



Getting started

Your guide to understanding diabetes,
developing good treatment habits and
adopting a healthy lifestyle



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Understanding diabetes and injection therapy

Diabetes 101

Living with diabetes can sometimes seem overwhelming—whether you’ve been newly diagnosed or making a change to your treatment plan like adding insulin injections. Learning more about diabetes and various treatment options can help you feel more in control as you work with your diabetes care team to manage your blood sugar levels.

In this section, you’ll learn more about:

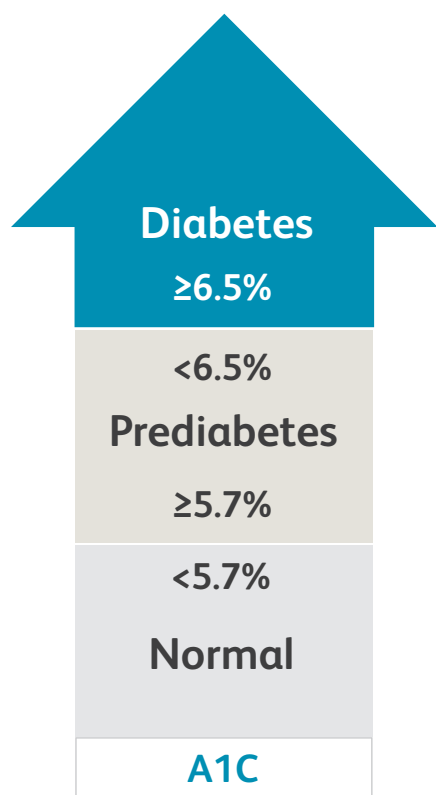
- Types of diabetes
- Your important diabetes-related numbers
- Diabetes treatment options
- Insulin
- Managing hyperglycemia (*high blood sugar*) and hypoglycemia (*low blood sugar*)

Understanding diabetes

Diabetes (*also called diabetes mellitus*) is a disease that interferes with your body's ability to use blood sugar for energy. As a result, people with diabetes have blood sugar levels that are too high (*hyperglycemia*). There are a few different types of diabetes, which we will review below.¹

Prediabetes²

Before people develop type 2 diabetes, they usually develop prediabetes—a condition where blood sugar levels are higher than normal, but not quite high enough for a diabetes diagnosis. Having prediabetes puts you at higher risk of developing type 2 diabetes and cardiovascular disease.



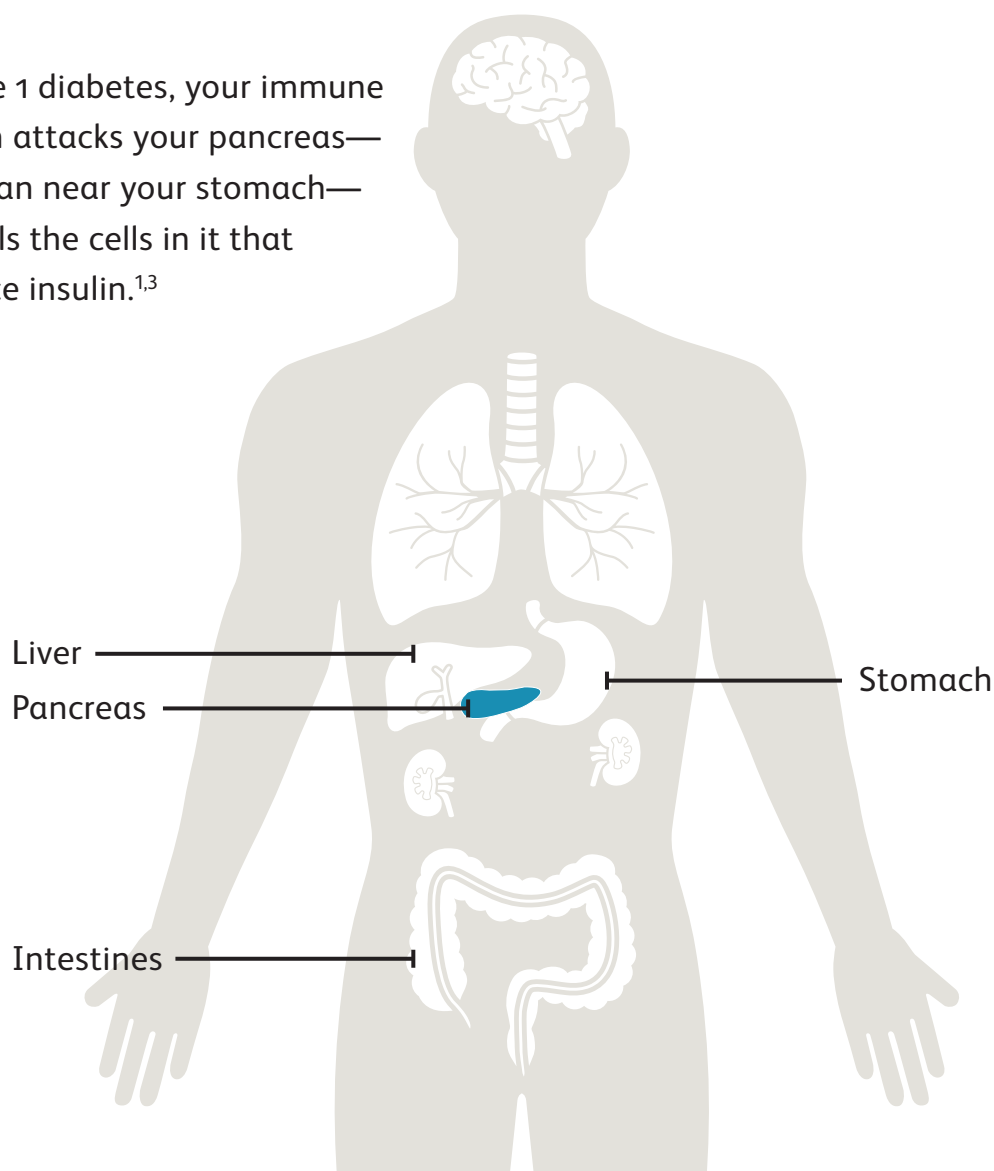
One way to check for prediabetes is with an A1C blood test (*learn more on p.16*). If your A1C is from 5.7% to 6.4%, you may have prediabetes. Your diabetes care team will usually repeat these tests on a second day to be sure of the results.

If you have prediabetes, you should be checked for type 2 diabetes every one to two years. It doesn't mean that you will develop type 2 diabetes. In fact, with exercise and weight loss it's possible to get your blood sugar levels back into the normal range.

Type 1 diabetes

In type 1 diabetes, your body does not produce any insulin, leading to high blood sugar.^{1,3}

In type 1 diabetes, your immune system attacks your pancreas—an organ near your stomach—and kills the cells in it that produce insulin.^{1,3}



Because your body no longer produces any insulin, you have to inject insulin to control your blood sugar—but with proper management, you can still live a long and healthy life.³

Type 2 diabetes⁴

In type 2 diabetes, your body does not use the insulin that it makes properly. Doctors call this *insulin resistance*. To make up for insulin resistance, your pancreas works harder to make even more insulin. Over time, your pancreas isn't able to keep up with your body's insulin needs and stops being able to produce enough insulin to keep your blood sugar levels normal.



Some people living with type 2 diabetes can control their blood sugar with healthy eating and exercise—but many people also need to add pills or insulin. Type 2 diabetes progresses over time, and you are likely to need to add more medications later on.

Type 2 diabetes is the most common form of diabetes, and while it can affect people at any age, it mostly affects people as they get older. African Americans, Latinos, Native Americans, Asians and Pacific Islanders are at a higher risk of developing type 2 diabetes.

Gestational diabetes

Women who have never had diabetes before can develop high blood sugar levels while they are pregnant—also called *gestational diabetes mellitus* (GDM). As pregnancy progresses, hormones from the placenta block the mother's ability to use insulin in her body properly. This kind of insulin resistance is similar to what happens in type 2 diabetes. Women who have had GDM are more than 7 times as likely to develop type 2 diabetes compared to women who didn't have diabetes in pregnancy.^{5,6}



If left untreated, gestational diabetes can hurt your baby. The extra glucose in your blood can pass through the placenta to your baby, causing the baby's pancreas to work harder to get rid of the extra sugar.⁵

Because the baby is getting more energy than it needs from increased sugar in the blood, the baby's body will store the extra energy as fat. This can lead to complications during birth, larger babies, low blood sugar levels at birth, breathing problems—and a higher risk for obesity and type 2 diabetes later in life.⁵

Other causes of hyperglycemia

In addition to diabetes, there are some other health-related reasons why you may need to take medications (*like insulin*) to control your blood glucose



Stress-induced hyperglycemia

When your body is under stress—like from an injury or surgery—it can cause your blood sugar to rise.⁷



Steroid-induced hyperglycemia

Steroids can be used to treat many different conditions (*like inflammation*), but one of their most common side effects is high blood glucose levels.⁸

Neither of these conditions means that you have diabetes. They are simply part of the body's natural response to injury or medication, and you should only need to take insulin for a period of time to help control your elevated blood glucose.



The benefits of managing diabetes

No matter what kind of diabetes you have, it's important to work with your diabetes care team to properly manage it. If you do—and get your blood sugar under control—you can reduce any risk of serious diabetes-related complications.

Symptoms of uncontrolled diabetes⁹

The following symptoms are typical of diabetes:

- Urinating frequently
- Feeling very thirsty
- Feeling very hungry—even though you are eating normally
- Extreme fatigue
- Blurry vision
- Cuts or bruises healing very slowly
- Losing weight—even though you're eating more (*seen in type 1 diabetes*)
- Tingling, numbness or pain in the hands or feet (*seen in type 2 diabetes*)

By managing your diabetes, you can reduce these symptoms to help:

- Have more energy and feel better overall
- Improve your vision
- Control your hunger
- Control your thirst, and make fewer trips to the bathroom
- Control your weight
- Reduce your risk of serious complications

High blood glucose and diabetes complications¹⁰

If not well managed, diabetes increases your risk for serious health problems. But with proper blood sugar control, you can reduce your risk.



Eyes

- Blurred vision
- Vision loss



Feet

- Skin changes
- Calluses
- Foot ulcers
- Poor circulation



Skin

- Bacterial and fungal infections
- Itching
- Skin discoloration



Heart

- Chest pain
- Shortness of breath
- May not have any symptoms



Nerves

- Unusual sensations (*tingling, burning, numbness or shooting pain*)
- Problems with digestion
- Sexual dysfunction



Kidneys

- Swelling in feet and legs
- Increase in blood pressure



Blood vessels

- Slow healing of wounds

Lower your blood sugar to control your symptoms and reduce your risk¹¹

Managing your blood sugar not only allows you to feel better, it reduces your diabetes symptoms and it can significantly reduce your risk of serious diabetes-related complications.

There are many benefits to managing your blood sugar—it's an important way to stay healthy!

Know your numbers

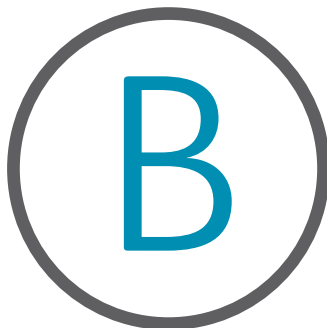
While managing your blood glucose is a very important part of diabetes, there are some other numbers that you can monitor with your diabetes care team. The American Diabetes Association recommends certain targets, but always follow your diabetes care team's advice on the right numbers for you.

First things first: brush up on your ABCs¹²

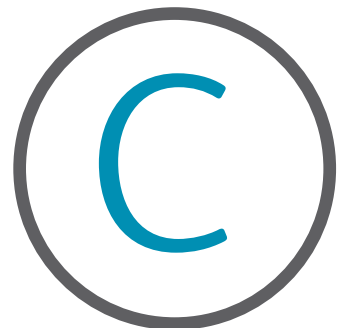
Keeping your ABCs in your target range will help lower your risk of heart disease or stroke.



is for A1C



is for blood pressure



is for cholesterol

Blood sugar targets for nonpregnant adults with diabetes¹³

A1C

Less than 7%

A test that measures your average blood glucose level over the past two to three months. It shows how much glucose is stuck to the hemoglobin in your red blood cells. This is a test your doctor orders and is done in a lab.¹

Preprandial blood glucose

80–130 mg/dL

A test that measures your blood glucose level *before* eating a meal. This is a test you do yourself with your blood glucose meter.¹

Postprandial blood glucose

**Less than
180 mg/dL**

A test that measures your blood glucose one to two hours *after* eating a meal. This is a test you do yourself with your blood glucose meter.¹

It's important to work with your diabetes care team to develop a blood glucose monitoring plan that's right for you.

Some common times to check your blood glucose include:

- When you wake up
- When you go to bed
- Before or after you inject insulin
- Before or after you eat
- Any time you feel symptoms of high or low blood glucose
- Before and after exercise
- Before driving

Pregnant women can speak to their diabetes care team about appropriate targets during pregnancy.

Blood pressure targets for adults¹⁴

What the numbers mean	Healthy blood pressure	Early high blood pressure	High blood pressure
Systolic pressure The pressure in your blood vessels when your heart beats.	Below 120	120 to 140	Above 140
Diastolic pressure The pressure in your blood vessels when your heart relaxes between beats.	Below 80	80 to 90	Above 90

Cholesterol—the good and the bad¹⁵

“Bad” cholesterol	“Good” cholesterol	“Bad” blood fat
LDL <i>Low-density lipoproteins</i>	HDL <i>High-density lipoproteins</i>	<i>Triglycerides</i>
LDL can cause a build-up of cholesterol in your arteries, damaging them.	HDL helps remove cholesterol from your body, clearing your arteries.	Raises your chances for heart attack or stroke.
In general, the lower your LDL, the better.	In general, the higher your HDL, the better.	In general, the lower your triglycerides, the better.

Talk to your diabetes care team about how often you should have your cholesterol checked, and what appropriate targets are for you.



Blood sugar, blood pressure and cholesterol are all linked. One value can throw off the others, and all are risk factors for heart disease.

Talk to your diabetes care team about working on your ABCs to reduce your risk!

Types of diabetes treatment

Depending on the type of diabetes you have, and how well-controlled your blood glucose is, there are several approaches you and your diabetes care team can take to manage your diabetes so you can live a healthy life. They can involve anything from making changes to your lifestyle to taking prescription medications, based on your needs.

Lifestyle changes¹⁶

It's possible to have an impact on your diabetes without taking medications—if you make changes to live a healthier lifestyle. There are three main areas that can make the biggest change to your blood sugar:

Diet

Living with diabetes doesn't mean you can't enjoy the foods you love—you just need to eat well-balanced meals to help manage your blood glucose (*learn more on p.58*).





Exercise

By getting—and staying—active, you can manage your blood glucose and even prevent type 2 diabetes. Ideally we all benefit from 150 minutes of physical activity per week (*learn more on p.60*).

Weight loss

With the right diet and exercise plan, you can lose weight, control your blood sugar, have more energy and start feeling better. Even a small weight loss can help!



Remember: Always talk to your diabetes care team about making the right lifestyle changes before starting any kind of new diet or exercise routine.

Oral medications (*pills*)



If lifestyle changes like diet, exercise and weight loss aren't enough to bring your blood glucose into target range, oral medications are likely to be the first type of treatment that most people with type 2 diabetes will use.¹⁷

There are many different classes (*and brands*) of oral medications that work differently to help your body manage blood sugar.¹⁸

Drug class	How it works
Sulfonylurea (sul-fah-nil-yoo-REE-ah)	Stimulates your pancreas to make more insulin. This class of drug may cause low blood glucose values.
Biguanide (by-GWAH-nide)	Decreases the amount of glucose that's produced by your liver, and makes your muscle tissue more sensitive to insulin.
Meglitinide (meh-GLIH-tin-ide)	Stimulates your pancreas to make more insulin.
Thiazolidinedione (thigh-uh-ZOH-lih-deen-dye-own)	Decreases the amount of glucose that's produced by your liver, and makes your muscle and fat tissue more sensitive to insulin.
DPP-4 inhibitor	Prevents the breakdown of a compound in your body called GLP-1, which naturally lowers blood glucose.
SGLT2 inhibitor	Prevents your kidneys from reabsorbing glucose, so that it can be passed out of your body in your urine.
Alpha-glucosidase inhibitor	Blocks the breakdown of starches in the intestine, and slows the breakdown of some sugars.
Bile acid sequestrant	Removes cholesterol from your body and lowers blood glucose.

It's also possible that your doctor may prescribe combinations of the different types of drugs above to help you achieve your blood glucose targets if a single medication isn't lowering your blood sugar effectively. This could mean taking multiple pills, or a single pill that contains multiple medications. Doctors call this *oral combination therapy*.¹⁸

Insulin

Starting insulin worries everyone, but insulin injections are virtually painless. By injecting insulin, you can replace the insulin your body doesn't make, or help supplement the insulin that it does make but is not using well.

There are three different ways to deliver insulin:



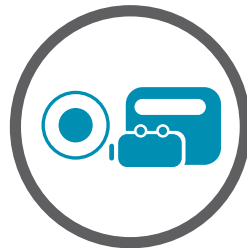
Vial and insulin syringe



Pen and pen needle



Insulin pump and
infusion set



Patch pump

Insulin storage tips:¹⁹

- Before use, you can store insulin in the fridge
- The bottle of insulin you're using can be kept at room temperature (*generally for up to 1 month. Check your manufacturer's instructions*)
- Don't store insulin near extreme heat or cold
- Always check the expiration date before using

Non-insulin injectable medications²⁰

In addition to insulin, there are other medications you can inject in a similar fashion to control diabetes. These medications are available in a pen injector device.

Drug class	How it works
GLP-1 receptor agonist	Stimulates your pancreas to produce more insulin and decreases the amount of glucose that's produced by your liver.
Amylin analog (AM-ih-lin AN-ah-log)	Slows food from moving too quickly through your stomach and helps keep your after-meal blood glucose from going too high.

Combination injectable medications

Similar to how you can take multiple pills in *oral combination therapy*, there are some combinations of injectable medications that your doctor could prescribe. Some examples include:

- Two different types of insulin together (*also called premixed insulin*)
- Insulin and a GLP-1 receptor antagonist²¹



Work with your diabetes care team to find the lifestyle changes and medications that work the best for you. Talk to your healthcare team about your fears of starting insulin as well. Today's needles are quite short and virtually painless.

Understanding insulin therapy

What is insulin, and why do I need to inject it?²²

Insulin is the most effective treatment option 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***).

Your insulin therapy journey depends on your type of diabetes²³

Type 1 diabetes

Since people with type 1 diabetes do not make insulin, they require multiple injections each day. This usually entails one injection with long-acting basal insulin and several injections of fast- or rapid-acting bolus insulin daily before meals.

Type 2 diabetes

After pills alone are no longer effective in managing their blood glucose, many people with type 2 diabetes will eventually need to start insulin therapy. This usually starts with one injection per day of basal insulin. Some patients may eventually need to add premeal bolus insulin with one or all of their meals.

What is basal-bolus insulin therapy?

A basal-bolus injection regimen is a way people with type 1 or type 2 diabetes can use multiple injections each day to mimic how the body of a person without diabetes utilizes insulin. It involves:

Basal insulin (*long-acting insulin*) injected once or twice a day

- Basal insulin keeps your blood glucose stable throughout the day but doesn't cover the starch eaten in meals.
- This type of insulin dose usually does not change from day to day unless you have lost or gained weight.

Bolus insulin (*rapid- or short-acting insulin*) usually injected with each meal

- Also known as *prandial insulin*
- Bolus insulin controls the blood glucose spikes from meals²⁴
- This type of insulin is also used to correct high blood glucose values.
- This type of insulin dosage can change from meal to meal and day to day depending on blood sugar values and food eaten.

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.

The following factors can influence how much insulin you need to inject:

- What you eat
- How much sleep you get
- How much you exercise, and when
- Where you inject your insulin
- When you take your insulin injections
- Illness
- Stress, both physical and psychological²³

Regular testing using a blood glucose meter is an important part of healthy living with diabetes, and can help you feel well and avoid serious complications like hypoglycemia (*low blood sugar*) and hyperglycemia (*high blood sugar*).²⁵

Managing hyperglycemia

Watch for the signs, and know what to do



Hyperglycemia²⁶ (*high blood sugar*)
Above 200 mg/dL^{27*}

Watch for:

- Increased thirst
- Frequent urination
- High blood glucose
- High levels of sugar in your urine
- Sores that are not healing

Signs and symptoms can occur slowly—over hours to days

What to do:

- Set blood sugar goals with your doctor
- 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

Recommendations:

- Drink sugar-free fluids (*if you can swallow*)
- Participate in a healthy activity, such as going for a walk

* This is a general reference. Your diabetes care team may set different blood glucose ranges for you.

Managing hypoglycemia

Watch for the signs, and know what to do



Hypoglycemia²⁸ (*low blood sugar*)
Less than 70 mg/dL*

Watch for:

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

*Signs and symptoms can occur **very quickly**—within minutes*

What to do:

- Test your blood sugar (*if possible*)
- If less than 70 mg/dL or feeling symptoms of low blood glucose, treat with 15 grams of glucose (*Rule of 15*)
- 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:²⁹

- Taking too much insulin
- Not eating enough food, or delayed meal or snack
- Unusual amount of exercise
- Recent weight loss

Treatment:

- The **Rule of 15**: Consume glucose tablets or 15 grams of carbohydrates
- Common examples of 15–20 grams of simple carbohydrates include:
 - Glucose tablets (*follow package instructions*)
 - Gel tube (*follow package instructions*)
 - 2 tablespoons of raisins
 - 4 ounces ($\frac{1}{2}$ cup) of juice or regular soda (*not diet*)
 - 1 tablespoon of sugar, honey or corn syrup
 - 8 ounces of nonfat or 1% milk
 - Hard candies, jellybeans or gumdrops (*see package to determine how many to eat*)

* This is a general reference. Your diabetes care team may set different blood glucose ranges for you.

Understanding diabetes and injection therapy references

References: 1. American Diabetes Association. Common terms. Accessed July 25, 2017 at <http://www.diabetes.org/diabetes-basics/common-terms/>. 2. American Diabetes Association. Diagnosing diabetes and learning about prediabetes. Accessed July 25, 2017 at <http://www.diabetes.org/are-you-at-risk/prediabetes/>. 3. American Diabetes Association. Type 1 diabetes. Accessed July 25, 2017 at <http://www.diabetes.org/diabetes-basics/type-1/>. 4. American Diabetes Association. Facts about type 2. Accessed July 25, 2017 at <http://www.diabetes.org/diabetes-basics/type-2/facts-about-type-2.html>. 5. American Diabetes Association. What is gestational diabetes? Accessed July 25, 2017 at <http://www.diabetes.org/diabetes-basics/gestational/what-is-gestational-diabetes.html>. 6. American Diabetes Association. Gestational diabetes—lower your risk. Accessed November 16, 2017 at <http://www.diabetes.org/are-you-at-risk/lower-your-risk/gdm.html>. 7. Marik PE, Bellomo R. Stress hyperglycemia: an essential survival response! *Crit Care*. 2013;17(2):305. 8. Tamez-Pérez HE, Quintanilla-Flores DL, Rodríguez-Gutiérrez R, González-González JG, Tamez-Peña AL. Steroid hyperglycemia: Prevalence, early detection and therapeutic recommendations: A narrative review. *World J Diabetes*. 2015;6(8):1073-1081. 9. American Diabetes Association. Diabetes symptoms. Accessed July 25, 2017 at <http://www.diabetes.org/diabetes-basics/symptoms/>. 10. American Diabetes Association. Diabetes complications. Accessed July 25, 2017 at <http://www.diabetes.org/living-with-diabetes/complications/>. 11. Stratton IM, Adler AI, Neil HA, et al. Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. *BMJ*. 2000;321(7258):405-412. 12. American Diabetes Association. Healthy ABCs. Accessed July 16, 2017 at <http://www.diabetes.org/living-with-diabetes/complications/heart-disease/healthy-abcs.html>. 13. American Diabetes Association. All about blood glucose. Accessed September 12, 2017 at https://professional.diabetes.org/sites/professional.diabetes.org/files/media/All_about_Blood_Glucose.pdf. 14. American Diabetes Association. High blood pressure. Accessed July 26, 2017 at <http://www.diabetes.org/are-you-at-risk/lower-your-risk/bloodpressure.html>. 15. American Diabetes Association. All about cholesterol. Accessed July 26, 2017 at <http://www.diabetes.org/are-you-at-risk/lower-your-risk/cholesterol.html>. 16. American Diabetes Association. Food & fitness. Accessed July 28, 2017 at <http://www.diabetes.org/food-and-fitness/>. 17. American Diabetes Association. Oral medication. Accessed July 28, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/oral-medications/>. 18. American Diabetes Association. What are my options? Accessed July 28, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/oral-medications/what-are-my-options.html>. 19. American Diabetes Association. Insulin storage and syringe safety. Accessed November 7, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/insulin/insulin-storage-and-syringe-safety.html>. 20. American Diabetes Association. Other injectable medications. Accessed July 28, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/insulin/other-injectable-medications.html>. 21. Medscape. Two new combination injectable drugs for type 2 diabetes coming to market. Accessed September 12, 2017 at <http://www.medscape.com/viewarticle/874537>. 22. Centers for Disease Control and Prevention. Basics about diabetes. Accessed February 1, 2017 at <https://www.cdc.gov/diabetes/basics/diabetes.html>. 23. American Diabetes Association. Insulin routines. Accessed July 28, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/insulin/insulin-routines.html>. 24. Diabetes.co.uk. Basal bolus – basal bolus injection regimen. Accessed September 12, 2017 at <http://www.diabetes.co.uk/insulin/basal-bolus.html>. 25. American Diabetes Association. Blood glucose testing. Accessed February 1, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/>. 26. American Diabetes Association. Hyperglycemia (*high blood glucose*). Accessed March 9, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/hyperglycemia.html>. 27. Mayo Clinic. Hyperglycemia in diabetes. Accessed September 12, 2017 at <http://www.mayoclinic.org/diseases-conditions/hyperglycemia/basics/definition/con-20034795>. 28. American Diabetes Association. Hypoglycemia (*low blood glucose*). Accessed March 9, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/hypoglycemia-low-blood.html>. 29. Mayo Clinic. Hypoglycemia. Accessed May 31, 2017 at <http://www.mayoclinic.org/diseases-conditions/hypoglycemia/basics/causes/con-20021103>.



The importance of proper injection technique

How you inject matters

There's a lot to think about when you're injecting insulin—handling your supplies, getting your dose right, choosing an injection site, following all the steps your diabetes care team taught you and getting rid of the sharps (*directions for which vary by county and state*). It's all important to managing your diabetes. In fact, recent recommendations from diabetes experts state that proper injection technique is *essential* to achieve optimal diabetes control.¹

In this section, you'll learn more about:

- Overcoming injection anxiety
- How to inject insulin using different devices
- Why needle length affects how you inject
- How to properly rotate injection sites
- Tips for reducing your risk of developing lipohypertrophy
- Safe medical sharps disposal
- Common questions from people living with diabetes

Managing injection anxiety

It's natural to feel anxiety or fear about injecting insulin.²

Communication is key¹

Feeling anxious about injections? Don't hold back.

You and your diabetes care team can explore and discuss all your feelings—bad and good—about injecting insulin.

Anxiety is a normal feeling when starting *any* new treatment, and your diabetes care team is there to help you through the learning process and make sure that you're comfortable injecting insulin to manage your diabetes. Practice injecting with your healthcare provider until you're fully comfortable giving yourself injections. Injection practice could include demonstration devices or trial injections with saline. Injection demonstration videos are also available online.

Injecting insulin and other medications

You and your diabetes care team have several options to consider for injecting or infusing insulin or other medications. It's recommended that you and your diabetes care team work together, as equal partners, to choose the method that's the best fit for you and your lifestyle.¹

Insulin delivery options



Insulin syringe and vial

Many people inject with an insulin syringe—a hollow plastic tube with a plunger inside and a needle on the end—and vial of insulin.³



Insulin pen

An insulin pen is a convenient device that lets you dial up your insulin dose and then inject it through a needle. Insulin pens can either be prefilled with insulin and disposable, or reusable with insulin cartridges.³ Pen needles do not come with the insulin pen and, just like insulin syringes, require a separate prescription.



Insulin pump

About the size of a cell phone, an insulin pump is a small, computerized device that delivers insulin into your body via a thin tube called a catheter. Insulin pumps can be programmed to closely mimic your body's normal release of insulin.⁴

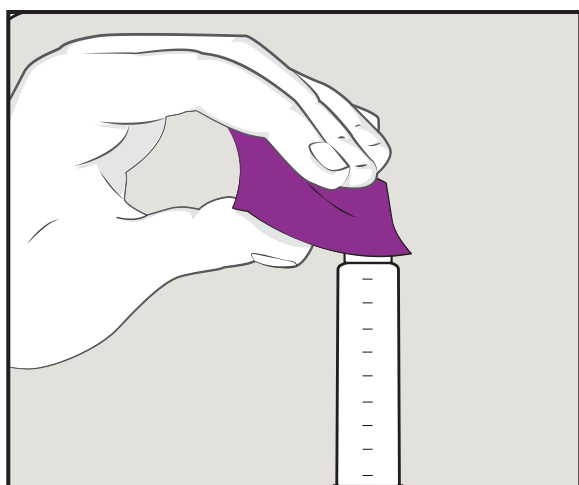
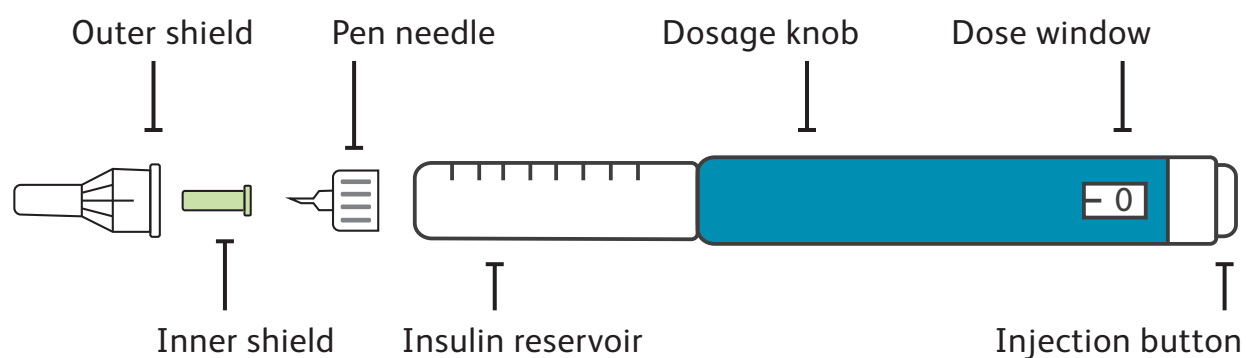


Patch pump

An insulin patch pump is a small device that sticks directly to your body—so no catheter is needed—and infuses insulin through a tiny cannula into your skin.⁵

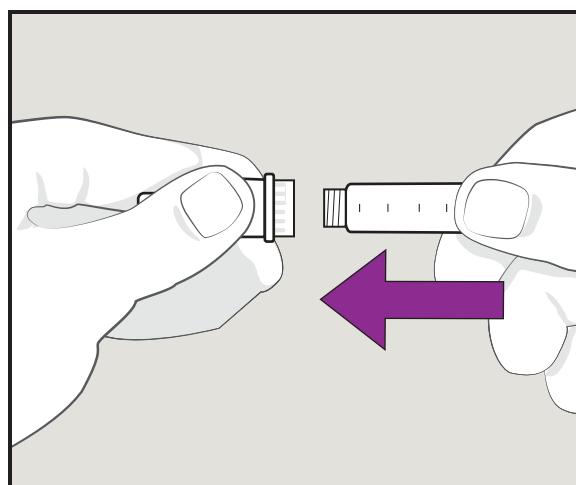
How to inject with a 4 mm pen needle*

Parts of a pen needle



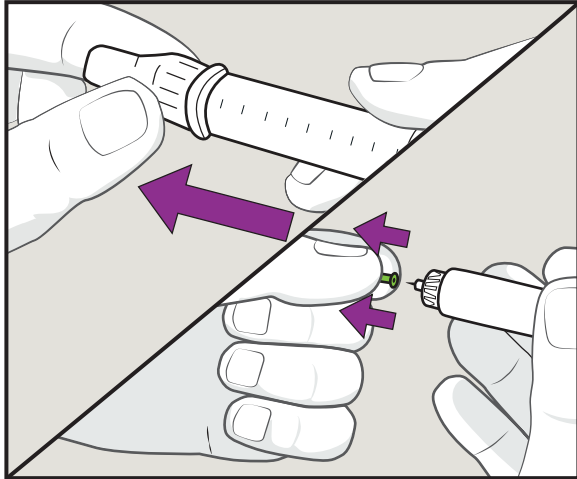
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Arrange your supplies.
Remove the pen cap and wipe the stopper.

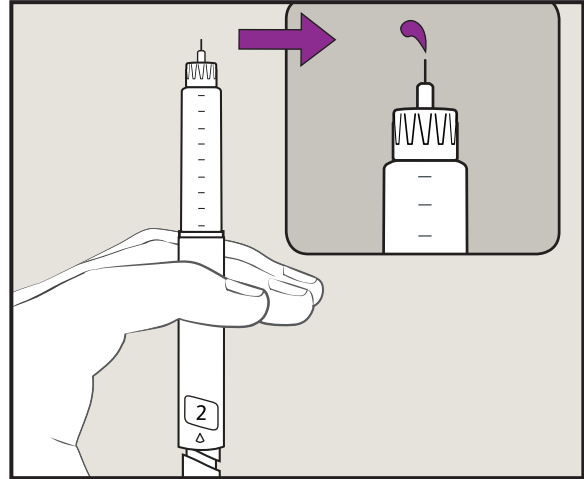


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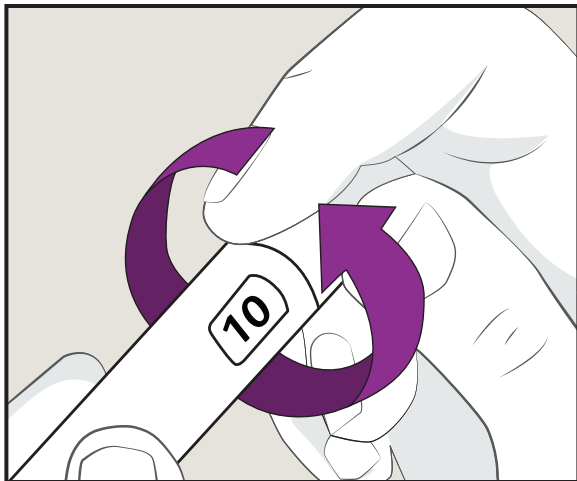
Wash your hands. Remove the seal and push the new needle **straight onto the pen**. **Do not put the needle on at an angle.** Screw it on tight.



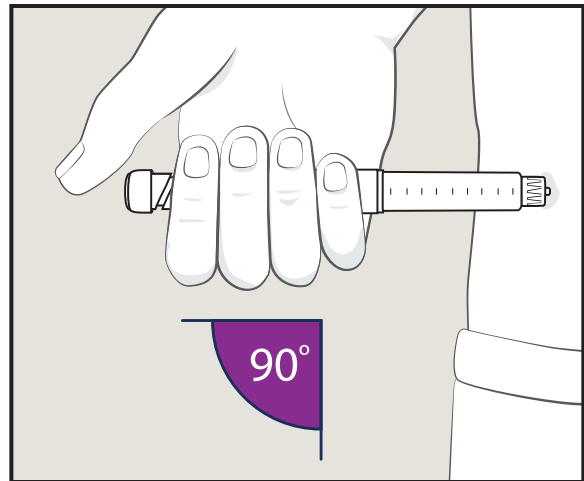
- 3** Remove the outer shield, then remove the inner shield.



- 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.



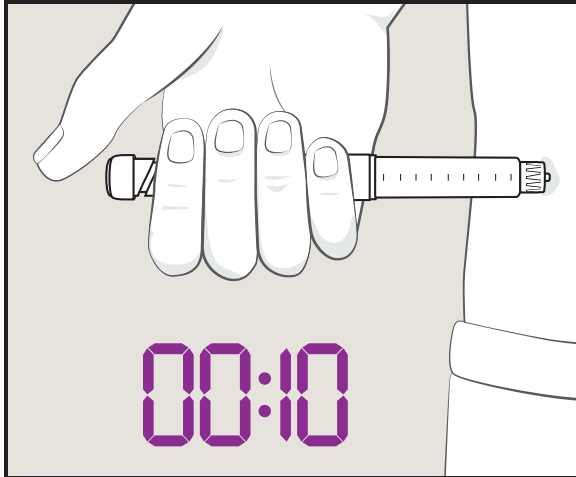
- 5** Dial your medication dose. Clean a small area of skin. Ensure the skin surface is completely dry before injecting.



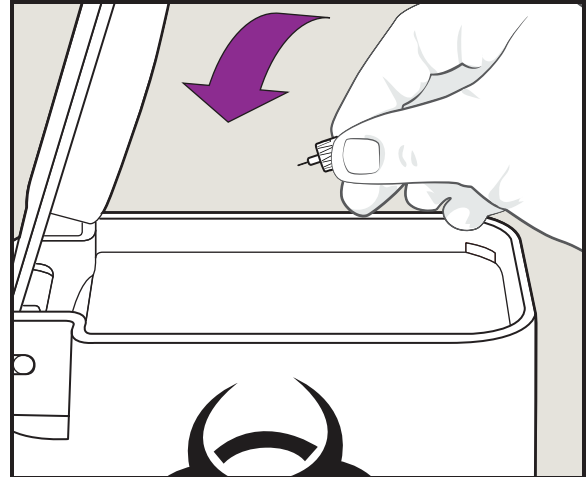
- 6** Inject straight in at a 90° angle.[†]

* Always check your pen manufacturer's Instructions for Use and your insulin expiration date.

[†] Consult the Instructions for Use and/or your healthcare provider about proper injection technique.



- 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.

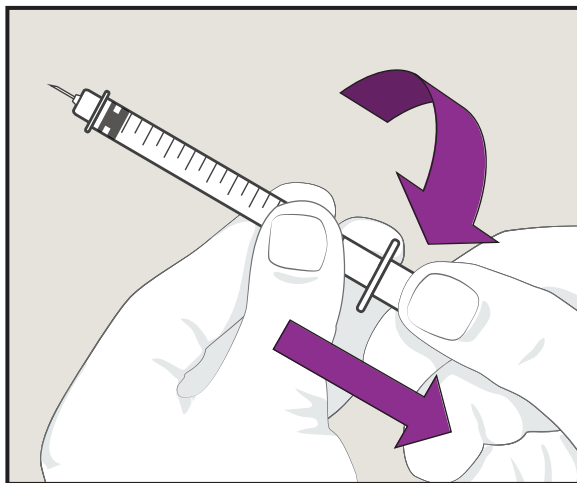
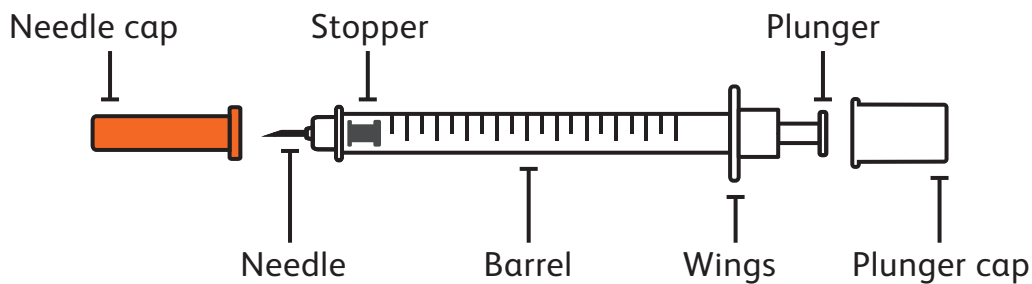


Ask your diabetes care team about BD Nano™ 4mm x 32G Pen Needles

The shortest pen needles currently available from BD!

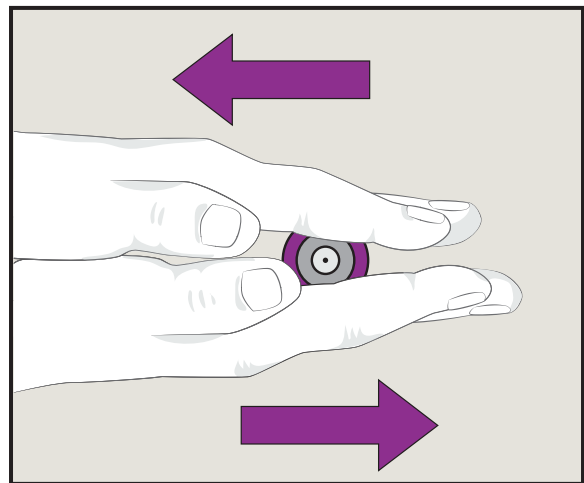
How to inject with a 6 mm insulin syringe needle

Parts of an insulin syringe



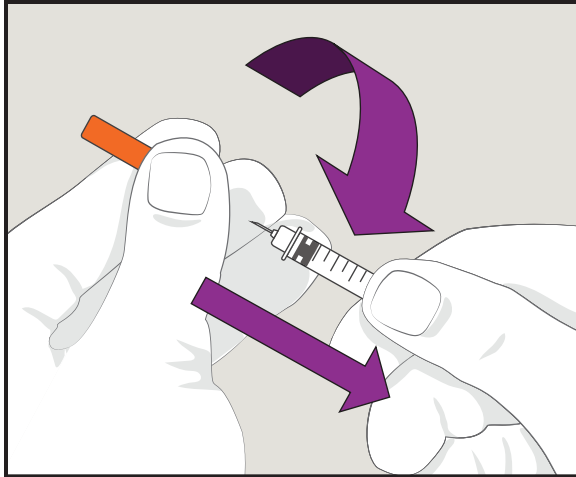
1

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.**

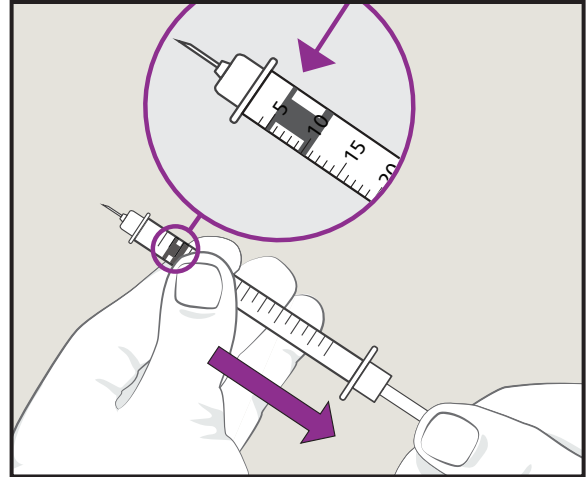


2

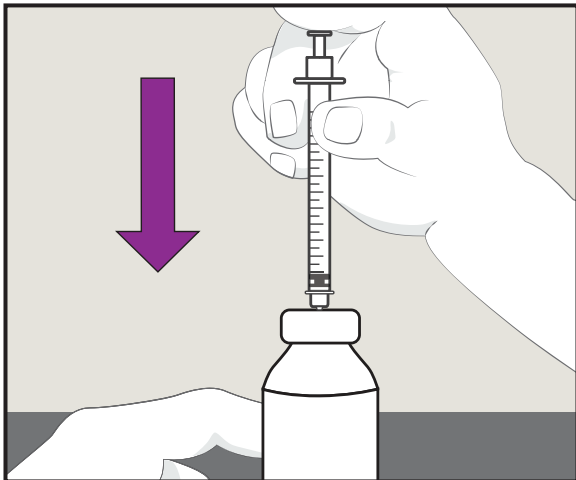
If you are taking cloudy insulin, roll the bottle between your hands until it is uniformly cloudy. To avoid the formation of air bubbles, **do not shake** the bottle of insulin.



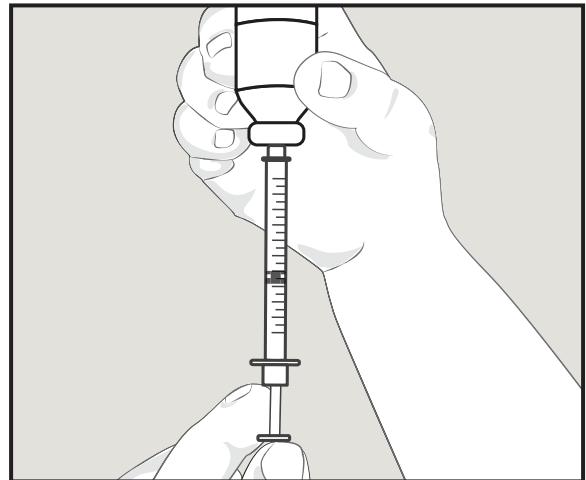
- 3** To expose the needle, **twist the orange needle shield then pull it straight off**, being careful not to bend the needle or let the needle touch anything.



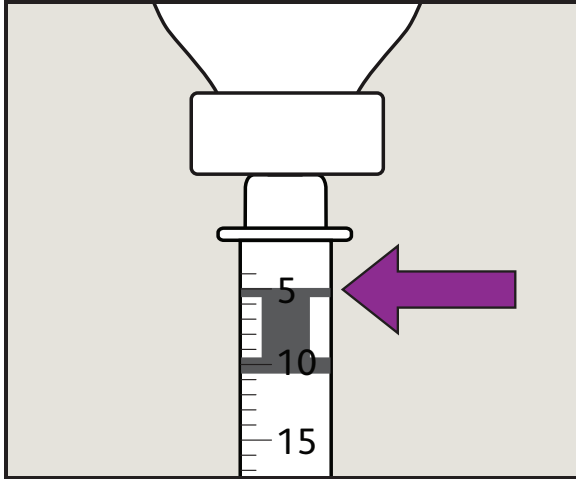
- 4** Pull the insulin syringe plunger down; align the thin black line of the plunger (closest to the needle) with the desired number of units on the insulin syringe. You need air in the insulin syringe equal to the amount of insulin you will take.



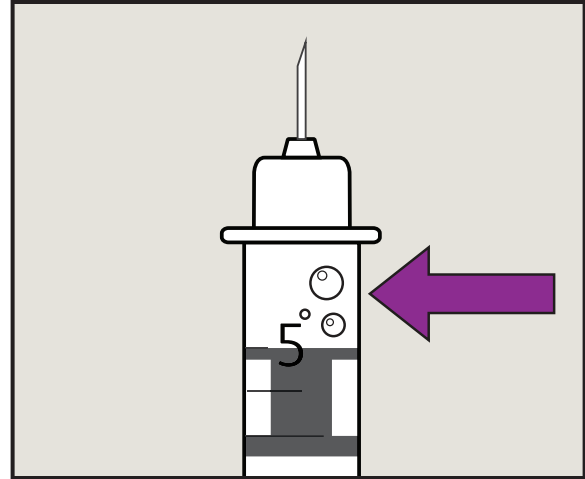
- 5** Hold the insulin syringe like a pencil. Push the needle straight through the center of the rubber top of the insulin bottle and **push the plunger down completely**.



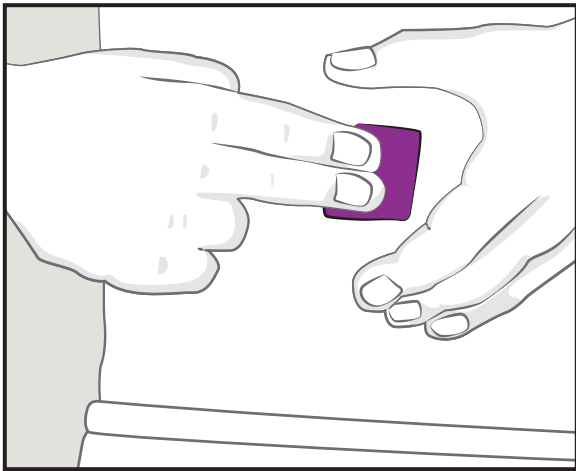
- 6** Leave the needle in the insulin bottle. Carefully **turn the bottle and the insulin syringe upside down** so the bottle is on top.



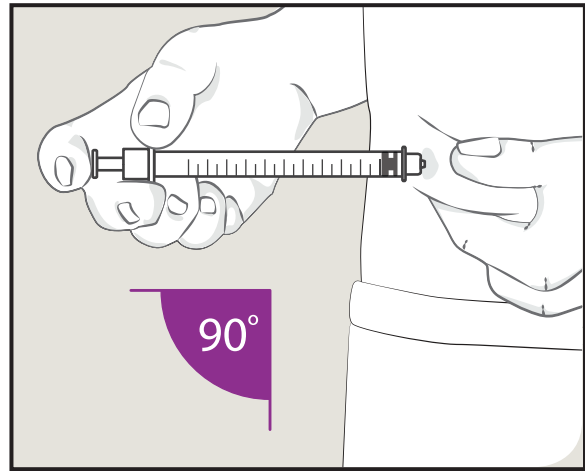
- 7** Pull the plunger down slowly. Align the thin black line of the plunger (*closest to the needle*) with the **desired number of units** on the insulin syringe.



- 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.

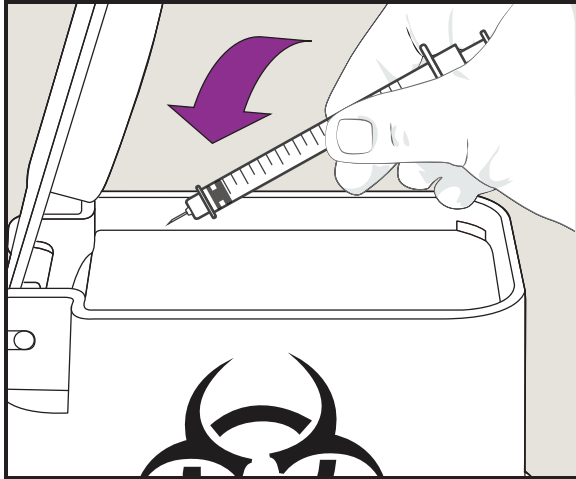


- 9** Confirm the dose is correct, and then **clean a small area of skin**. Let it dry completely before injecting.



- 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.

* Consult the Instructions for Use and/or your healthcare provider about proper injection technique.



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

Choosing the correct insulin syringe barrel capacity

Insulin syringes come in various barrel capacities (*or sizes*) to hold different amounts of insulin. You should choose a capacity big enough to deliver your insulin dose.

Dosage units	Up to 25 units		26–45 units	46–100 units
Recommended insulin syringe capacity	0.3 mL (Half-unit scale)	or 0.3 mL (one-unit scale)	0.5 mL	1 mL

Where possible, keeping the barrel size at least 5 units larger than your dose helps minimize both *plunger pull-out* and potential medication waste. It also makes it easier for your healthcare provider to increase your dose without requiring you to get a larger-capacity insulin syringe.



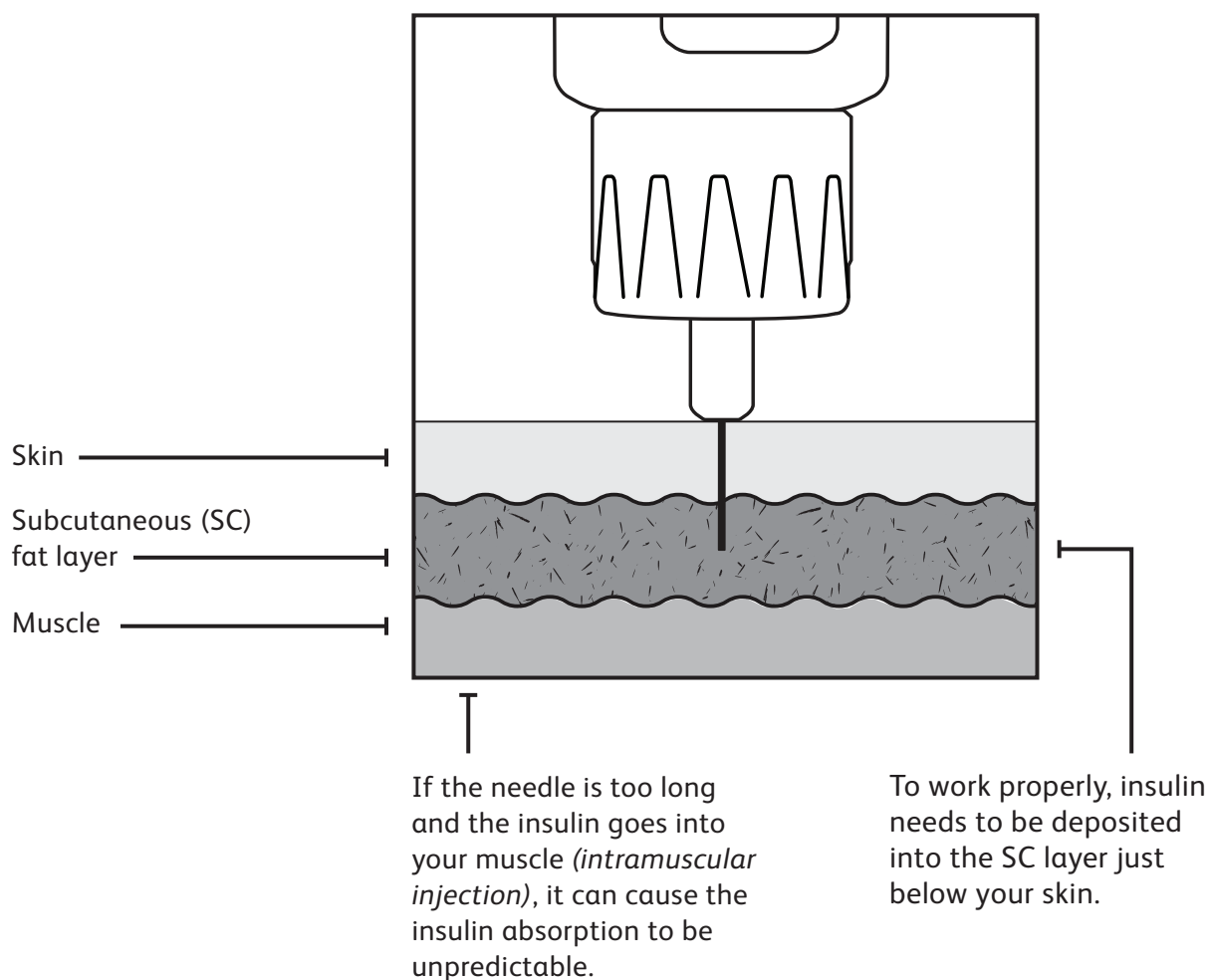
Ask your diabetes care team about BD Insulin Syringes with the BD Ultra-Fine™ 6mm needle

The shortest insulin syringe needles currently available from BD!

Needle length and injection technique

The length of the needle you use to inject insulin has a very important impact on how you inject. Recent recommendations from diabetes experts state that all people should inject with the shortest needles available.¹

Why it's important to use the shortest needle¹



The risks of intramuscular injection¹

Accidentally injecting insulin into your muscle changes how it works in your body, leading to complications that affect your blood sugar control and overall diabetes management:



Blood sugar control

Unpredictable action of insulin in your body can cause unpredictable and shifting blood sugar levels—including excessive swings between highs and lows.



Hypoglycemia

Unpredictable insulin action can also lead to frequent and unexplained low blood sugar (*hypoglycemia*), which can be dangerous if it takes you by surprise.

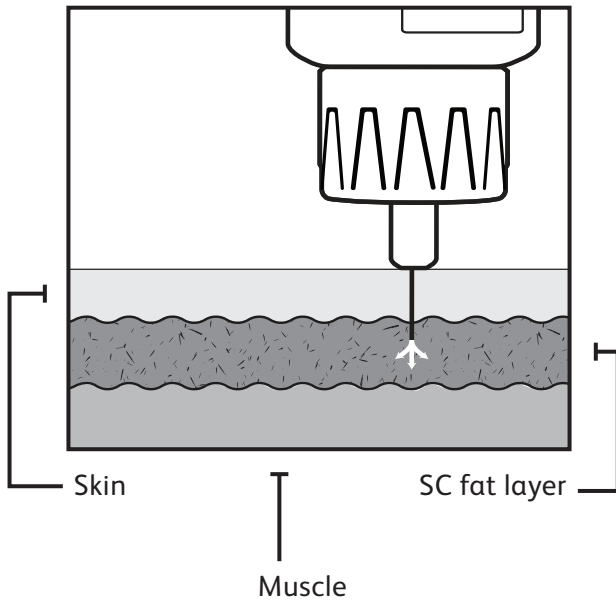


Use the correct technique for your length of needle^{6*}

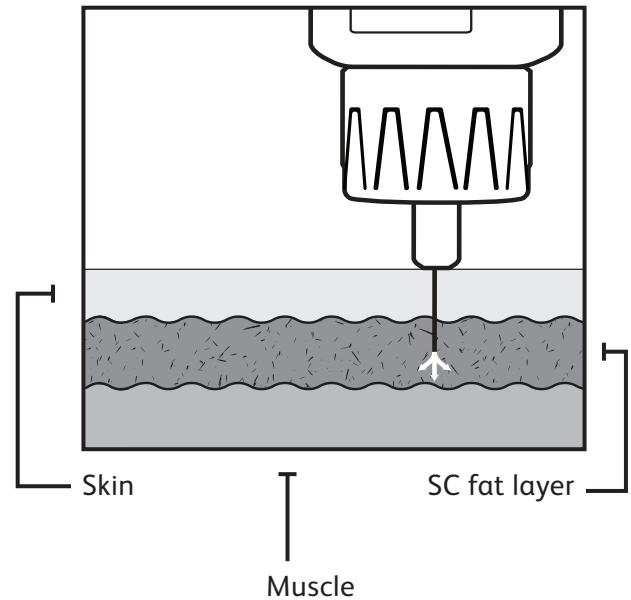
Pen needle

You don't need to use a pinch-up technique. Inject at 90° (*straight in*) to your skin.

4 mm



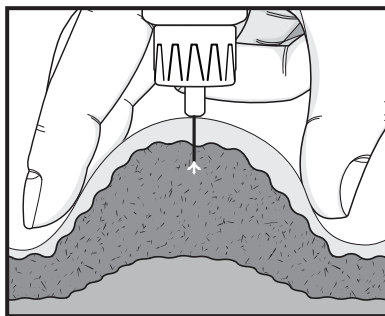
5 mm



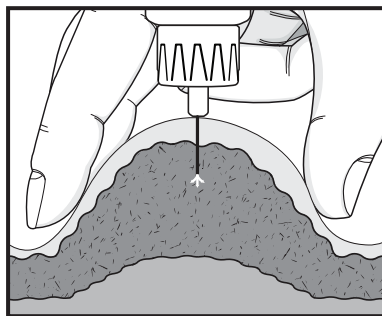
Pen or insulin syringe needle

Use a pinch-up technique. Inject at 90° (*straight in*) to the pinch-up.

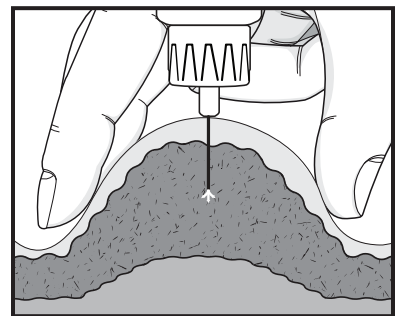
6 mm



8 mm

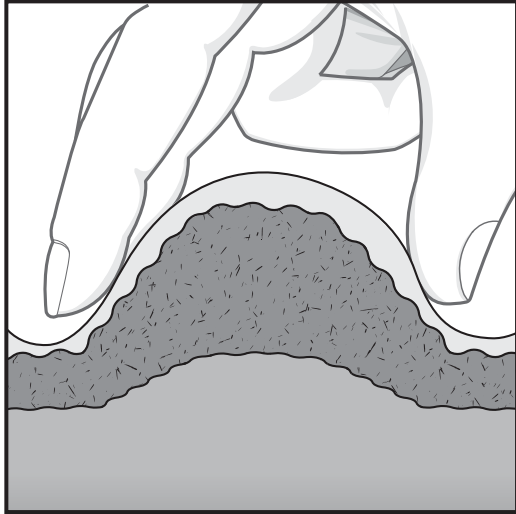


12.7 mm



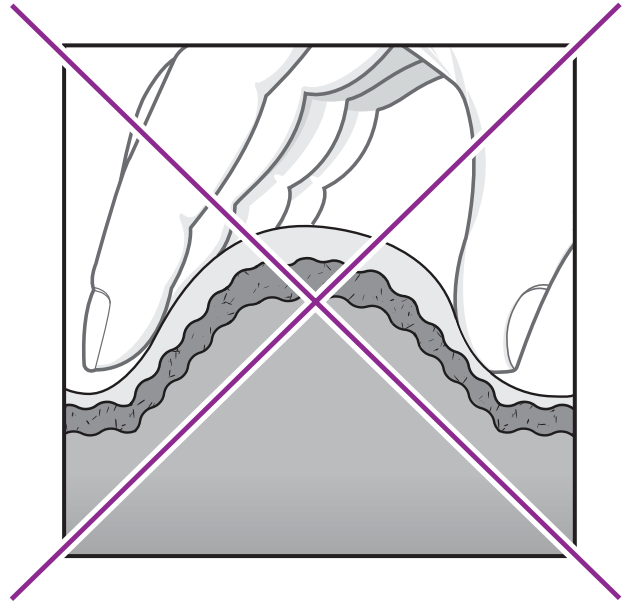
* Consult the Instructions for Use and/or your healthcare provider about proper injection technique.

How to do a correct pinch-up technique¹



Correct technique

A correct pinch-up is made by lifting the skin with the thumb and index finger.¹



Incorrect technique

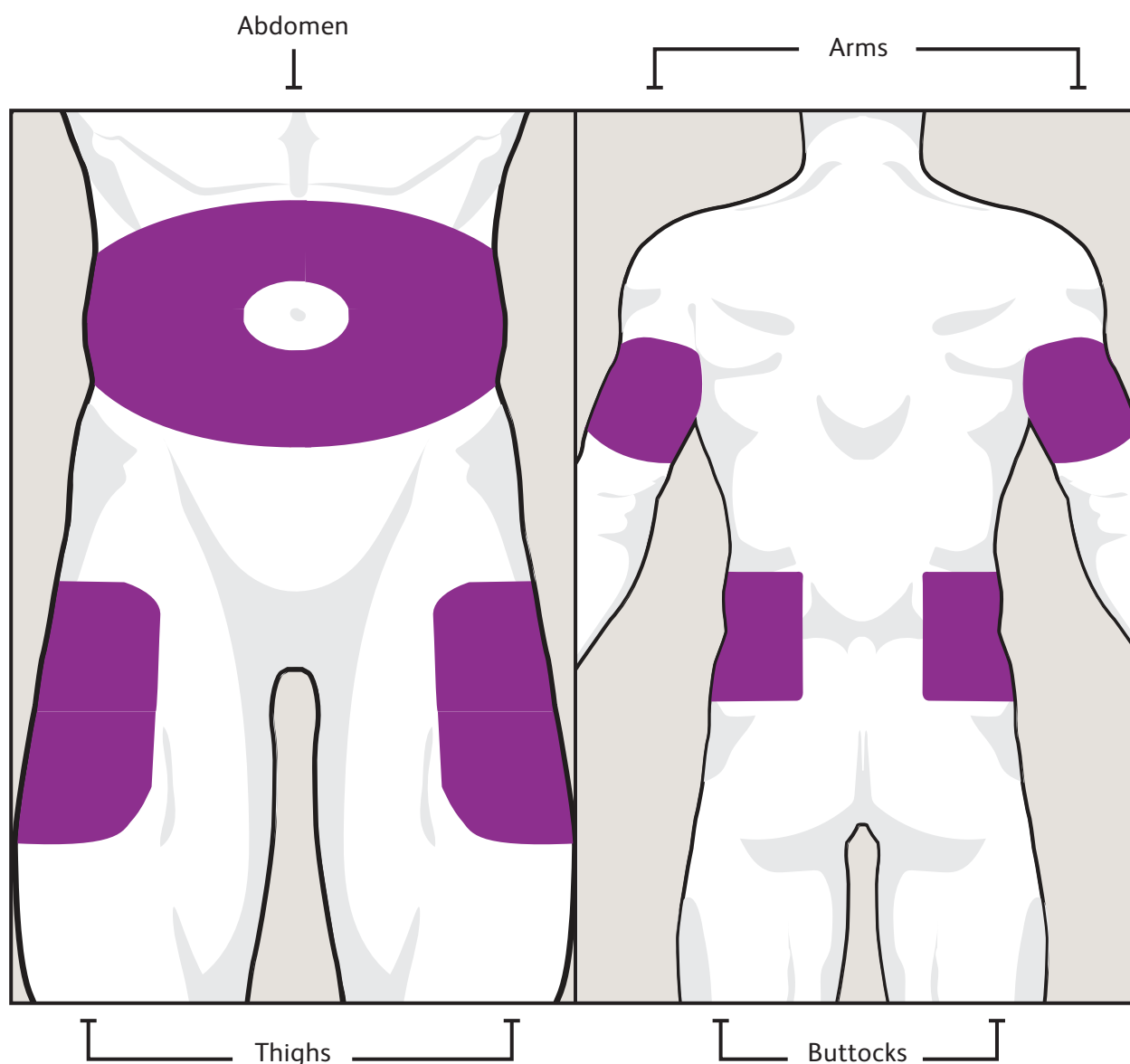
If the skin is lifted using the whole hand, muscle may be lifted as well as fat tissue, which can lead to intramuscular injections.¹

Injection site rotation

There are several areas on your body that are recommended for injecting insulin—and you can use as many as possible. Diabetes experts recommend consistent injection site rotation as the best way to keep your injection sites healthy.¹

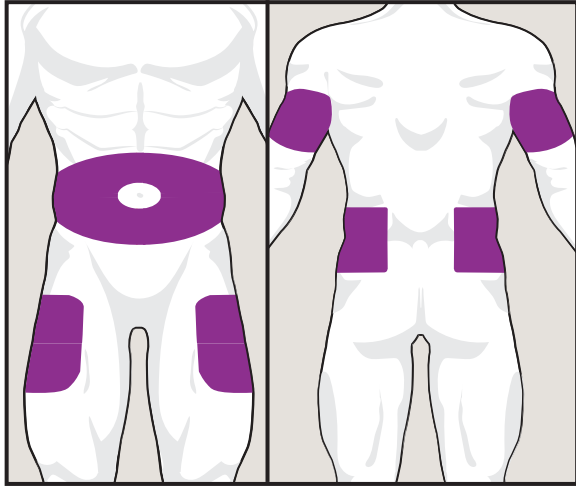
Where can I inject?

It's generally recommended that you inject insulin into your:

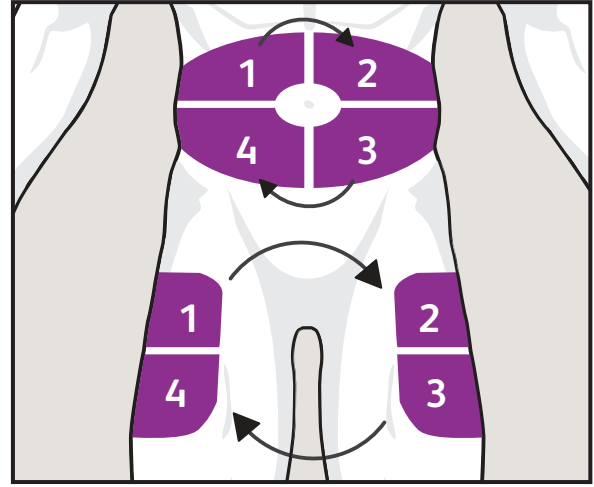


Talk to your diabetes care team about the best injection areas for you.

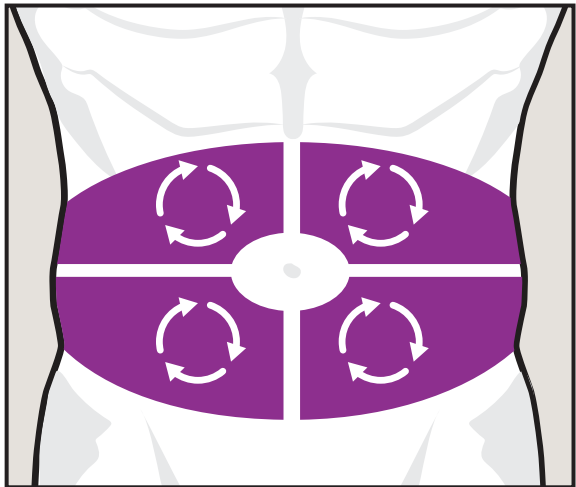
Always rotate your injection sites¹



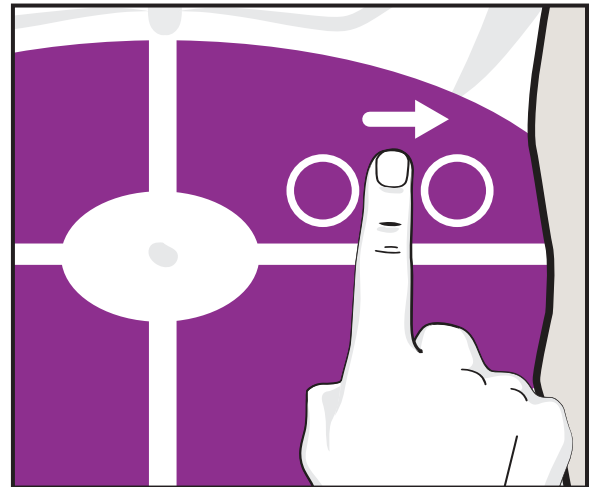
1 Choose an area.



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.



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



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



Why is it important to always *replace and rotate*?¹

Following these two simple steps with every injection can reduce your risk of developing lipohypertrophy—unhealthy lumps and bumps that can form under the skin of people who inject insulin or other diabetes medications (*learn more on p.47*).

Lipohypertrophy (*lipo*)

Lipo is one of the most common complications of insulin injections.

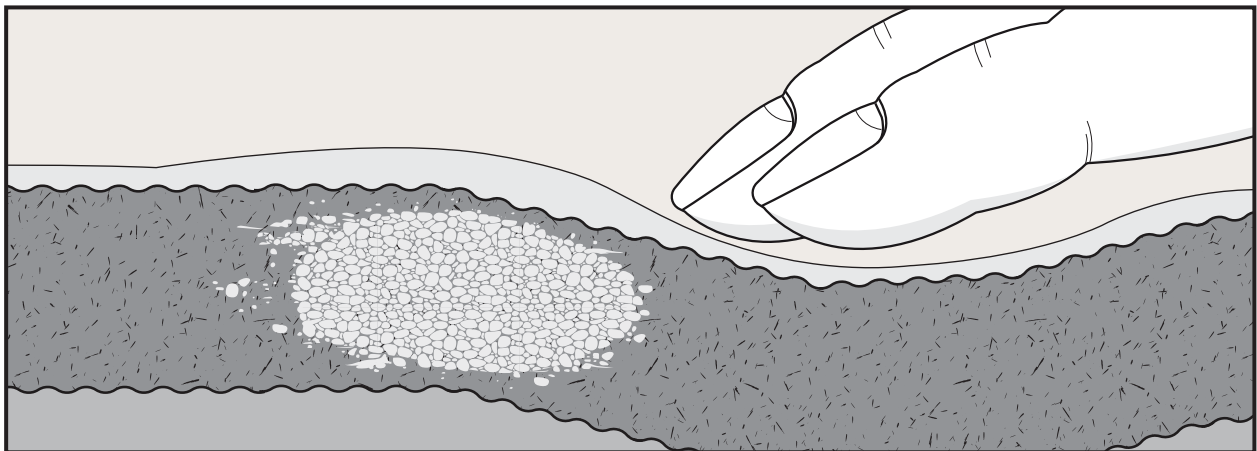
Type 1 diabetes

76% of patients had lipo⁷



What is lipo?⁷

Lipo is a thickened, rubbery swelling under the skin that can happen to people where they inject insulin. These lumps may be soft or firm. Because it is under the skin, you may not always be able to see lipo—you may have to press on your skin to feel it.



What causes lipo?⁸

There are three risk factors that make people more likely to develop lipo:

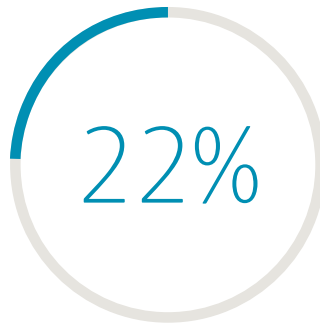
1. Using insulin for a longer period of time
2. Not rotating injection sites correctly
3. Reusing needles

What happens when you inject into lipo?

If you inject into lipo, your insulin may not be absorbed into your body smoothly and consistently. This can affect your blood glucose control.¹

In a scientific study

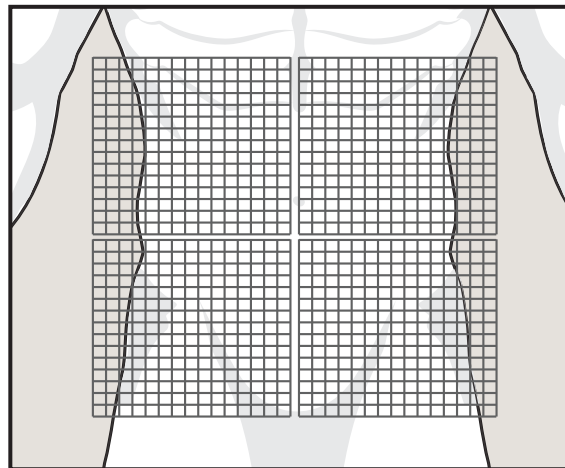
More than 1/5 of the insulin injected into lipo **was not absorbed into the body**⁹



Tracking and managing lipo¹

If you have lipo at your injection sites, you can use a tracking tool with a grid to mark them—and then avoid injecting into them until they heal. Ask your healthcare provider to examine sites at each visit, or at least every year.

Work with your diabetes care team to track any lipo that you do have, and follow their instructions on how to manage it. You may need to change how much insulin you inject and where.



Preventing lipo¹

It's important that you keep your injection sites healthy by preventing lipo. There are two ways you can prevent lipo with every injection:



Replace your needle every time you inject.

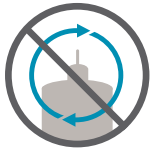


Always rotate injection sites.

Safe sharps disposal

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 practice safe disposal.¹

Always safely dispose of used needles



After use, needles should be disposed of immediately. Pen needles should not be left attached to the pen, and should not be recapped. Otherwise, air or other contaminants can enter the cartridge or medication can leak out. These can affect the accuracy of your dosing.¹



Always dispose of sharps in a medical sharps container. These containers should be clearly labeled with a warning such as, “Needles may seriously damage the health of others. Please ensure their safe disposal.”¹



Used sharps should never be discarded directly into household or public trash. They are a major accidental needlestick risk to others.^{1,10}



Teach your family, caregivers and service providers (e.g., *child care and sanitation workers*) about safe sharps disposal.

It's important for everyone involved to understand the risks of accidental needlestick injury.¹

Check your local guidelines

Guidelines for the safe and environmentally responsible disposal of medical waste like used sharps vary across the country. You can find more information and confirm your local rules by visiting the U.S. Environmental Protection Agency at [epa.gov/rcra/medical-waste](https://www.epa.gov/rcra/medical-waste).



Ask your diabetes care team about the BD home sharps container

Designed to hold insulin syringes, pen needles and lancets.



Ask your diabetes care team about the BD Safe-Clip™ device

A portable device that helps you safely and easily clip insulin syringe needles and pen needles.

Frequently asked questions about common injection issues

Talk to your diabetes care team about any issues you're having, but some of these FAQs may help you overcome common issues.



Why are my injections uncomfortable?¹

There are several steps you can take to have more comfortable injections:

- Use the shortest available needle. Diabetes experts recommend them as safe, effective and less painful for all types of people (*compared to longer needles*).
- Check your injection technique to make sure you're not accidentally giving yourself an intramuscular injection. They are less comfortable than proper subcutaneous injections, and can lead to poor blood sugar control and unexplained hypoglycemia.
- Always use a new needle for each injection. Studies have found an association between needle reuse and injection discomfort or bleeding.
- Inject your insulin when it's at room temperature. Injecting insulin while it's still cold from the fridge is less comfortable.



Why does insulin drip from the needle after injection?¹

Insulin dripping from the needle means that your full dose has not been delivered.



- If you use an insulin pen, be sure to count for 10 seconds after the thumb button is pressed all the way down before you remove the needle from your skin.
- If you're taking large doses of insulin, it may be helpful to split them and inject less per injection (*but still take your total dose*).



Why does insulin leak from my injection site after injection?¹

A small amount of leakage (*a tiny pearl of liquid*) can generally be ignored because it's an insignificant amount, but you can reduce the risk of injection site leakage by:

- Using needles with thin-wall or extra-thin-wall technology.
- Counting to 10 after the plunger or thumb button is fully depressed before removing the needle from your skin.
- Checking your injection technique with your diabetes care team—it's possible you're making a mistake that's causing the leakage.



Why are there bubbles in my insulin syringe or pen?¹

Bubbles in your insulin aren't dangerous, but they can affect the accuracy of your dosing.

- If you use an insulin syringe, tap on the barrel to make the bubbles rise to the surface. Push the plunger (*injecting the insulin back into the vial*) to remove the bubbles, and slowly draw up your dose again.
- If you use an insulin pen, don't leave the needle attached to the pen. This can allow air bubbles (*and other contaminants*) into the cartridge and affect your dose accuracy.
- If you're mixing cloudy insulin to resuspend it, don't shake it vigorously. This can cause bubbles. Gently roll or tip it back and forth ten times instead.



Why is my insulin syringe or pen clogged?¹

If you find you can't press down the thumb button on your insulin pen or plunger on your insulin syringe, the needle may be clogged or blocked.

- Throw out that dose and start again with a new pen needle or insulin syringe.
- Always use a new needle for every injection.
- Make sure cloudy insulin is properly mixed before injecting.
- If you use an insulin syringe, fill it close to injection time. If left sitting, insulin can dry inside the needle.
- If you use an insulin pen, always prime it with the 2-unit air shot before injecting (*following the manufacturer's instructions*) to ensure a free flow of medication.



The importance of proper injection technique references

References: 1. Frid AH, Kreugel G, Grassi G, et al. New insulin delivery recommendations. *Mayo Clin Proc.* 2016;91(9):1231-1255. 2. American Association of Diabetes Educators. Injection impact report: survey results. Accessed July 29, 2017 at <http://www.injectionimpact.com/surveyresults.html>. 3. American Diabetes Association. Insulin routines. Accessed July 28, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/insulin/insulin-routines.html>. 4. American Diabetes Association. Insulin pumps. Accessed July 29, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/insulin/insulin-pumps.html>. 5. Diabetes Forecast. How insulin pumps work. Accessed July 19, 2017 at <http://www.diabetesforecast.org/2014/09-sep/how-insulin-pumps-work.html>. 6. Gibney MA, Arce CH, Byron KJ, Hirsch LJ. Skin and subcutaneous adipose layer thickness in adults with diabetes at sites used for insulin injections: implications for needle length recommendations. *Curr Med Res Opin.* 2010;26(6):1519-1530. 7. Blanco M, Hernández MT, Strauss KW, Amaya M. Prevalence and risk factors of lipohypertrophy in insulin-injecting patients with diabetes. *Diabetes Metab.* 2013;39(5):445-453. 8. Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Worldwide injection technique questionnaire study: injecting complications and the role of the professional. *Mayo Clin Proc.* 2016;91(9):1224-1230. 9. Famulla S, Hövelmann U, Fisher A, et al. Insulin injection in lipohypertrophic tissue: blunted and more variable insulin absorption and action and impaired postprandial glucose control. *Diabetes Care.* 2016;39(9):1486-1492. 10. Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Worldwide injection technique questionnaire study: population parameters and injection practices. *Mayo Clin Proc.* 2016;91(9):1212-1223.



Healthy living with diabetes

Live your life and manage your diabetes at the same time

Healthy living with diabetes is about more than medication and blood glucose levels—eating right and being active play a big part in helping you achieve your goals. But that doesn't mean your diet has to be boring and exercise has to be work. You can learn to make delicious and fun lifestyle changes that also help manage your diabetes.¹

In this section, you'll learn more about:

- Healthy eating and meal planning
- Activity and exercise
- Diabetes-friendly travel tips
- Managing diabetes when you're sick

Healthy eating

Meal planning doesn't need to be a chore when you're living with diabetes. You just need to make smart choices to eat balanced meals and enjoy healthy snacks. The more you know about the food you're eating, the easier those choices will be.²

The Create Your Plate method

The American Diabetes Association recommends you follow this simple guide to create endless healthy meal combinations that are diabetes-friendly and help you keep your carbohydrate intake about the same for every meal.^{2,3}

1/4

Protein

- Pork
- Chicken
- Fish

1/4

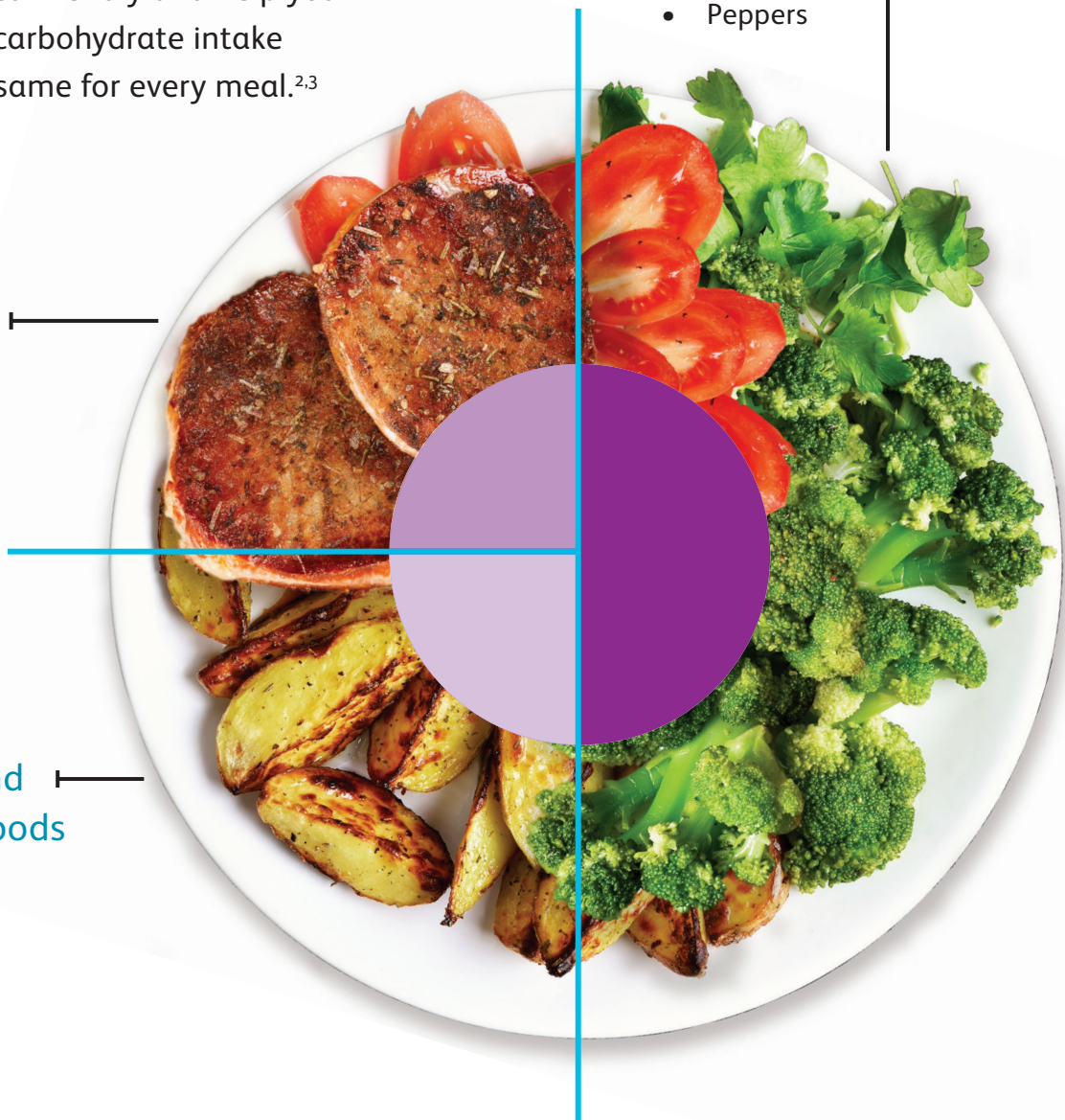
Grains and starchy foods

- Corn
- Potato
- Quinoa

1/2

Non-starchy vegetables

- Carrots
- Spinach
- Peppers





Drink

- Water
- Unsweetened tea or coffee



Fruit and dairy

One serving of either one, or both, as your diet allows

A more advanced form of meal planning is called carbohydrate counting. This method requires you to count the number of carbohydrate grams in a meal to calculate your dose of insulin. Talk to your healthcare team—including your dietitian—about the best options for you.



These are just a few examples of the foods you can enjoy with the *Create Your Plate* method.

Activity and exercise*

Get moving—it's good for your whole body! Exercise not only helps your body use insulin better, it also strengthens your heart and bones, improves blood circulation, lowers blood glucose and blood pressure, improves cholesterol levels and relieves stress.⁴



Aerobic exercise⁴

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. Remember to avoid a sedentary lifestyle and be sure to get up and move around every 30 minutes when sitting for long periods.

Examples of aerobic activities:

- Brisk walking
- Dancing
- Swimming
- Hiking
- Skating

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

Strength exercise⁴

The ADA also recommends strength training at least 2 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





Travel with diabetes

Living with diabetes doesn't have to keep you from exploring the world. With a little planning and preparation around your medications and treatment plan, you'll be set to take on whatever adventures your heart desires.

Make a travel checklist to make packing easier⁵

Packing for a trip is challenging at the best of times, and living with diabetes adds an extra layer of things to think about. Start planning what you'll pack well in advance with a list that includes items like:

- All your necessary diabetes medications
- Blood and urine testing supplies (*including extra batteries for your blood glucose meter*)
- Other medications and supplies (*e.g., glucagon, antidiarrheal medication, antibiotic ointment*)
- Your medical ID and diabetes identity card (*you can download a BD Diabetes Care Card at [LivingWithDiabetes.bd.com](https://www.livingwithdiabetes.com)*)
- A snack pack, including some form of sugar (*e.g., glucose tablets, hard candy*) to treat low blood sugar

Pack twice as many diabetes supplies as you'd normally need

Travel can be unpredictable, and it always helps to be prepared—or even over-prepared. Double up on everything on your travel checklist, and remember to pack it properly.⁵



Always carry your diabetes supplies in your carry-on. The cargo hold can get too cold for insulin at high altitudes, and there's always a risk of lost luggage. It's safer to keep your medications and testing supplies close at hand.^{5,6}



Protect your insulin from hot and cold temperature extremes. Use a travel pack to keep insulin cool, and keep your devices (e.g., *blood glucose meter*) out of direct sunlight^{5,6}



Bring supplies on your day trips. Even if you're just heading out for the afternoon, carry everything you need so that you're never caught unprepared when plans change.⁶



Be prepared for airport security

The U.S. Transportation Security Administration (TSA) allows diabetes-related supplies, equipment and medications (*including liquids*) through the security checkpoint once they've been properly screened by X-ray or hand inspection. There are a few steps you can take to help make the screening process go smoothly.⁷

- Check the TSA website ([tsa.gov](https://www.tsa.gov)) for the latest updates.⁷
- Arrive at the airport 2–3 hours early. You'll feel calmer if you're not rushing to catch your flight.⁷
- Wear or carry some form of medical identification, and consider printing and bringing a TSA Disability Notification Card (*available online*).⁷
- Pack all your medications separately in a clear, sealable bag for easier inspection. Separate it from your other carry-on luggage.⁷
- You're allowed to bring accessories to keep your insulin cool (*e.g., ice packs*), but be prepared, they may be subject to additional screening.⁸
- If you need to bring a medical liquid or gel that is greater than 3.4 ounces, separate it from your other medications and bring it to the attention of TSA agents.⁷
- Where possible, have prescription labels for all your medications. You can also bring a letter and extra prescription from your doctor.⁷



Diabetes and sick days

In response to the stress of illness, your body's natural reaction is to release sugar into the blood. If you're living with diabetes, that can cause problems with your blood sugar control—including dangerous blood sugar highs. That's why it's especially important for you to know how to look after yourself when you're feeling under the weather.⁹

Stock up on sick day supplies⁹

When you're feeling sick, the last thing you want to do is run out to the store to pick up all the supplies you need to look after yourself. That's why you should always keep your cupboard stocked with basic supplies that can help you manage your blood sugar and stay hydrated.

- A small supply of non-diet soft drinks
- Broth
- Applesauce
- Regular (*non-diet*) gelatin
- Blood sugar testing strips and extra batteries for your blood glucose monitor
- Urine ketone testing strips
- Thermometer

Test often⁹



Check your temperature

Check often to make sure you don't have a fever that lasts for more than a couple of days. It's easy to become dehydrated when you have a fever.



Check your blood sugar

When you're sick, you need to measure your blood sugar more often than usual.

- If you have type 1 diabetes, test every 4 hours.
- If you have type 2 diabetes, test 4 times per day.



Check your urine ketones

When you're sick, waste products can build up in your body and can lead to a dangerous condition called ketoacidosis.

- If you have type 1 diabetes, test your blood sugar and urine ketones every 4 hours.
- If you have type 2 diabetes, check your blood sugar 4 times per day and check your urine ketones if your blood sugar is higher than 300.

Keep taking your medications⁹

It's especially important when you're sick to keep taking all your medications as prescribed by your doctor—and maybe even modify them based on the sick-day plan you create with your healthcare team.

- You may need more insulin if your blood sugar is abnormally high.
- If you're not currently taking insulin, you may need to add it for a short time if you can't keep your blood sugar in target range.

Know when to call your healthcare team⁹

With a good plan and some preparation, you can be well equipped to look after yourself. But you should contact your healthcare team if:

- You've been sick or have a fever for a couple of days and aren't getting better.
- You've had diarrhea or been vomiting for more than 6 hours.
- You have moderate to large amounts of ketones in your urine.
- Your blood glucose levels are higher than 240 mg/dL even though you've taken extra insulin as outlined in your sick-day plan. Or, you've taken your pills but your blood sugar climbs to 240 mg/dL before meals and stays there for 24 hours or more.
- You have symptoms of ketoacidosis, dehydration or other serious conditions (*your chest hurts, you're having trouble breathing, your breath smells fruity, your lips or tongue are dry and cracked*).
- You cannot think clearly.
- You have blood glucose values less than 70 mg/dL.



Healthy living with diabetes references

References: 1. American Diabetes Association. Food & fitness. Accessed July 28, 2017 at <http://www.diabetes.org/food-and-fitness/>. 2. American Diabetes Association. Food. Accessed July 30, 2017 at <http://www.diabetes.org/food-and-fitness/food/>. 3. American Diabetes Association. Create your plate. Accessed July 28, 2017 at <http://www.diabetes.org/food-and-fitness/food/planning-meals/create-your-plate/>. 4. American Diabetes Association. What we recommend. Accessed July 28, 2017 at <http://www.diabetes.org/food-and-fitness/fitness/types-of-activity/what-we-recommend.html>. 5. American Diabetes Association. When you travel. Accessed June 5, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/when-you-travel.html>. 6. Neithercott T. 35 top tips for travel with diabetes. *Diabetes Forecast*. June 2016. Accessed June 5, 2017 at <http://www.diabetesforecast.org/2013/jun/35-top-tips-for-travel-with-diabetes.html>. 7. American Diabetes Association. What can I bring with me? Accessed June 5, 2017 at <http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/public-accommodations/air-travel-and-diabetes/what-can-i-bring-with-me.html>. 8. The TSA Blog. TSA travel tips: travelers with diabetes or other medical conditions. Accessed June 20, 2017 at <http://blog.tsa.gov/2014/04/tsa-travel-tips-travelers-with-diabetes.html>. 9. American Diabetes Association. When you're sick. Accessed June 5, 2017 at <http://www.diabetes.org/living-with-diabetes/treatment-and-care/whos-on-your-health-care-team/when-youre-sick.html>.



Diabetes resources

The diabetes community is here to support you

An estimated 30.3 million Americans are living with diabetes—just over 9% of the population. While that number is a reflection of the huge burden of diabetes, it also means that you're not alone. There is a massive community of people living with diabetes, their families, caregivers and diabetes care teams out there who are all trying their best to live healthier lives and support one another.¹

In this section, you'll learn more about:

- Creating a diabetes toolkit
- Diabetes communities and resources
- Connecting with BD

Diabetes communities and resources

Connect with online communities for a wealth of information and support.



Diabetes Innovations US (Facebook) **facebook.com/DiabetesInnovationsUS**

Join a supportive, welcoming Facebook community to learn more about insulin delivery and healthy living.



American Diabetes Association **diabetes.org**

Leading the fight against the deadly consequences of diabetes and fight for those affected by diabetes.



Juvenile Diabetes Research Foundation jdrf.org

The leading global organization funding type 1 diabetes research.



National Diabetes Education Program niddk.nih.gov

A federally funded program sponsored by the U.S. Department of Health and Human Services' National Institutes of Health and the Centers for Disease Control and Prevention working together to improve the treatment and outcomes for people with diabetes, promote early diagnosis, and prevent or delay the onset of type 2 diabetes.



American Association of Diabetes Educators **diabeteseducator.org**

A multidisciplinary professional membership organization dedicated to improving diabetes care through innovative education, management and support.



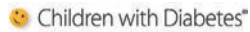
Academy of Nutrition and Dietetics eatright.org

Striving to improve the nation's health and advance the profession of dietetics through research, education and advocacy.



Taking Control of Your Diabetes tcoyd.org

Educates and motivates people with diabetes to take a more active role in their condition and provides innovative and integrative continuing education to medical professionals caring for people with diabetes.



Children with Diabetes childrenwithdiabetes.com

Provides support, education and inspiration to families and people of all ages living with diabetes.



DLife dlife.com

Established to address the overwhelming need for real, practical solutions to the 24/7 challenge of managing diabetes.



Diabetes Mine diabetesmine.com

We want to be your most trusted ally in your pursuit of health and well-being.



TuDiabetes tudiabetes.org

A space on the Web where people with diabetes or their loved ones can find support, help each other and share their experiences and what they do every day to stay healthy with this condition.



EsTuDiabetes estudiabetes.org

Un espacio en la web en el que las personas con diabetes o sus familiares encuentran apoyo, se ayudan unos a otros y comparten los pasos que hay que dar cada día para permanecer sanos viviendo con esta condición.

Connect with BD



BD Customer Support

1.888.BD.CARES
(1.888.232.2737)

Monday–Friday,
8 a.m.–8 p.m. EST



BD Diabetes Care

Information for people
with diabetes.

LivingWithDiabetes.bd.com



Diabetes Innovations US

Join a supportive, welcoming
Facebook community to
learn more about insulin
delivery and healthy living.



BD Diabetes Care

Watch educational videos
about diabetes and
innovative BD products.
Follow the BD Diabetes Care
channel on YouTube.

Diabetes resources references

Reference: 1. American Diabetes Association. Statistics about diabetes.
Accessed July 30, 2017 at <http://www.diabetes.org/diabetes-basics/statistics/>.

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