



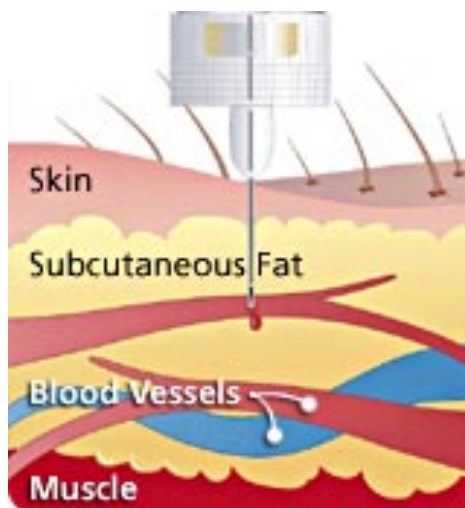
How to Inject Insulin

<https://www.bd.com/en-ca/products/diabetes-care/diabetes-learning-center/managing-diabetes-with-insulin/how-to-inject-insulin>

The thought of injecting yourself with insulin takes a little getting used to, and doing it properly requires some practice. But once you've made it through your first shot, insulin injection will quickly become a regular part of your daily routine.

Injecting at the proper depth is an important part of good injection technique. Healthcare professionals recommend that insulin be injected in the subcutaneous fat, which is the layer of fat just below the skin. If you inject too deep, the insulin could go into muscle, where it's absorbed faster but might not last so long (and, it hurts more when you inject into muscle). If the injection isn't deep enough, the insulin goes into the skin, which affects the insulin's onset and duration of action.

Most people pinch up a fold of skin and insert the needle at a 90° angle to the skin fold. To pinch your skin properly, follow these steps:



- Squeeze a couple of inches of skin between your thumb and two fingers, pulling the skin and fat away from the underlying muscle. (If you use a 4 millimeter mini-pen needle to inject, you don't have to pinch up the skin when injecting at a 90° angle; with this shorter needle, you don't have to worry about injecting into muscle.)
- Insert the needle.

- Hold the pinch so the needle doesn't go into the muscle.
- Push the plunger (or button if you're using a pen) to inject the insulin.
- Release the grip on the skin fold.
- Remove the needle from the skin.

Note that not everyone injects at a 90° angle. If you inject into an area of the body that has less fat, you may need to inject at less than a 45° angle, to avoid injecting into a muscle. The angle you should use to insert the syringe or pen needle into your body depends on your body type, the injection site, and the length of the needle that you use. Your healthcare professional can help you determine the right angle of injection for you.

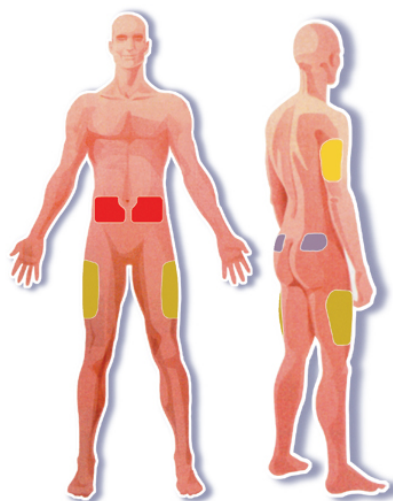
BD has created a set of animated Insulin Injection. The demonstrations will take you step by step through the entire insulin injection procedure.

Rotating Injection Sites

Injecting in the same place much of the time can cause hard lumps or extra fat deposits to develop. These lumps can change the way insulin is absorbed, making it more difficult to keep your blood glucose on target.

Follow these two rules for proper site rotation:

Same general location at the same time each day.



Insulin is absorbed at different speeds depending on where you inject, so it's best to consistently use the same part of the body for each of your daily injections. For example, do not inject your lunch bolus dose in the abdomen on Monday and in the thigh on Tuesday. If you have picked the thigh for your evening injection, then continue to use the thigh for all of your evening injections.

According to Eli Lilly, the leading manufacturer of insulin, most insulin enters the blood:



Fastest from the abdomen (stomach)

A little slower from the arms

Even slower from the legs

Slowest from the buttocks

Unless your doctor has told you otherwise, it is a good idea to inject your breakfast and lunch bolus doses into the abdomen. Insulin is absorbed fastest when injected into this area. Fast absorption is needed at mealtimes to cover the carbohydrates you are about to eat.

On the other hand, your supper or bedtime dose of long-acting insulin could be injected into the thigh, buttocks, or upper arm. That's because you want the long-acting insulin to take effect gradually and cover your needs throughout the night.

If you mix two types of insulin in one shot, you can inject into the abdomen, arm, thigh, or buttocks.

To avoid developing hard lumps and fat deposits, it is important to inject in different spots within a general part of the body.

Change sides within an area. For example, if you inject your evening insulin in the thigh, try using the right thigh one evening, and the left thigh the next evening.

You might find it useful to picture the face of a clock on your abdomen. That helps you to keep each of your injections at least one finger's width from the last injection.

Let's say that you inject four times a day, and all of the injections are in your abdomen. Look down at your abdomen and picture "Noon" below your belly button. Place your first injection at Noon, your second injection at 1 o'clock, the third injection at 2 o'clock, and the fourth injection at 3 o'clock. You will not come back to the "Noon" spot again until day 4, which gives that spot a chance to rest.

Do not inject close to the belly button. The tissue there is tougher, so the insulin absorption will not be as consistent. For the same reason, do not inject close to moles or scars

If you inject in the upper arm, use only the outer back area (where the most fat is). It is hard to pinch the upper arm when you are injecting yourself. Try pressing your upper arm against a wall or door.

If you inject in the thigh, stay away from the inner thighs. If your thighs rub together when you walk, it might make the injection site sore.

Do not inject in an area that will be exercised soon. Exercising increases blood flow, which causes long-acting insulin to be absorbed at a rate that's faster than you need.

Do not become a creature of habit! It might seem easier to find a spot that does not hurt and inject there all of the time. However, the result could be unpleasant swelling and lumps.

You can reduce injection pain by choosing a needle length and gauge that are right for you.

Move to a new injection site every week or two.

Inject in the same area of the body, making sure to move around within that area with each injection, for one or two weeks.

Then move to another area of your body and repeat the process.

Use the same area for at least a week to avoid extreme blood sugar variations.

Rotate the sides (right, left) of your body where you inject within your injection sites.

