Your guide to diabetes management

Injecting insulin and making healthy lifestyle choices
What is insulin, and why do I need to inject it?

Insulin is one of the most effective treatment options for managing blood sugar. It is a hormone (a chemical messenger) that is made by your pancreas (an organ near your stomach). Insulin helps your body use sugar for energy and balance your blood sugar (also called “blood glucose”).

Whether you have type 1 or type 2 diabetes, if your body is no longer making enough insulin or your body’s own insulin is no longer as effective as it should be, then you may need to start injecting it to help keep your blood sugar in balance.¹

How do I know how much insulin to inject?

Your healthcare team will develop a treatment plan to meet your personal needs, including how much insulin to inject, but you will need to test your blood sugar on a regular basis to help guide you. Regular testing using a blood glucose meter is an important part of healthy living with diabetes, and can help you avoid serious complications like hypoglycemia (low blood sugar) and hyperglycemia (high blood sugar).²

How do I inject insulin?

In general, there are two ways you can inject insulin. Talk to your healthcare team about which option is best for you:

- Using an insulin pen and pen needle (see page 8)
- Using an insulin vial and insulin syringe (see page 10)

Whichever method you use to inject insulin, following correct injection technique is critical to helping you maintain good diabetes management.³

What about other injectable medications?

Your doctor may prescribe other medications that are not insulin, but are still injected using a pen device. One example is a type of medication called a glucagon-like peptide receptor agonist (or “GLP-1”). No matter what you are injecting, you should always follow correct injection technique.

For more information on diabetes and treatment options, visit [bd.com/diabetespatientcare](http://bd.com/diabetespatientcare)
Managing hyperglycemia

Watch for the signs, and know what to do

Hyperglycemia (*high blood sugar)*

Watch for:
- Increased thirst
- Frequent urination
- High blood glucose
- High levels of sugar in your urine

What to do:
- Set blood sugar goals with your doctor
- Drink sugar-free fluids (*if you can swallow*)
- Test your blood sugar frequently
- Test your urine for ketones if your blood sugar is greater than 240 mg/dL

Causes:
- Not enough insulin
- Too much food
- Infection, fever, illness
- Emotional stress

Managing hypoglycemia

Watch for the signs, and know what to do

Hypoglycemia (*low blood sugar*)

Watch for:
- Cold sweat, faintness, dizziness, headache
- Pounding heart, trembling, nervousness
- Blurred vision
- Hunger
- Irritability or personality change
- Unable to wake up

What to do:
- Test your blood sugar (*if possible*)
- Take glucose tablets, food or liquids containing sugar (e.g., juice, hard candies)
- Wait 15 minutes and retest your blood sugar
- If your blood sugar is still less than 70 mg/dL, treat again with glucose tablets, liquids or foods containing sugar. Follow with your next meal or snack
- Do not give anything by mouth if the person is not conscious
- If the person is unconscious, give glucagon according to package directions and call 911

Causes:
- Taking too much insulin
- Not eating enough food
- Unusual amount of exercise

Signs and symptoms can occur slowly—from hours to days

Signs and symptoms can occur very quickly—within minutes
Healthy injection technique

Always rotate your injection sites

Diabetes experts agree that the best way to keep your injection sites healthy and avoid complications is to practice proper injection site rotation.3

1 Choose an area.
2 Divide that area into four sections.
3 Select an injection site in a section to start injecting. Use one section per week.
4 Inject one finger width away from your last injection.

Keep your injection sites healthy

Always inject with a new needle

Pen and insulin syringe needles are designed for single use, and should only be used once—they are no longer sterile after use.1

Avoid lipohypertrophy (lipo)

Unhealthy lumps and bumps called lipo can form under the skin of people who inject insulin. If you inject into them, your insulin may not work properly. You should always inject into healthy skin.

With every injection, just two small steps can make a difference:
- Replace your needle
- Rotate injection sites

Keep your home and loved ones safe

Properly dispose of your used sharps

Used medical sharps, like insulin syringe needles and pen needles, should be properly disposed of according to your local regulations. Using a proper medical sharps container is one way you can help with safe disposal.3

Talk with your doctor or diabetes educator to develop a rotation plan that’s right for you.

For more information and resources on healthy injection technique, visit bd.com/diabetespatientcare
How to inject with a 4 mm pen needle

1. Arrange your supplies. Remove the pen cap and wipe the stopper.
2. Wash your hands. Remove the seal and push the new needle straight onto the pen. Do not put the needle on at an angle. Screw it on tight.
3. Remove the outer shield, then remove the inner shield.
4. Check the flow of medication by dialing 2 units, and with the needle facing up, press the thumb button until you see a drop of medication. Repeat if necessary until you see a drop of medication.
5. Dial your medication dose. Clean a small area of skin. Ensure the skin surface is completely dry before injecting.
6. Inject straight in at a 90° angle.
7. Press the thumb button down. Post-injection, count for 10 seconds before removing the needle from your skin to help ensure an accurate dose.
8. Use the needle once and dispose of it properly.

Please refer to the Instructions for Use for detailed information on how to use BD Nano™ 4mm pen needles.

* Always check your pen manufacturer’s Instructions for Use and your insulin expiration date.
† Children from 2 to 6 years old or extremely lean adults may need to use a pinch-up technique.

BD Nano™ 4mm Pen Needles

Our shortest pen needle—in line with the latest injection technique recommendations from diabetes experts

- The shortest BD pen needle for easier, one-handed injections at more sites
- Exclusive PentaPoint™ Comfort creates a thinner and flatter needle tip for an easier and more comfortable injection
- EasyFlow™ Technology allows insulin to more freely flow through the needle, and does not require you to push the button on your pen as hard to deliver your injection
- Compatible with leading diabetes medication pens

BD pen needles and insulin syringes are covered by most health plans at the preferred co-pay, including Medicare Part D.

Ask your doctor or pharmacist for a 4 mm pen needle BD injection technique worksheet.
How to inject with a 6 mm insulin syringe needle

1. Wipe the top of the insulin bottle. Arrange your supplies. Wash your hands. To expose the plunger, twist the white cap then pull it off.

2. If you are taking cloudy insulin, roll the bottle between your hands until it is uniformly cloudy. To avoid the formation of air bubbles, do not shake the bottle of insulin.

3. To expose the needle, twist the orange needle shield then pull it straight off, being careful not to bend the needle or let the needle touch anything.

4. Pull the insulin syringe plunger down; align the thin black line of the plunger (closest to the needle) with the desired number of units on the insulin syringe. You need air in the insulin syringe equal to the amount of insulin you will take.

5. Hold the insulin syringe like a pencil. Push the needle straight through the center of the rubber top of the insulin bottle and push the plunger down completely.

6. Leave the needle in the insulin bottle. Carefully turn the bottle and the insulin syringe upside down so the bottle is on top.

7. Pull the plunger down slowly. Align the thin black line of the plunger (closest to the needle) with the desired number of units on the insulin syringe.

8. If air bubbles appear in the insulin syringe, inject the insulin back into the vial. Then redraw the insulin following steps 6 and 7.

9. Confirm the dose is correct, and then clean a small area of skin. Let it dry completely before injecting.

10. Hold the insulin syringe like a pencil. Pinch up your skin and push the needle quickly through the skin at 90° (straight in) to the skin surface. Push the insulin in with the plunger. Pull the needle out of your skin. Release the skin pinch-up.

11. Do not recap used needles. Use the needle once and dispose of it properly.

Please refer to the Instructions for Use for detailed information on how to use BD insulin syringes with BD Ultra-Fine 6mm needles.

* Use of insulin syringe needles in children less than 6 years old and very lean adults is not recommended, even if they use a pinch-up technique.

Ask your doctor or pharmacist for a 6 mm insulin syringe needle BD injection technique worksheet.
BD Insulin Syringes with BD Ultra-Fine 6mm Needles

Our shortest insulin syringe needle—in line with the latest injection technique recommendations from diabetes experts*

- The shortest BD insulin syringe needle for safer injections†‡
- A shorter and thinner-gauge needle designed for more comfortable injections‡
- Available in a range of syringe barrel sizes (or capacities), with large dose unit markings designed to be easier to read when drawing insulin to the correct dose
- Available with a half-unit scale for small doses—ideal for pediatric patients and those with insulin sensitivity

BD U-500 Insulin Syringe with the BD Ultra-Fine 6mm Needle

The only syringe specifically designed for patients taking Humulin® R U-500 insulin

- Developed to help increase safety, ease-of-use and comfort
- Bold U-500 scale markings have five-unit increments and allow for dosing up to 250 units

---

* Excluding syringes used in hospital settings.
† Use of insulin syringe needles in children less than 6 years old and very lean adults is not recommended, even if they use a pinch-up technique.
‡ Compared to longer and thicker insulin syringe needles.
Get moving

It’s good for your whole body

The American Diabetes Association (ADA) recommends 30 minutes of moderate- to vigorous-intensity physical activity at least five days a week, for a total of 150 minutes per week. It’s best to spread your activity out over at least three days, and try to not go more than two days without exercising.

Examples of aerobic activities:
- Brisk walking
- Dancing
- Swimming
- Hiking
- Skating

The ADA also recommends strength training at least two times per week, in addition to aerobic activity. It helps your diabetes and reduces your risk of osteoporosis and injury.

Examples of strength training activities:
- Weight machines or free weights
- Resistance bands
- Lifting light objects at home
- Calisthenics (using your own body weight)
- Heavy yardwork

* Always check with your healthcare team before starting or changing any exercise routine.

Eat healthy

Follow this simple guide to create endless healthy meal combinations that are diabetes-friendly

Drink
- Water
- Unsweetened tea or coffee

Fruit and dairy
- One serving of each, or both, as your diet allows

Protein
- Pork
- Chicken
- Fish

1/4

Non-starchy vegetables
- Carrots
- Spinach
- Peppers

1/2

Grains and starchy foods
- Corn
- Potato
- Quinoa

1/4

These are just a few examples of the foods you can enjoy. Talk to your healthcare team—including your dietitian—about the best options for you.

For more information on healthy living with diabetes, visit bd.com/diabetespatientcare