

Patient Handout

Injecting Insulin: A Step-by-Step Strategy for Success

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If you're one of the millions of Americans who inject insulin each day, these steps can help, whether you're a novice or an expert.

If you're new to injecting insulin, you may feel like you'll never be able to get it right. It's completely understandable to be apprehensive about giving yourself a shot. But injecting insulin is like any other skill: It gets easier with practice. Follow this step-by-step approach, and this process will soon be second nature to you.

If you're an old pro at insulin injection, you may wish to review these steps, just to refresh your technique. (Please note that there are several methods available for delivering insulin. This *Patient Handout* focuses on using a syringe.)

Step 1: Choose a syringe

- Select the syringe. You can choose from several brands of disposable syringes. They come with their own needles, and they are available in different sizes and lengths. In general, needles are most comfortable when they are as thin, short, and sharp as possible. A 31-gauge, 6-mm needle may be a particularly good choice. (Gauge refers to the size of the hole in the needle and its thickness; the higher the gauge, the thinner the needle and the smaller the hole. The length of the needle is measured in millimeters [mm].) Talk to your health care provider about which syringe and needle are best for you.

Step 2: Choose an injection site

- Pick the right place. You can choose any of several possible places on the body for your insulin injections:
 - Abdomen—You can inject above or below the waist, but be sure to stay at least 2 inches away from the navel (belly button or periumbilical area).
 - Upper arms—Use the fleshy outer surface of the arm, about one hand's width down from the shoulder (the triceps fat pad).
 - Legs—Use the upper, outer part of the middle thigh, about one hand's width down from the groin and up from the knee. (Don't use the inner part of the thigh.)
 - Buttocks—Use the upper, outer area, near the hip.
- Select a site. Different sites provide different speeds of absorption. Insulin injected into the abdominal area is absorbed most consistently and works fastest, insulin injected into the arm works at medium speed (but may be faster if you exercise your arm after injection), and insulin injected into the thigh or buttock works the slowest. (The long-acting insulin glargine [Lantus®*] is the exception. Glargine is absorbed at about the same rate no matter where you inject it.)
- Remember to rotate. Choose a new spot within each site for each injection. That's important because if you inject in the same spot again and again, fatty lumps under the skin can develop over time. When rotating spots within one site, space injections about 2 fingers' width apart.

*Lantus® (insulin glargine [rDNA origin] injection) is a registered trademark of Aventis Pharmaceuticals Inc., Kansas City, Missouri.

If you take insulin more than once a day, keep your sites consistent with the time of day. For example, you might want to use your abdomen for all morning injections, your arm for the afternoon, and your thigh for the evening.

Step 3: Prepare the insulin

- Keep it clean. Start by making sure that your hands are clean. Then remove the plastic cover from the insulin bottle and wipe the rubber stopper with an alcohol-soaked cotton swab. Make sure the alcohol dries before going to the next step.
- Draw it up. To get the insulin out of the bottle and into the syringe, you:
 - Remove the needle cover or cap.
 - Pull back on the plunger of the syringe. Draw air into the syringe to equal the dose of insulin you'll be taking out.
 - Push the needle through the rubber top of the insulin bottle. Turn the bottle and needle upside down. Pull back on the syringe plunger until you draw out the amount of insulin you need for your dose.
 - Before you remove the needle from the bottle, make sure that there are no air bubbles in the syringe. If there are, tap the syringe lightly with your finger so that the air bubbles float to the top. Push on the plunger to get the air back into the insulin bottle. Then draw back until you have the right amount of insulin.

Step 4: Inject

- Sterilize the site. Clean the area you are going to inject (eg, with alcohol or soap and warm water).
- Hold the syringe and quickly push the needle into the injection site at a 90-degree angle. (Children and very thin people might want to use a 45-degree angle.)
- Keep it in and count to 5. Waiting just a few seconds before you remove the needle will help keep the insulin from leaking out of the injection site. (You may lose several units of insulin if even one small drop leaks out.) Pull the needle straight out quickly. Gently press on the injection site.
- Dispose of needles and syringes safely. Used needles and syringes should be placed into a "sharps" container (red containers marked "biohazard"), a hard plastic container (such as an empty laundry detergent bottle), or a metal container (such as an empty coffee can). Ask your community waste disposal agency how to properly dispose of the container when it is full. (Do not recycle it.)

POINTERS FOR PAINLESS INJECTIONS

- Make sure your insulin is at room temperature before you inject it. If you store your insulin in the refrigerator, take it out a half hour or so before your injection.
- Make sure you tap out all of the air bubbles from the syringe before you inject your insulin.
- If you use alcohol to clean the injection site, let it dry before injecting.
- Don't change the direction of the needle while putting it in or taking it out.

FOR MORE INFORMATION

- National Diabetes Education Program
1-800-438-5383 or www.ndep.nih.gov
- National Diabetes Information Clearinghouse
1-800-860-8747 or www.diabetes.niddk.nih.gov
- American Association of Diabetes Educators
1-800-338-3633 or www.diabeteseducator.org
- American Diabetes Association
1-800-DIABETES or www.diabetes.org

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