Improving Your Insulin Injection Technique

The way that you insert your syringe or pen needle into your skin in order to get a proper dosage of insulin is called your insulin injection technique. Your healthcare professional can help you to learn an injection technique that will make your insulin therapy as effective and successful as possible.

Injecting at the proper depth is an important part of good injection technique. Most 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 or 5 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.
Remove Bubbles from Your Syringe

Bubbles in your insulin syringe won't harm you if they're injected into your body, but because they're taking up space in the syringe, they'll keep you from getting your entire insulin dose, and that can make it more difficult for you to stay in your target blood sugar range.

There are different ways to avoid bubbles, so ask your healthcare provider to recommend one. Here are two suggestions:

- Draw up your insulin slowly and steadily. You'll know you're drawing too fast when you see bubbles forming in the syringe. If you do see bubbles, push the insulin back into the bottle and re-draw. Do this as many times as needed until the bubbles are gone.

- Draw two more units of insulin into the syringe than you normally need. If you see bubbles, flick the syringe with your thumb and middle finger to make the bubbles rise. You must flick the syringe with some force to get the bubbles to move up, but don't flick too hard, or the needle may bend. Once the bubbles are at the top, or once you have examined the syringe and found no bubbles, push the extra two units of insulin back into the bottle.

View injection demonstrations to see how to remove air bubbles from a syringe

Don't forget to push the extra insulin back into the vial - even if there are no air bubbles in the syringe - or you'll get an overdose of insulin.

If you mix clear and cloudy insulin, you can only remove bubbles from the clear insulin, which is drawn first. You can't remove bubbles after both insulins are in the syringe, because when you push insulin back into the bottle of cloudy insulin, you may be pushing clear insulin into the cloudy bottle. This would cause two problems:

- You won't get the full amount of clear insulin that you need

- It will change the insulin in the cloudy insulin bottle that you will need to inject at a later time, (because some clear insulin has been mixed into it).
Injecting Another Person

The process of injecting insulin into another person isn't much different from injecting yourself.

Training and proper technique are important, and it gets easier with practice.

Family members and friends of people with diabetes who help with injections should:

- Get formal training on injecting insulin from a diabetes nurse educator.
- Get the details on the person's insulin regimen, injection times, angle of injection, injection site, and site rotation.
- Wear disposable medical gloves when injecting to protect yourself from insulin leakage or bleeding.
- Use safety-engineered insulin syringes to help prevent getting accidentally stuck by a needle.