Diabetes, Insulin Administration Tips

Drs. Foster & Smith Educational Staff

INSULIN administration

How to make insulin administration painless and easy

If your pet has diabetes, your veterinarian may have prescribed insulin for her. Some pet owners balk at the idea of giving their pet a regular injection, but the types of syringes used, the small amount injected and the ease of injecting subcutaneously ensure that most pet owners can quickly learn to give the most comfortable injection possible.

The concentration of insulin is measured in units. Insulin syringes are marked in units, and may also be marked in milliliters. Be sure to use the unit scale. Also, be sure you are using the appropriate insulin syringe for the concentration of insulin you are using. Insulin is available in concentrations of 40, 100, and 500 units/ml. There are corresponding syringes to use for the measurement of the three concentrations of insulin.

It is imperative to measure and administer the correct dose of insulin using the correct syringe. For instance, if you use insulin with 40 U/ml, you must measure and administer it with a U-40 syringe; if you used a U-100 or U-500 syringe, it would result in the wrong amount of insulin being given, with perhaps a fatal outcome. Find out from your veterinarian (or pharmacist) what syringes are available for you to use with the concentration of insulin your pet is receiving.

Insulin comes in a glass vial with a rubber stopper, and must be stored in the refrigerator. Do not use the insulin beyond its expiration date.

An insulin syringe has 4 basic parts: the barrel, plunger, needle, and needle guard. Many brands of syringes have the needle permanently attached to the syringe barrel so it cannot be removed.

How to draw up insulin for your pet:

1. Prior to removing a dose of insulin from the vial, mix the contents by gently rolling the vial between the palms of your hands. DO NOT SHAKE INSULIN as that will cause air bubbles to form, and it will be more difficult to get an accurate measurement.

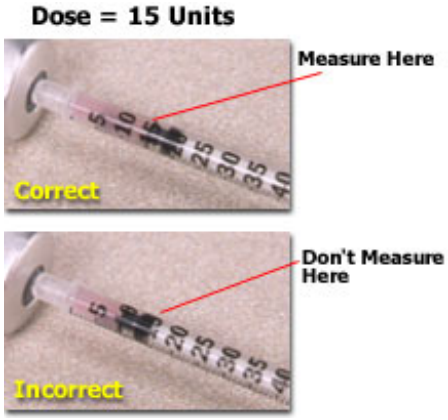
*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*

NOTE: We have used a pink solution instead of insulin to better illustrate the steps.

2. Hold the vial stopper-side-down, remove the needle guard from the insulin syringe, and insert the needle of the syringe into the vial through the rubber stopper.

3. Pull back on the plunger of the syringe to draw the insulin into the syringe once, then inject it back into the bottle. Redraw the proper dose back into the syringe. This is helpful in accurately dosing, as insulin may stick to the inside of the plastic syringe or an air bubble may be present in the syringe. If any air enters the syringe, you can also expel that back into the vial by keeping the vial upside down, and the needle of the syringe pointing up.

4. Recheck that you have withdrawn the proper amount of insulin. (See example below for the correct measurement of 15 units.)



- Remove the syringe from the vial and replace the needle guard.
- Return the insulin to the refrigerator.
  Now you are now ready to administer the insulin.

Giving the insulin injection to your dog:

To acquaint yourself with what giving an insulin injection may feel like, it is often recommended to practice by injecting water from an insulin syringe into an orange.

1. When giving your dog an insulin injection, you may, at first, want someone to help you hold and/or distract the dog while you are giving the injection. Scratching the dog on his head, getting his attention with a toy, or placing an enticing treat (very small piece of cooked chicken) near his nose may help focus his attention away from the injection. The needle is extremely thin, and the injection almost painless.

- Remove the needle guard from the syringe filled with the appropriate dose of insulin.
- If you are right-handed, hold the syringe in your right hand. With your left hand, pick up fold of skin along your dog's back or shoulders (use a different site every time). Some veterinarians recommend giving the injections under the skin on the sides of the chest and abdomen, since it may be better absorbed from these sites.
- Push the needle through the skin at about a 45º angle. Be careful not to push the needle

*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*

through the entire fold of skin and out the other side, or accidentally into your finger.

- Pull back slightly on the syringe plunger to be sure the needle is not in a blood vessel (if it is, blood will enter the syringe as you pull back the plunger). If no blood is seen, administer the insulin by pushing the plunger with your thumb. If you see blood, pull out the syringe and start over.

- Withdraw the needle from the dog's skin, and replace the needle guard.

- Reward your dog by scratching his head (if he likes it!), giving him the very small piece of cooked chicken, and talking to him. (Once you are more comfortable giving him injections and do not have to concentrate on what you are doing quite so hard, talk to him throughout the procedure.)

- To be sure your dog gets his insulin, and does not receive extra doses (from other members of the family who may not know the insulin was given), record the time of each insulin injection on a designated calendar.

- Place the needle and syringe in a puncture-resistant container. These are available, sometimes free of charge, from your veterinarian or pharmacist. Follow your local regulations regarding disposal.
- If the dog does not receive the entire dose of insulin, (e.g., some leaked out of the injection site, the needle went through the entire fold of skin and the dose was injected into the air, etc.) do NOT, we repeat, do NOT give more insulin. Wait to give more insulin until the next scheduled dose. Occasional missed doses are easily tolerated, overdosage can be fatal.

Giving insulin to your cat:

To acquaint yourself with what giving an insulin injection may feel like, it is often recommended to practice by injecting water from an insulin syringe into an orange.

1. When giving your cat an insulin injection, you may, at first, want someone to help you hold and/or distract the cat while you are giving the injection. Usually cats do better if they are not held tightly. Scratching a cat on the head, getting her attention with a toy, or placing an enticing treat (very small piece of cooked chicken) near her nose may help focus her attention away from the injection. The needle is extremely thin, and the injection almost painless.

2. Remove the needle guard from the syringe filled with the appropriate dose of insulin.

- If you are right-handed, hold the syringe in your right hand. With your left hand, pick up fold of skin along your cat's back or shoulders (use a different site every time). Some veterinarians recommend giving the injections under the skin on the sides of the chest and abdomen, since it may be better absorbed from these sites.

- Push the needle through the skin at about a 45º angle. Be careful not to push the needle through the entire fold of skin and out the other side, or accidentally into your finger.

- Pull back slightly on the syringe plunger to be sure the needle is not in a blood vessel (if it is, blood will enter the syringe as you pull back the plunger). If no blood is seen, administer the insulin by pushing the plunger with your thumb. If you see blood, pull out the syringe and start over.

- Withdraw the needle from the cat's skin, and replace the needle guard.

- Reward your cat by scratching her head (if she likes it!), giving her the very small piece of cooked chicken, and talking to her. (Once you are more comfortable giving her injections and do not have to concentrate on what you are doing quite so hard, talk to her throughout the procedure.)
- To be sure your cat gets her insulin, and does not receive extra doses (from other members of the family who may not know the insulin was given), record the time of each insulin injection on a designated calendar.

- Place the needle and syringe in a puncture-resistant container. These are available, sometimes free of charge, from your veterinarian or pharmacist. Follow your local regulations regarding disposal.
- If the cat does not receive the entire dose of insulin, (e.g., some leaked out of the injection site, the needle went through the entire fold of skin and the dose was injected into the air, etc.) do NOT, we repeat, do NOT give more insulin. Wait to give more insulin until the next scheduled dose. Occasional missed doses are easily tolerated, overdosage can be fatal.

*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*