

Healthy Pregnancy Healthy Baby

Your Guide to Managing Gestational Diabetes



This guidebook created by LilyLink in partnership with leading diabetes educators, nutritionists, and perinatologists.

*Special thanks to Erin Davis, MS, RD, CDCES and
Christina Inteso, PharmD, BCACP, CDCES for their contributions to this work.*

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Every effort has been made in the preparation of this publication to provide the most up-to-date, accurate, and clearly presented information possible, according to the American Diabetes Association Standards of Care and American College of Obstetrics and Gynecology recommendations. Nevertheless, inadvertent errors in information may occur.

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When to call your doctor

Seek care immediately if:

- You become unresponsive or confused due to extremely low or high blood sugar.
- You experience severe and sudden abdominal pain or heavy vaginal bleeding.
- You have chest pain and/or shortness of breath.

If after hours, contact your provider's after hours line or your Labor and Delivery Department as per your physician's protocols" if you are experiencing any of the following:

- You have low (less than 60-65) or high (persistent over 180-250) blood sugar levels that you are unable to correct or do not know how to correct.
- You have a fever of 100.4 degrees F or higher, persistent nausea or vomiting or diarrhea, or difficulty breathing.
- You have extreme dizziness or fatigue.
- You have regular contractions, leakage of fluid from the vagina, vaginal bleeding, and/or decreased fetal movement.
- You have any other pregnancy concerns, even if not related to diabetes.
- Additional reasons to call:
 - High blood pressure
 - Severe headache
 - Abdominal pain.

***Be sure to mention that you have diabetes when you communicate your concerns to the on-call provider.**

Our Mission

Thank you for allowing us to come alongside you on your pregnancy journey. We understand this is an exciting time in your life, and we are honored to work with you. The mission of your care team is to empower you to confidently manage your pregnancy and gestational diabetes.

Managing diabetes during pregnancy takes great care and special attention and we want to give you peace of mind while ensuring the health of you and your baby. We want to provide you with the necessary information and practical tools you need to take an active role in your care.

This booklet is intended to be used as a reference alongside sugar monitoring technology and regular visits with a clinical provider. Together, we'll strive for the best outcomes for both you and your baby. We look forward to supporting you so that the rest of your pregnancy is a success!

Introduction to Gestational Diabetes

What is Gestational Diabetes?

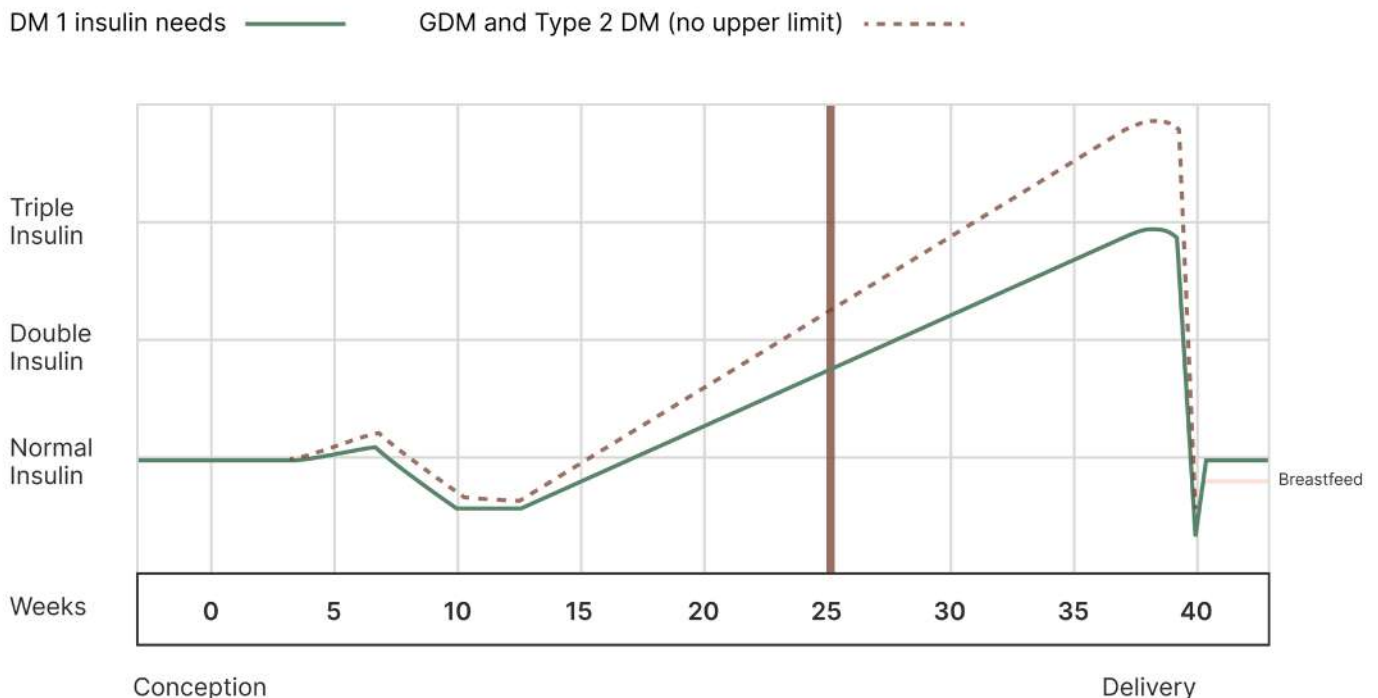
Gestational diabetes (GDM) is a condition of sugar intolerance, or high blood sugar during pregnancy. GDM is one of the most common complications of pregnancy and occurs in about **1 in 7 pregnancies**.



Why Does Diabetes Develop During Pregnancy?

There are many factors that contribute to GDM. Insulin resistance occurs, which is when the cells in various body tissues can't take up blood sugar as effectively. The inability to effectively use insulin leads to elevated sugar, or blood sugar levels. During pregnancy, insulin-resistance can occur due to the increased insulin demand, maternal weight gain, and placental hormones. The inability to effectively use insulin leads to elevated sugar, or blood sugar levels.

Insulin Resistance During Pregnancy



Complications of Gestational Diabetes

If gestational diabetes is left untreated or blood sugar levels are frequently over the target range, there can be complications for the delivery and your baby.

Uncontrolled gestational diabetes can increase the risk of the following:

- **MACROSOMIA**
Baby is large-for-gestational age
- **SHOULDER DYSTOCIA**
This is an injury to the baby's shoulders that occurs during delivery due to their large size
- **HYPERINSULINEMIA IN THE BABY**
Your baby has their own pancreas which responds to your elevated blood sugar levels by increased insulin production. When the baby is born and is no longer receiving your blood supply, they may experience hypoglycemia or low blood sugar
- **IMPAIRED SUGAR TOLERANCE IN CHILDHOOD**
The exposure to high blood sugars during pregnancy may reduce your child's insulin sensitivity and insulin production in childhood
- **DELIVERY COMPLICATIONS OR STILLBIRTH**

Fortunately, these complications can be prevented by *proper management of your blood sugar levels* throughout the remainder of your pregnancy.



Self-Monitoring of Blood Sugar and Treating High or Low Blood Sugar

After you've been diagnosed with GDM, it is recommended that you immediately start checking your blood sugars with a glucometer (sugar monitor) or continuous sugar monitor (CGM). You'll check your blood sugar levels when fasting (before eating), and 1 or 2 hours after each meal, depending on your provider's preference.

You'll need a prescription for a CGM or glucometer. Some insurance companies require a prior authorization for a CGM. Your provider's office should take care of this for you. To know what your plan covers, please contact your insurance company.

Bluetooth Sugar Monitors

Your insurance company may decide which sugar monitor you receive. Some common monitors include:

- ReliOn Premier BLU
- Accu-Chek Guide
- OneTouch Verio Flex
- Contour Next One

CGMs

You may decide to use a CGM, a device that is worn on the back of the upper arm that measures your sugar around the clock to give you a real-time picture of your blood sugar numbers.

Current options for CGMs include:

- Dexcom G7
- Freestyle Libre 2
- Freestyle Libre 3/3+

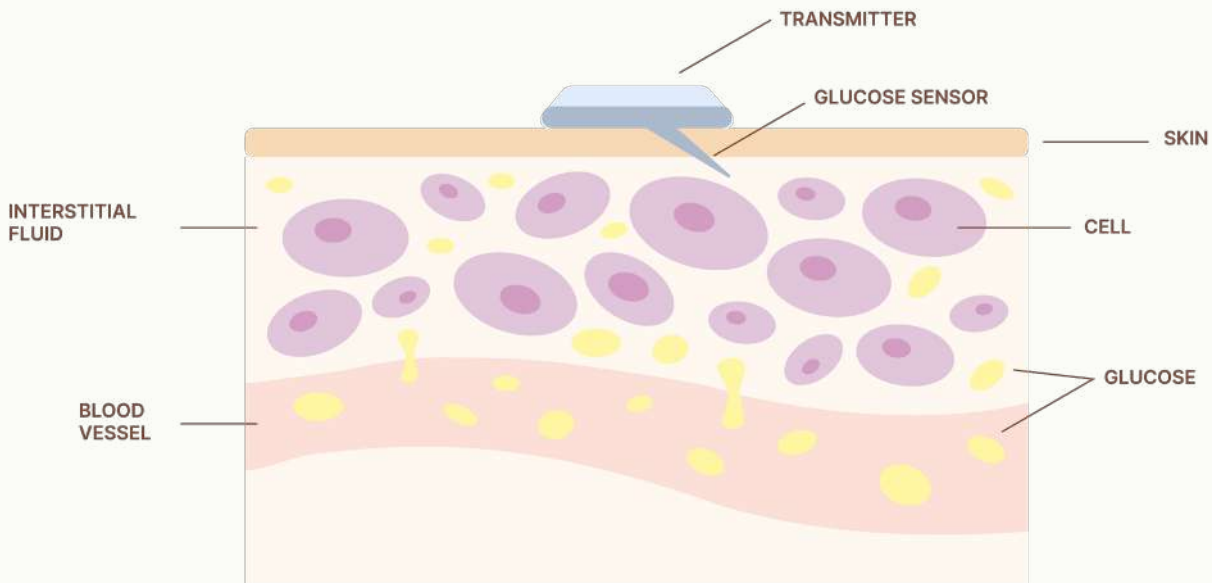


How to Use a CGM

If you're able to use a CGM to monitor your blood sugars, you'll have real-time access to your numbers—around the clock.

What's the difference between a CGM and fingerstick blood sugar measurements? The CGM measures the sugar in the interstitial fluid right under your skin, rather than your blood.

Continuous Sugar Monitoring



While a needle is used to insert the sensor, the needle does not stay under the skin. The sensor is tiny. It doesn't typically hurt to apply a CGM sensor. In fact, most people don't feel the sensor at all.

On top of the sensor is the transmitter. This is the part that sits on the top of the skin. The transmitter sends information about your sugar levels to the receiver, or your smartphone.

A major difference between fingersticks and CGM is that instead of having to do a fingerstick every time you want to check your blood sugar, you'll apply a sensor every 10-15 days. You'll be able to see what your blood sugar is doing every 1-5 minutes. Most devices don't require fingerstick calibrations. You will need to do a fingerstick to confirm high or low numbers or if your symptoms do not match what the CGM is showing.

While each manufacturer is slightly different, the basis of using a CGM is similar for each model.

Here's how to get started with your CGM:

- 1 Review package instructions.
- 2 Download the device app. The app will walk you through the process of inserting your CGM sensor.
- 3 Wash your hands.
- 4 Prep your sensor site (back of your upper arm):
 - a. Wash your skin with non-moisturizing, fragrance-free soap.
 - b. Use an alcohol wipe on the site.
 - c. Make sure the area is dry.
- 5 Prepare the applicator per package or app instructions.
- 6 Press and hold applicator firmly to your prepped site. FreeStyle Libre 2 and 3 require pressure only, while the Dexcom G7 have a button to press to insert the sensor.
- 7 Apply overpatch if you have a Dexcom (Freestyle Libre is optional).
- 8 Scan your sensor or QR code to start transmitting data. There will be a 30-60 minute warm-up period before you can get your readings depending on which product you have.



Instructions for application

[FreeStyle Libre Instructions](#)

[Dexcom G7 Instructions](#)



How to Check Your Blood Sugar With a Meter (fingerstick)

- 1 Wash your hands.
- 2 Remove the cap of your lancing device, insert a new lancet into the holder, and twist off the needle cap. Put the lancing device cap back on.
- 3 Adjust the dial to choose how deep the needle will go into your skin.
- 4 Insert a test strip into your meter.
- 5 Use your lancing device on the side of your fingertip to get a drop of blood.
- 6 Touch and hold the edge of the test strip to the drop of blood and wait for the result.
- 7 Your blood sugar level will appear on the meter's display.

Links to Specific Devices

ReliOn

Accu-Chek

OneTouch

Contour

Blood Sugar Targets

American Diabetes Association (ADA) recommended blood sugar targets:

FASTING

70-95

mg/dL

1-HOUR POST-PRANDIAL
(AFTER EATING)

110-140

mg/dL

2-HOURS POST-PRANDIAL
(AFTER EATING)

100-120

mg/dL

If you are using a CGM, the recommended time in range (TIR) of 63 to 140 is at least 70%.

What to do About High Blood Sugar (Hyperglycemia)

It's important to address high blood sugars, or numbers above target. High blood sugar should be prevented because it can lead to gestational diabetes complications. If you are experiencing high numbers, you'll want to let your provider know.

If your blood sugar is high (over 200-250 mg/dL), you should call your provider's office to let them know.

You can lower high blood sugar by:



Light exercise
(e.g. going for a walk)



Drinking water



Injecting insulin (seek
guidance from your provider)

Treating Low Blood Sugar (*Hypoglycemia*)

If you are being treated with insulin or go a long time without eating, you may experience hypoglycemia, or low blood sugar less than 70 mg/dL.

Symptoms of hypoglycemia include:

- Shakiness
- Hunger
- Irritability
- Sweatiness
- Dizziness
- Anxiousness
- Confusion

You can [treat low blood sugar](#) using the 15-15 rule. Consume 15 grams of quick-acting carbohydrates (carbs) and recheck your blood sugar in 15 minutes.

Easily digested carbs get glucose into your bloodstream quickly to begin to raise blood sugar.

Examples of 15 grams carbs:

- 4 oz. juice or regular soda
- 1 tablespoon honey or sugar
- 3-6 hard candies or large jelly beans (double check label to determine serving size)
- 1 tube or packet of sugar gel
- 3-4 sugar tablets

GLUCAGON

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If you are taking insulin, you should also have glucagon on hand in case of severe hypoglycemia (blood sugar less than 54 mg/dL). Make sure your prescription is up-to-date and your friends and family know what to do in case of an emergency.

NASAL INHALER (BAQSIMI)



GLUCAGON PEN (GVOKE) OR PREFILLED SYRINGE



GLUCAGON PEN OR PREFILLED SYRINGE (ZEGALOGUE)



GLUCAGON KIT



Healthy Eating

Those diagnosed with gestational diabetes should be referred to a dietitian with diabetes experience for medical nutrition therapy. Your diet should be individualized to meet the caloric and nutrient needs of you and your developing baby.

There is no standard diabetes meal plan for gestational diabetes, but there are some [recommended dietary reference daily intakes](#) that should be followed:

- At least 175 grams of carbohydrates
- 71 grams protein
- 28 grams fiber



Carbohydrates

A carbohydrate, or carb, is a nutrient found in foods like bread, pasta, tortillas, potatoes, rice, milk, fruits, beans/lentils, juices, sugar, and honey.

Carbohydrates have the biggest impact on your blood sugar. When your body digests carbs, it turns carbs into sugar—the most basic fuel your body needs for energy.

15g of Carbs Cheat Sheet



Fruit

- 1 small fresh fruit (apple, orange, pear, peach, tangerine, nectarine)
- ½ cup applesauce, unsweetened
- ½ banana
- 2 Tbsp dried fruit
- 1 cup melon cubes (cantaloupe, watermelon, honeydew)
- ¾ cup cherries
- 2 figs or plums
- ½ cup canned fruit, unsweetened
- ½ grapefruit
- 15 grapes
- large kiwi
- ¾ cup pineapple
- ½ mango or papaya
- 1 cup berries
- ½ cup juice



Dairy

- 1 cup milk (fat-free, 1%, 2%, whole)
- 6-oz cup yogurt (plain or flavored with artificial sweetener)



Beans, Seeds, Nuts

- ½ cup cooked beans (kidney, pinto, red, green, etc.)
- ½ cup cooked lentils
- ¼ cup baked beans



Starchy vegetables

- ½ cup cooked green peas
- ½ cup cooked corn or hominy
- ½ corn on the cob, large (5 oz)
- ½ cup cooked sweet potatoes or 1 small sweet potato
- ½ cup cooked potatoes or 1 small potato
- ½ cup hash browns or au gratin potatoes
- 10 to 15 French fries
- 1 cup winter squash (pumpkin, acorn, butternut)
- 1 cup marinara or pasta sauce
- ½ cup tomato juice



Breads

- 1 slice bread
- ½ English muffin
- 1 small croissant
- 1 small muffin (1 oz)
- 1 pancake or waffle (4")
- ¼ of a large bagel
- ½ hot dog bun or burger bun
- 1 tortilla (6")
- 1 small cornbread or biscuit (2" cube, 2 oz)
- 1 small plain roll (1 oz)
- ½ small pita (6")



Cereals, pasta and rice

- ½ cup cereal
- ¼ cup granola
- ½ cup cooked cereal
- ⅓ cup cooked pasta
- ⅓ cup cooked white or brown rice
- ⅓ cup quinoa
- ½ cup couscous



Sweets and desserts

- 2"-square cake, unfrosted (2 oz)
- 1 inch-square brownie, (1 oz)
- 1 Tbsp frosting
- 2 small cookies (2/3 oz)
- ½ cup sugar-free pudding
- ½ cup ice cream
- ½ cup frozen yogurt
- 1 Tbsp syrup, jam, jelly, sugar or honey
- 1 cup sports drink
- 1 cup hot chocolate made with water



Other starchy food

- 6 Saltine or Ritz crackers
- 3 Graham crackers
- ¾ oz pretzels (15 mini twists)
- 9 to 13 tortilla chips
- 3 cups popcorn

While it may seem like a low-carbohydrate diet would be beneficial, your body and baby depend on carbohydrates for fuel.

Carbohydrate foods like whole grains, beans and other legumes, fruits, and starchy vegetables contain fiber, which slows digestion and absorption of sugar—helpful for better blood sugar management.

Around 45-65% of daily calories should come from carbohydrates and should be spread consistently throughout the day between 3 meals and 2 snacks. Because of increased insulin resistance in the morning hours, a lower carbohydrate meal is often recommended at breakfast time.

A SAMPLE DAY OF CARBOHYDRATES COULD LOOK LIKE THIS

- Breakfast: 30-45 grams
- AM snack: 15-30 grams
- Lunch: 45-65 grams
- PM snack: 15-30 grams
- Evening meal: 45-65 grams
- Bedtime snack: 15-30 grams

Your diet should emphasize high-quality carbohydrates and nutrient-dense foods that contain other key vitamins and minerals for pregnancy (iron, zinc, folate, vitamin C, chromium, etc.).





Protein

The next nutrient that is key to a healthy pregnancy is protein. Protein helps your body repair and build tissue and supports the growth of your baby.

It's also important to include protein with every meal and snack because it slows digestion, which helps you feel full. Protein can also slow the release of sugar into your bloodstream, which can stabilize your blood sugar.

7g of Protein Cheat Sheet



Meat

- 1 oz cooked lean beef, goat, ham, lamb, game meat, or pork
- 1 oz deli meat
- 1 oz cooked organ meat



Poultry

- 1 oz cooked (without skin) chicken or turkey
- 2 oz cooked Cornish hen, duck, goose, pheasant, or quail



Seafood

- 1 oz cooked fish
- 1 oz cooked shellfish
- 1 oz canned fish



Eggs

- 1 egg
- 1 ½ egg whites or 3 tablespoons liquid egg white



Nuts and seeds

- 1/2 oz nuts (12 almonds, 24 pistachios, 7 walnut halves)
- 1/2 oz seeds (chia, flax, pumpkin, sunflower)
- 1 tablespoon peanut or nut butter)



Beans, peas, lentils, and soy

- 1/4 cup cooked beans or lentils
- 1/4 cup baked or refried beans
- 1 falafel patty (2 1/4")
- 6 tablespoons hummus
- 1/4 cp tofu
- 1 oz tempeh



Fat

Fat is another nutrient vital to the health of your pregnancy. Fat provides energy, is involved in hormone production, and helps your body absorb vitamins. Plus fat gives your food flavor and it helps to keep you full longer.

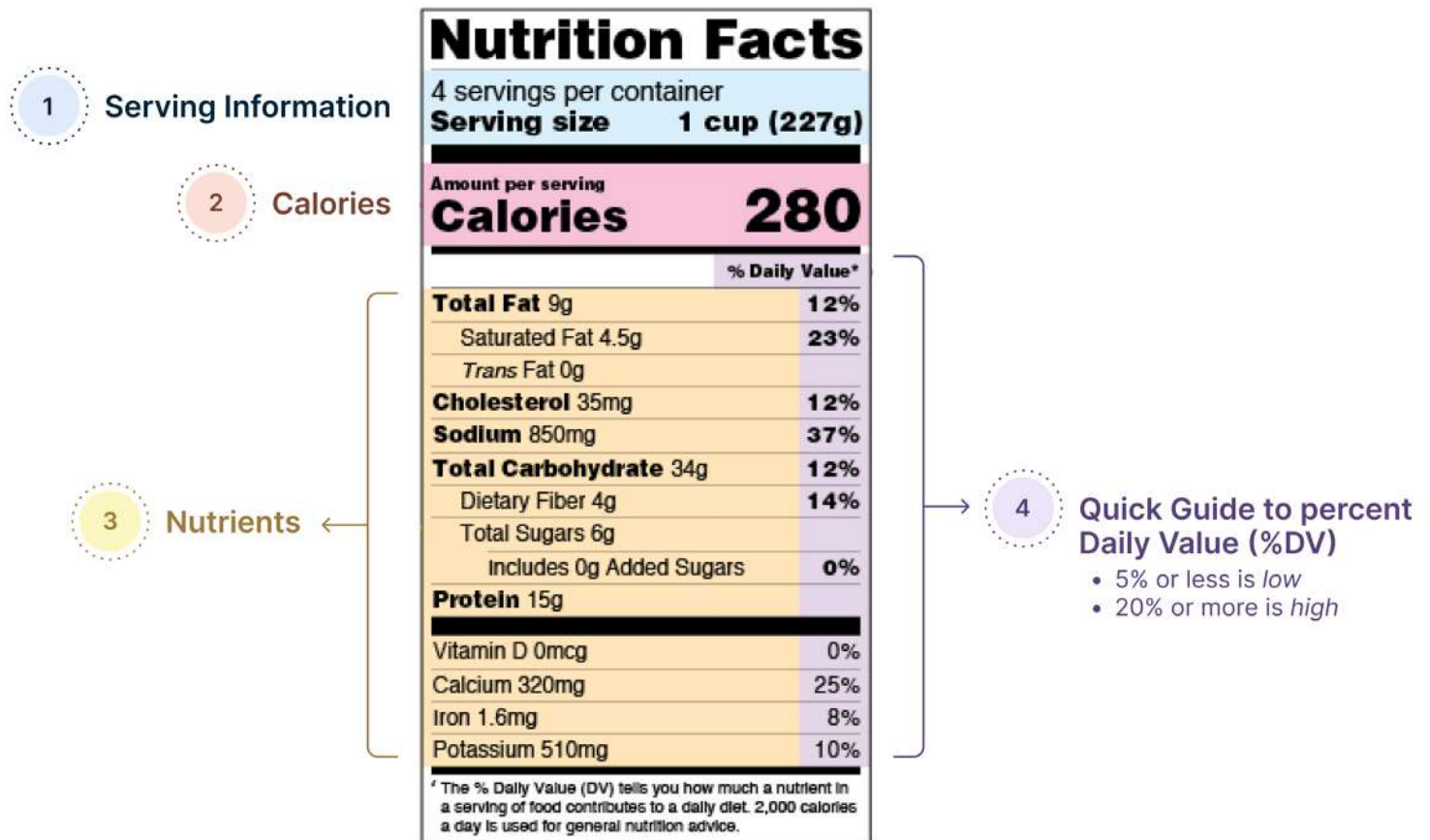
There are fats that are better than others. Diets high in saturated fat that is found in animal fats (fatty cuts of meat, butter, lard, cheese, heavy cream) and palm oil can raise cholesterol.

It's better to choose sources of monounsaturated and polyunsaturated fats like olive or avocado oil, nuts and seeds, and fish.



Reading the Nutrition Label

You can use the Nutrition Facts Label to determine how many grams of carbohydrates are in your meal. You'll need to pay attention to the serving size and the total carbohydrates.



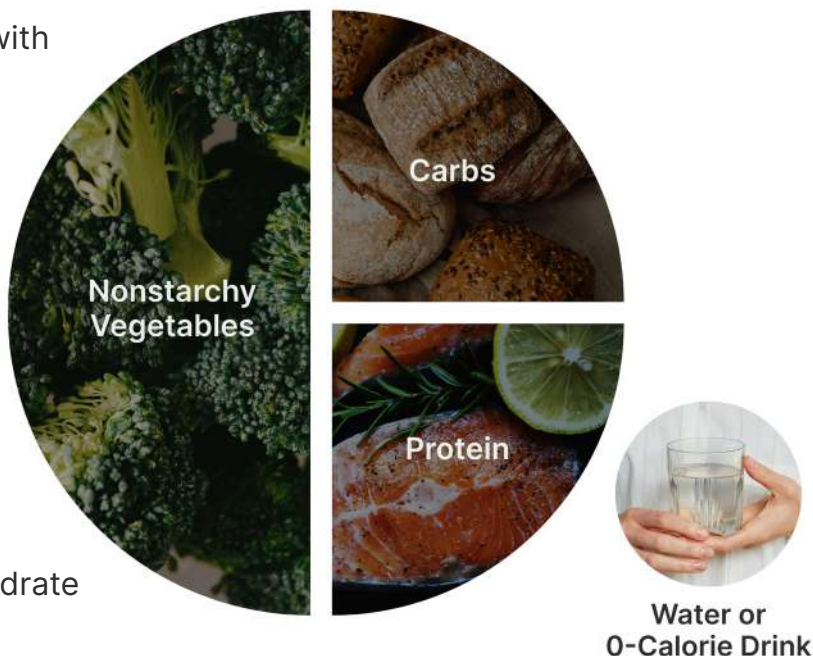
Setting Up Your Plate

One easy way to make sure you are getting adequate nutrients to support your pregnancy while managing your blood sugars is to follow the [Diabetes Plate](#).

Start with a 9-inch plate and fill half of it with non-starchy vegetables like one of the following:

- Broccoli and cauliflower
- Salad greens with cucumbers and tomatoes
- Stir-fry vegetables
- Green beans or asparagus
- Brussels sprouts
- Peppers, onions, or mushrooms

Then $\frac{1}{4}$ of your plate can be your carbohydrate food. The last $\frac{1}{4}$ is your protein.



Other Nutrition Tips & Tricks



- Eat protein first to [reduce](#) impact of carbs on post-meal blood sugar.
- While certain fish, like salmon and tuna can be excellent sources of omega-3 fatty acids, pregnant women need to avoid eating too much mercury. Avoid fish like shark, swordfish, mackerel, and tilefish. Here's some [FDA guidance](#) on safely eating fish during pregnancy.
- Heat up lunch meats until steaming and avoid raw milk and cheeses to reduce exposure to bacteria such as listeria.
- Most non-nutritive sweeteners in pregnancy are considered safe by the FDA, but are found in low-nutrient foods so should be limited. Saccharin has been found to cross the placenta, so that one should be avoided.

Pregnancy Weight Gain

There is no change in recommended weight gain if you are diagnosed with gestational diabetes. You will need adequate calories to ensure weight gain according to the recommendations:

INSTITUTE OF MEDICINE WEIGHT GAIN RECOMMENDATIONS FOR PREGNANCY

[SOURCE](#)

Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain† in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28–40	1 (1–1.3)
Normal Weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	30 and greater	11–20	0.5 (0.4–0.6)

*Body mass index is calculated as weight in kilograms divided by height in meters squared or as weight in pounds multiplied by 703 divided by height in inches.

†Calculations assume a 1.1–4.4 lb weight gain in the first trimester.

Modified from Institute of Medicine (US). Weight gain during pregnancy: reexamining the guidelines. Washington, DC. National Academies Press; 2009. ©2009 National Academy of Sciences.

BREAKDOWN OF WEIGHT GAIN

The weight you gain during pregnancy will be distributed throughout the body. On average, the breakdown looks like this:

- Baby: 7–8 pounds (lbs)
- Placenta: 2–3 lbs
- Amniotic fluid: 2–3 lbs
- Breasts: 2–3 lbs
- Increased blood supply: 4 lbs
- Uterus: 2–5 lbs
- Fat stores to support breastfeeding and delivery: 5–9 lbs

Taking Care of Your Health

Being Active

Exercise is generally safe and beneficial during pregnancy, but it's important to consult with your provider before starting or continuing any exercise routine.

Physical activity is recommended to help decrease sugar levels and promote health in the mother. Aim for a combination of aerobic and resistance exercise 30 minutes a day, 5 days a week.

Intervals of 10-20 minutes of activity can be just as effective. In fact, a 15-20 minute walk can reduce sugar 20-40 mg/dL. Some examples of exercise you can do during pregnancy include:

- Walking
- Swimming
- Dancing
- Spinning or stationary bike
- Elliptical
- Low-impact aerobics class
- Pilates or yoga (avoid hot versions)
- Resistance training (just avoid large lifts that require holding breath)
- Jogging



Healthy Coping

Pregnancy can be an emotional time, and a gestational diabetes diagnosis may make things more difficult. It's important to make sure you have some healthy ways to cope with stress and strong emotions. Some healthy coping skills include:

- Talking to a friend
- Journaling
- Prayer and meditation
- Taking a walk or doing something active
- Finding a hobby
- Deep-breathing



Be sure to talk to your provider if you are struggling with any of the following:

- You are having negative thoughts.
- You are skipping healthcare visits.
- You have little interest or don't find pleasure in your activities.
- You are sleeping most of the day or are unable to sleep.
- You don't see value in taking care of yourself.
- You feel like you can't take care of yourself, or are overwhelmed with self-care.
- You have lost your appetite or you find yourself regularly overeating.
- You feel that your family or friends don't care.



“Self-compassion is simply giving the same kindness to ourselves that we would give to others.”

Christopher Germer

When Medication is Required

Because of the placental hormones and increased insulin demand as your pregnancy progresses, even if you were previously within range with lifestyle changes you may need insulin to treat GDM.

Every situation is unique, and your doctor will ultimately decide when medication is necessary, but a general rule of thumb is that if $>1/3$ of your blood sugar values are out of range, medication may be recommended.

ORAL MEDICATIONS

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During your pregnancy, you may be prescribed an oral diabetes medication like metformin or a sulfonylurea (glipizide, glimepiride, glyburide). While these oral medications can lower sugar levels, there is a risk of them crossing over to the baby, making them less recommended than insulin. Discuss medication options with your provider to decide what is best for you and your baby.

INSULIN

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Insulin is generally required when about one-third of blood sugar levels are above target range, but insulin start may vary based on provider preference.

Insulin is considered the gold standard treatment option during pregnancy. Insulin does not cross the placental barrier and is considered safe for both mother and baby.



Reducing Risks: Pregnancy and Birth

Pregnancy Monitoring

Your provider may want you to do extra monitoring to make sure you and the baby are safe. Here are some examples of the tests you may have:

Size of Baby

Beginning at 28 weeks, your provider will likely recommend a growth scan every four weeks. Monitoring your baby's size is particularly important because women with diabetes have a higher risk of delivering a larger-than-average baby.

This can lead to complications during a vaginal delivery, as the baby's shoulders may get stuck in the pelvis, potentially resulting in a C-section. Babies born with a larger size are also at an increased risk of obesity during childhood and may develop risk factors for heart disease, stroke, and type 2 diabetes later in life.

Amniotic Fluid

In addition to assessing your baby's size, growth scans will also check the level of amniotic fluid surrounding the baby in the uterus. If you have poorly controlled blood sugars, your baby will attempt to remove excess sugar, resulting in high amniotic fluid levels. This can trigger preterm labor, so if your levels are elevated, additional testing may be required.

Nonstress Tests

Between 30 and 32 weeks, you'll also start having nonstress tests, possibly twice a week. During these tests, you'll wear a monitor and track your baby's movements. You might also undergo a biophysical profile, which combines a nonstress test with an ultrasound.

Labor

Your provider may choose to induce labor at around 37 to 39 weeks, which is considered full term. Inducing labor slightly earlier can help reduce risks for both you and baby, including the possibility of stillbirth.

Dilated Eye Exams (for preexisting diabetes)

There is an increased risk of developing diabetic retinopathy during pregnancy. It's recommended that you have a dilated eye exam in the first trimester and that you're monitored every trimester. You'll also need a follow-up one year postpartum to evaluate your eyes.

Reducing Risks: Postpartum and the Future



Breastfeeding

Breastfeeding can be very beneficial for both mom and baby. It's highly encouraged that you breastfeed to reduce future diabetes risk for both of you.

Check your hospital for access to a lactation consultant. Many hospitals have help available so you feel comfortable breastfeeding.

Postpartum Follow-Up

Between 4-12 weeks after you deliver your baby, you will have a follow-up appointment with your OB.

At that visit, it's recommended that you repeat a blood test called an oral sugar tolerance test. This is done to be sure your blood sugar has returned to normal levels.

Blood sugar levels typically go back to normal within 1-2 weeks.

You do have an increased risk (10-fold) of developing type 2 diabetes, so it's recommended that you are screened for diabetes every 1-3 years even if your blood sugar levels return to normal after delivery.

If you had diabetes before pregnancy, you'll likely discuss future pregnancy planning. Your provider will likely recommend you contact your primary care provider to discuss your diabetes treatment.

Lifestyle

The same lifestyle changes you've made in pregnancy can help prevent type 2 diabetes. Avoiding weight gain after pregnancy (or between pregnancies) can lower your risk of developing gestational diabetes for subsequent pregnancies, and type 2 diabetes later in life.

Eating a nutrient-dense diet rich in fiber and omega-3 fatty acids, and low in ultra-processed foods and refined sugars can help prevent diabetes.

Additionally, aim for 150 minutes of moderate-vigorous physical activity every week, spread over at least 3 days/week. It's also recommended that you get 2-3 days/week of resistance training to maintain muscular strength and metabolism.

Try to avoid going over 2 days without activity and break up your sedentary time (no more than 30 minutes of sitting or lying down) with quick bouts of movement.

While it is difficult to get good sleep with a newborn, it's important to get adequate sleep for optimal health and diabetes prevention. It's recommended you get 7-9 hours of sleep every night. Getting less than 6 hours of sleep every night may further increase your risk of diabetes. If at all possible, nap when your baby sleeps until you can establish a good nighttime routine.

Type 2 Diabetes and Pregnancy: *Taking Medication*

Because of the placental hormones and increased insulin demand as your pregnancy progresses, you may need more or different medication to treat high blood sugars, even if you were previously within range with lifestyle changes.

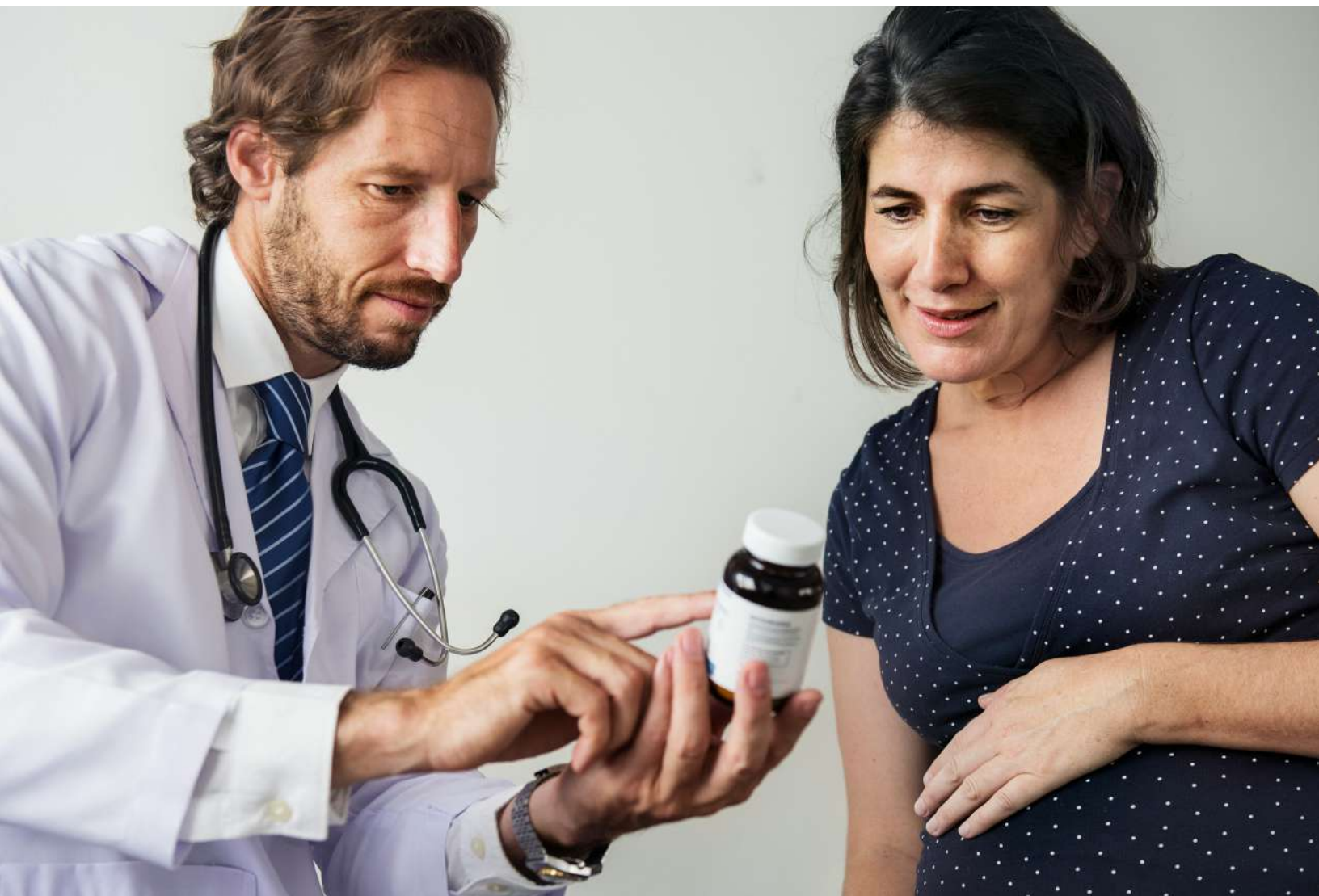
Every situation is unique, and your doctor will ultimately decide when starting medication or making adjustments is necessary, but a general rule of thumb is that if $>1/3$ of your blood sugar values are out of range, additional treatment options may be recommended.

Oral and Non-Insulin Injectable Medications

If you are on a diabetes medication when you get pregnant, don't stop or change the medication until your provider tells you to do so. Depending on what medications you are taking, there might be safer options to use during pregnancy.

Metformin is the best oral option for diabetes in pregnancy. Discuss your current medications with your provider to decide what is best for you and your baby.

In addition, your doctor may suggest you take a low-dose aspirin after the 12th week of pregnancy to help lower your risk for preeclampsia (a pregnancy complication related to blood pressure).



How to Take Insulin

From the American Diabetes Association

STORAGE INSTRUCTIONS

Although manufacturers recommend storing your insulin in the refrigerator, injecting cold insulin can sometimes make the injection more painful. To avoid this, many providers suggest storing unopened insulin in the refrigerator and storing opened insulin in room temperature. Insulin kept at room temperature will last approximately 10 days to one month.

Remember though, if you buy more than one bottle at a time to save money, store the extra bottles in the refrigerator. Then, take out the bottle ahead of time so it is ready for your next injection.



Here are some other tips for storing insulin

- Do not store your insulin near extreme heat or extreme cold.
- Never store insulin in the freezer, direct sunlight, or in the glove compartment of a car.
- Check the expiration date before using, and don't use any insulin beyond its expiration date.
- Examine the bottle closely to make sure the insulin looks normal before you draw the insulin into the syringe.

If you use regular, check for particles or discoloration of the insulin. If you use NPH or lente, check for “frosting” or crystals in the insulin on the inside of the bottle or for small particles or clumps in the insulin. If you find any of these in your insulin, do not use it, and call the pharmacy that you got it from for further guidance



Using an Insulin Pen

► How to Give an Insulin Pen Injection

Pen instructions from Cleveland Clinic

PREPARING YOUR INSULIN PEN

1. Wash your hands.
2. Remove the cap of the insulin pen.
3. If the insulin in the pen appears cloudy, roll the pen in your hands and turn it from side to side for one full minute. You don't have to roll the pen if the insulin is completely clear. Do not shake the pen.
4. Wipe the rubber stopper with an alcohol wipe.
5. Attach a new pen needle to the insulin pen. To attach the pen needle, pull the paper tab off the pen needle, screw the new needle onto the pen, and remove the outer cap of the needle. You'll need the outer cap to remove the needle from the pen when you're done with the injection. Remove the inner cap.
6. Prime the insulin pen. Priming means removing air bubbles from the needle. It ensures that the needle is open and working. You must prime the pen before each injection. To prime the insulin pen, turn the dosage knob to the 2 units indicator. With the pen pointing upward and away from you, push the knob all the way. At least one drop of insulin should appear. You may need to repeat this step until a drop appears.
7. Select the dose of insulin that has been prescribed for you by turning the dosage knob.
8. Check that the dose is correct. Set the pen down without letting the needle touch anything.

INJECTING YOUR INSULIN PEN

1. Using the hand you write with, wrap your fingers around the insulin pen, keeping your thumb free to push down on the injection button.
2. Insert the needle with a quick motion into your skin at a 90-degree angle. The needle should go all the way into your skin.
3. Slowly push the injection button of the pen all the way in to deliver your full dose. Remember to hold the pen at the site for 6 to 10 seconds, and then pull the needle out.
4. Carefully place the outer cap on the needle, unscrew the needle (the needle should come off with the outer cap), and drop it into your container for used "sharps" equipment.
5. Put the pen cap back on and store it at room temperature.

You may bleed at the spot of the injection. If you notice bleeding, apply pressure with a clean alcohol wipe or cotton ball. Cover the injection site with a bandage if necessary.

Giving an Injection with a Syringe

► Introduction to Insulin

Instructions from the National Library of Medicine

1. Wash your hands with soap and water. Dry them well.
2. Check the insulin bottle label. Make sure it is the right insulin. Make sure it is not expired.
3. The insulin should not have any clumps on the sides of the bottle. If it does, throw it out and get another bottle.
4. Intermediate-acting insulin (N or NPH) is cloudy and must be rolled between your hands to mix it. Do not shake the bottle. This can make the insulin clump.
5. Clear insulin does not need to be mixed.
6. If the insulin vial has a plastic cover, take it off. Wipe the top of the bottle with an alcohol wipe. Let it dry. Do not blow on it.
7. Know the dose of insulin you are going to use. Take the cap off the needle, being careful not to touch the needle to keep it sterile. Pull back the plunger of the syringe to put as much air in the syringe as the dose of medicine you want.
8. Put the needle into and through the rubber top of the insulin bottle. Push the plunger so the air goes into the bottle.
9. Keep the needle in the bottle and turn the bottle upside down.
10. With the tip of the needle in the liquid, pull back on the plunger to get the right dose of insulin into the syringe.
11. Check the syringe for air bubbles. If there are bubbles, hold both the bottle and syringe in one hand, and tap the syringe with your other hand. The bubbles will float to the top. Push the bubbles back into the insulin bottle, then pull back to get the right dose.
12. When there are no bubbles, take the syringe out of the bottle. Put the syringe down carefully so the needle does not touch anything.

Giving the Injection

The site you choose for the injection should be clean and dry. If your skin is visibly dirty, clean it with soap and water. If you use an alcohol wipe on your injection site, make sure it is dry before you give your injection.

The insulin needs to go into the fat layer under the skin.

- ① Pinch the skin and put the needle in at a 90° angle.
- ② Push the needle all the way into the skin. Let go of the pinched skin. Inject the insulin slowly and steadily until it is all in.
- ③ Leave the syringe in place for 5 to 10 seconds after injecting.
- ④ Pull the needle out at the same angle it went in. Put the syringe down. There is no need to recap it. If insulin tends to leak from your injection site, press the injection site for a few seconds after the injection.

Sites for Injection

Recommended insulin pen injection sites include:

- Lower abdomen
- Front and outer side of your thighs
- Upper and outer arms
- Buttocks.

Avoid injecting in the following areas:

- Within 2 inches of your belly button
- The middle of your abdomen
- Into or near scar tissue or stretch marks
- Hard spots
- Near joints
- Your groin area

It's important to rotate or change your injection sites regularly. Reusing the same site can cause hardened areas to form under your skin, which can interfere with how well the insulin works. By rotating your injection sites, you make the process easier, safer, and more comfortable.

If you need to use the same area, ensure that each injection is at least 1.5 inches away from the previous spot. Keep in mind that different parts of your body may absorb insulin differently depending on the type you're using.

Sharps Disposal

Learn how to dispose of sharps safely

When you are done with your injection, you'll want to safely dispose of your needle or pen cap. You shouldn't throw it in the garbage or recycling, as it's a potential danger to sanitation workers. Some tips for disposal include:

- **Use a Proper Sharps Container:** A sharps disposal container is usually made of heavy-duty plastic and is puncture-resistant with a secure, tight-fitting lid. If you don't have a sharps container, you can use a strong, empty plastic household container, such as a laundry detergent bottle, as long as it's puncture-resistant and has a tight lid. Label it clearly with "SHARPS" or "BIOHAZARD."
- **Never Recap Needles:** After using an insulin needle, avoid recapping it to reduce the risk of accidental needle sticks.
- **Seal and Store Safely:** When your sharps container is about three-quarters full (never overfill), securely close the lid and seal it with tape if necessary. Store the sealed container out of reach of children and pets until you can dispose of it properly.
- **Dispose at appropriate sites:**
 - Community Drop-Off Sites
Many local health departments, hospitals, and pharmacies offer sharps disposal drop-off sites. Check for a location near you.
 - Mail-Back Programs
Some services allow you to send your sealed sharps container to a disposal facility using a pre-paid mail-back service.
 - Household Hazardous Waste Collection
In some areas, you can take your sealed sharps container to a household hazardous waste collection site. Contact your local waste management service for more information.
 - Home Pickup Services
Certain communities offer special services for collecting medical waste from your home. Check with your local authorities for availability.

Getting a CGM

Insurance Coverage

To find out if your insurance plan covers a CGM, you'll need to call your insurance company.

No insurance coverage?

- You can save on a Dexcom G7 [here](#).
- GoodRx offers coupons for [Freestyle Libre 3](#) and [Dexcom G7](#)
- [SingleCare](#) offers coupons for the Freestyle Libre 2 and 3 and Dexcom G7
- Most Flexible Spending Accounts or Health Savings Accounts allow the purchase of CGM and testing supplies
- Costco Pharmacy
- Call Libre for \$75/month offer

Glucometer Troubleshooting

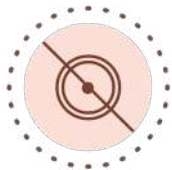
If you are having trouble with your glucometer connecting with the app, double-check that your Bluetooth is turned on. You'll also need to be within 5 feet for optimal signal.

Here are the user manuals for the most commonly used glucometers and the customer service number for each brand:

- [ReliOn Premier BLU](#): 1-855-776-0662
- [Accu-Chek Guide](#): 1-800-858-8072
- [OneTouch Verio Flex](#): 1-888-567-3003
- [Contour Next One](#): 1-800-348-8100

Problem Solving and CGM Troubleshooting

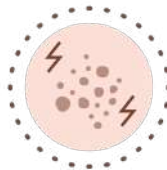
When using a CGM, there may be certain issues that arise. Here are some of the more common problems people having when wearing a CGM:



Sensor application error

Sometimes the applicator malfunctions. Rather than trying to reinsert or throwing it away, save the CGM sensor and the packaging.

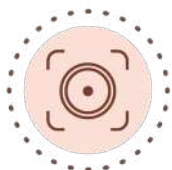
- Call the manufacturer and request a free replacement. They may need the information off of the package.



Skin reaction

Occasionally, the sensor adhesive will bother the skin at your CGM site.

- Try a different CGM site. Regularly wearing your CGM in the same spot may cause irritation.
- Use an adhesive remover when it's time to change sensors (like baby oil or adhesive remover [wipes](#) or [spray](#)). You can find adhesive remover on [Amazon](#) or [WalMart](#).



Sensor falls off

This may be a problem when you are getting used to wearing the CGM. It may come off when you swim, get in the shower, or remove your clothing. To keep your sensor from falling off, follow these tips:

- Clean your CGM site well before application and then use alcohol wipe.
- Allow your skin to completely dry before application.
- Do not put lotions or creams on before applying sensor.
- Try using a [patch](#) over the sensor ([free](#) for Dexcom users) and apply adhesive product (like [Skin Tac](#)) before insertion. You can find adhesive patches on [Amazon](#) or [WalMart](#).



Loss of signal

You may receive an alert that your phone lost CGM signal. This is a phone or app issue, not the CGM. To avoid this error, try these tips:

- Keep your phone charged and within range.
- Make sure your phone's Bluetooth is turned on.

CGM Support



FreeStyle Libre

- **855-632-8658**
- Connect on [Messenger](#) (8AM-8PM EST)
- [Request new sensor](#)
- [Freestyle Libre 3 Support](#)
- [Freestyle Libre 2 Support](#)

Dexcom G7

- 24/7 Customer Service Number:
1-844-607-8398
- Technical Support Number:
1-844-832-1810
- [Live Chat](#)
- [Request new sensor](#)

Dexcom

