitting quietly.

Be aware that some communities have strict rules about disposal of medical waste material so don't throw the needle and syringe into the trash until you know if this is permissible. It is usually preferable to take the used needles and syringes to your veterinary clinic or local pharmacy for disposal. .

Although the above procedures may at first seem complicated and somewhat overwhelming, they will very quickly become second nature. Your dog will soon learn that once or twice each day it has to sit still for a few minutes. In most cases, a reward of stroking results in a fully cooperative dog that eventually may not even need to be held.