

Diabetes and Pregnancy

Taking care of you and your baby

You may have had diabetes for many years, or it may have started with your pregnancy. No matter how long you have had the disease, it takes work to manage diabetes while you are pregnant.

This handout will help you manage your diabetes in the best way for you and your baby's health.



Contents

Types of Diabetes	2
Nutrition During Pregnancy When You Have Diabetes	2
Hypoglycemia (Low Blood Sugar)	7
Blood Glucose Monitoring	10
About Oral Diabetes Medicines	10
About Insulin.....	11
Sick-day Guidelines.....	14
Treating Severely Low Blood Glucose	14
Preparing the Glucagon.....	15
Diabetes and Your Delivery Options.....	18
Breastfeeding and Diabetes	20

Types of Diabetes

The most common kinds of diabetes are:

- Type 1
- Type 2
- Gestational

Type 1 Diabetes

Type 1 diabetes used to be called juvenile onset diabetes mellitus or insulin-dependent diabetes mellitus.

- Usually occurs before the age of 30
- The pancreas no longer makes any insulin
- 5% to 10% of people with diabetes (5 to 10 out of 100) have type 1 diabetes

Type 2 Diabetes

Type 2 diabetes used to be called adult onset diabetes mellitus or non-insulin-dependent diabetes mellitus.

- Can occur throughout life, starting in teenagers
- The pancreas still makes some insulin
- Person is often overweight
- Often, other family members have diabetes
- 80% to 90% of people with diabetes (80 to 90 out of 100) have type 2 diabetes

Gestational Diabetes

- Found for the first time during pregnancy
- May go away after the baby is born
- Increases risk for developing type 2 diabetes later in life, especially if overweight

All women who have gestational diabetes must be screened for diabetes 6 weeks after their baby is born. Talk with your obstetric (OB) provider to schedule this test.

Nutrition During Pregnancy When You Have Diabetes

If you have diabetes during pregnancy, your food choices are even more important – both for your health and your baby's health.

Early in pregnancy (around 9 to 11 weeks), you will tend to have more morning sickness and may eat less. During this time, you will need less insulin. Later in pregnancy, the hormones your body produces will increase your insulin needs.

Talk with your healthcare provider to review your medicine needs. Ask your dietitian to help you plan meals to keep your blood sugars at the best level for you and your baby. A dietitian who knows about diabetes in pregnancy can help you maintain safe blood sugar levels and choose the right foods to nourish your growing baby.

Carbohydrates

A balanced diet for pregnancy should have about half of the calories coming from healthy carbohydrate foods. These include fruits, vegetables, whole grains, milk, and yogurt.

Carbohydrates cause a rapid rise in your blood sugar. Always eat proteins, fats, and fiber foods with your carbohydrate foods. This slows digestion, so the carbohydrates enter your bloodstream more slowly. The result is less of a rise in blood sugar after eating carbohydrates.

Avoid eating foods that are high in simple carbohydrates. These will make your blood sugars too high. These foods include:

- Alcohol (do **NOT** drink alcohol while you are pregnant)
- Fruit juices
- Honey, sugar, sweets
- Hot chocolate, Ovaltine
- Soda pop
- Sugary cereals

Helpful Tips

Keep your blood sugar levels as close to normal as you can.

This helps your body work well and helps your baby grow normally. High blood sugars can make your baby grow too big, causing problems at birth.

To help keep your blood sugar stable:

- Instead of eating 3 large meals, eat 3 smaller meals and 3 snacks each day.
- Do **not** skip any meals or snacks.

- Keep your diet consistent. This means eating about the **same amount** of the **same types of foods** at the **same time** every day. Eating this way will help your doctor prescribe the most effective insulin doses for you. And, it will help you avoid blood sugars that are too high or too low.
- Talk with your dietitian or nurse about food safety and foods to avoid.
- Talk with your dietitian about portion sizes and what types of fish are safe to eat while you are pregnant and later, while you are breastfeeding. Avoid eating fish that is high in mercury and other toxins. You may eat fish that is on the safe list up to 3 times a week.
- Raw fruits and vegetables contain natural fiber. Include a variety of vegetables in your diet. Count the carbohydrate in fruits, and eat them in small amounts later in the day.
- Read the Nutrition Facts labels on foods and drinks. Your dietitian can help you understand how to read food labels.
 - Look at the total carbohydrate grams, and read the ingredients list to see if the food contains simple sugar or high-fructose corn syrup.
 - Also note the serving sizes. A package may contain more than 1 serving of the food.
- For your bone health, eat calcium-rich foods several times a day. These include low-fat dairy foods and fortified non-dairy milks. Take calcium supplements if you cannot get enough calcium from your diet.
- Take a prenatal vitamin every day.
- Limit salt and high-fat “junk” foods.

Talk with your healthcare provider to learn more. We are here to help you have a safe and healthy pregnancy for you and your baby.

Fluids

- Drink **at least** 8 glasses (8 ounces each) of fluids each day. This adds up to 2 quarts, or 64 ounces. Most of this fluid should be water. Water helps keep blood sugars lower and is good for you and your baby. Sipping water throughout the day will help you reach this goal.

- Limit caffeine to 1 cup or less a day.
- Limit diet drinks to 1 or less a day.

Meals and Snacks

Talk with your dietitian about your meal plan needs.

Breakfast

Pregnancy hormones have their greatest effect in the morning. This means blood sugars may be harder to control in the morning. Limit the amount of carbohydrates you eat at breakfast to 30 grams (**2 servings**).

- Any carbohydrates you eat at breakfast should be whole grains such as brown rice, whole-grain breads, and whole-grain hot cereals such as steel-cut oats.
- Avoid refined sugary cereals, potatoes, fruits, and juices. Instead of having fruit with breakfast, eat fruit in small amounts later in the day.
- Avoid milk at breakfast, or have just 4 ounces ($\frac{1}{2}$ cup) or less.

Snacks

Snacks should contain 15 grams of carbohydrates (**1 serving**) plus protein, fat, and fiber.

Some good **protein** choices are:

- Eggs
- Cheese
- Natural peanut butter
- Chicken
- Seafood, fish
- Lean beef
- Nuts
- Tofu
- Soy products

Some good **fat** choices are:

- Olive oil
- Avocado
- Nuts
- Flax seeds
- Fish oil (from wild local salmon)

Lunch and Dinner

You may eat 45 to 60 grams of carbohydrates (**3 to 4 servings**) with your proteins and fats at lunch and dinner. Eat the higher amount if you are tall, or at the time of day when you are usually the most active.

Sample Meals and Snacks

Breakfast

2 servings of carbohydrates (30 grams)

- 1 to 2 scrambled eggs
- 2 slices (1 ounce each) whole grain bread with butter (avoid breads and peanut butter with high-fructose corn syrup – check the label)
- 1 cup decaf coffee, non-herbal tea, or water

Morning Snack

1 serving of carbohydrates (15 grams)

- 1 to 2 ounces cheese (1 ounce is about the size of your thumb)
- 5 to 7 whole-wheat crackers

Lunch

4 servings of carbohydrates (60 grams)

- Tuna salad sandwich: 2 to 3 ounces light canned tuna with mayonnaise, lettuce or spinach, tomato, and 2 slices whole-grain bread (1 ounce each)
- 1 serving fruit
- ½ cup raw carrot sticks
- 1 cup 2% milk

Afternoon Snack

1 serving of carbohydrates (15 grams)

- ½ piece of fruit or ¾ cup fresh berries
- 1 to 2 ounces nuts (about 1 handful)

Dinner

3 to 4 servings of carbohydrates (45 to 60 grams)

- 3 ounces lean meat (7% to 9% fat), grilled or baked (3 ounces of meat is about the size of the palm of your hand)
- ⅔ cup brown rice
- 1 cup steamed broccoli (optional: butter)
- 1 cup 2% milk
- For a 60-gram carbohydrate meal: Add 1 fruit serving

Evening Snack

1 serving of carbohydrates (15 grams)

- 1 to 2 tablespoons of natural peanut butter on 1 slice (1 ounce) whole-grain bread

Hypoglycemia (Low Blood Sugar)

Hypoglycemia, or low blood sugar, is also called an “insulin reaction.” It can occur for many reasons. If your blood sugar is too low, you may feel:

- Sleepy
- Dizzy
- Hungry
- Restless
- Confused
- Depressed
- Anxious
- Cranky
- Shaky
- Sweaty
- Lightheaded
- Not like yourself (personality changes)

You may also have:

- *Palpitations* (fast or skipped heartbeats)
- Tingling feeling in your hands, feet, lips, or tongue
- Headache
- Sleep problems
- Unsteady movement
- Blurred vision
- Slurred speech

What should you do?

If you can, test your blood sugar. **Less than 60 mg/dl is too low.** If you cannot test, but think your blood sugar is low, treat yourself right away with one of the foods listed below.

Treat low blood sugar right away:

- Eat food with fast-acting sugar. Good choices are:
 - 3 glucose tablets or 1 pack glucose gel
 - ½ glass (4 to 6 oz.) apple or orange juice
 - 1 glass (8 oz.) milk
 - 2 tablespoons raisins
 - 4 to 5 pieces candy (Starbursts, Lifesavers)
- After eating one of these foods, wait 10 to 15 minutes. Then test your blood sugar again. If it is still too low (less than 60 mg/dl), have another food or drink from the list above.

- After your blood sugar is above 60 mg/dl, eat a snack if you do not plan to eat a meal within 30 minutes. For example, eat half of a sandwich or crackers and peanut butter.

If you pass out or cannot eat, someone needs to:

- Inject glucagon (see page 17).
- Measure your blood sugar level, if possible.
- Call 911 for emergency help.

Tell family, friends, and co-workers NOT to force food or drink if you are unconscious. You could choke.

What can cause low blood sugar?

- Too much insulin or changing the time you take your insulin
- Not eating enough food, skipping a meal, or eating later than usual
- Extra exercise or activity

You may have more low blood sugars between 9 and 11 weeks of pregnancy (see page 9).

Remember to:

- **Keep food or juice with you at all times** – at work, in your car, when you exercise, and wherever you go.
- Wear a medical alert bracelet or necklace that says you have diabetes.
- Eat meals and snacks on time.
- Know how to adjust your insulin or food for unplanned exercise.
- Tell your nurse or doctor if you are having low blood sugar readings without any symptoms.
- Teach your friends, family, and co-workers about low blood sugars and how they can help.
- Ask someone you trust to check on you 2 times a day to make sure you are OK.

Call your doctor or nurse if you have:

- 3 or 4 low blood sugar tests in a row
- Low blood sugar at the same time every day for several days
- Severe low blood sugar (you needed glucagon, 911 was called, or you could not treat it by yourself)

Hypoglycemia at 9 to 11 Weeks of Pregnancy

- Be aware that your insulin needs may decrease near the end of your first trimester (9 to 11 weeks) for a short time.
- Be aware if you are having more insulin reactions or if you need to eat more to keep your blood sugars from getting too low.
- Treat all insulin reactions right away (see page 7).
- Keep testing your blood sugars carefully.
- Call your doctor or nurse if you are having more insulin reactions. Your insulin dose may need to be lowered (usually by about 20%).

If it is not treated, low blood sugar may progress to severe hypoglycemia, which can cause:

- Seizures
- Confusion
- Unconsciousness
- Death

Important Reminders

- **ALWAYS** carry a quick-acting form of sugar with you. These include ½ cup of juice or milk, soda pop with sugar, candy, raisins, or glucose tablets. Treat early symptoms of low blood sugar **right away** with some form of quick-acting carbohydrate.
- If you have symptoms of low blood sugar, check your blood sugar if you can. If you have symptoms and cannot check, just treat yourself for low blood sugar.
- Treating mild low blood sugar as soon as you can can prevent severe hypoglycemia.
- Family, friends, and co-workers must remember that if you cannot swallow or if they cannot wake you up, they **MUST NOT force food or drink by mouth**. They should use the shot of glucagon. (See pages 15 through 18.)

Blood Glucose Monitoring

Meters for Testing Blood Sugar

If you wish, we may give you a meter for testing your blood sugar during your pregnancy. The brand of meter you may receive depends on your insurance provider. You can buy test strips and other supplies at your pharmacy.

Recording Your Blood Sugar Numbers

Be sure to write your insulin doses and blood sugar numbers on the log sheet we give you in clinic. Writing numbers down on your log sheet will show you how insulin, activity, and different foods affect your blood sugars each day.

Use the comment section to write down changes in your food, activity, illness, insulin reactions, unusual stress, or other events that may have affected your blood sugar levels.

Bring both your meter and log sheet with you to every clinic visit.

How often do I need to test my blood sugar?

We know it is hard to test as often as we ask during your pregnancy. But, people who test often have the best blood sugar control. Testing will also help you and your healthcare team see how to adjust your insulin for different foods, exercise, and changes during your pregnancy.

Your doctor or nurse will tell you how often you need to test. It may be as often as 7 or 8 times each day! Once your blood sugar levels are stable, you may be able to test less often.

About Oral Diabetes Medicines

People with diabetes have blood sugar levels that are too high. Pregnant women with type 2 diabetes or gestational diabetes do not make quite enough insulin, or their bodies have a hard time using the insulin they do make. Some women must take insulin shots to keep their blood sugar levels close to normal. Other women can take pills by mouth to lower their blood sugar levels.

Diabetes pills do not work for everyone. Some women may use pills for a while during their pregnancy, but may need insulin later in pregnancy to control their blood sugar. It is important to take the medicines as instructed by your provider. Tell your provider if you

are having low blood sugar, vomiting, diarrhea, or any other problems with your diabetes.

Our clinic uses 2 types of diabetes pills: *metformin* and *glyburide*.

Metformin

Metformin works by helping insulin work better in the body. It can be taken 2 or 3 times a day with meals. Low blood sugar does not usually occur with metformin, unless you are also taking glyburide or using insulin.

Your doctor or nurse midwife will tell you how often to take metformin and may tell you to stop taking it 1 to 2 days before you are expected to give birth. **Tell your doctor or nurse midwife right away if you start having flu-like symptoms such as diarrhea, vomiting, or if you feel more tired than usual.**

Glyburide

Glyburide stimulates the pancreas to make more insulin. It is usually taken either 1 to 3 times a day, about 30 minutes before a meal. It is sometimes given at bedtime.

Your doctor or nurse midwife will tell you how and when to take this medicine. Because it stimulates the body to make more insulin, it is possible to have low blood sugar while you are taking glyburide.

It is important to know the symptoms of hypoglycemia. They include feeling dizzy, jittery, shaky, confused, sweaty, weak, and cranky. If you have any of these problems:

- Check your blood sugar.
- If your blood sugar is low, drink 8 ounces of nonfat milk or take another fast-acting sugar such as fruit juice or some of the other foods or drinks listed on page 7.

About Insulin

There are several types of insulin. Each one works differently, which is why most people take 2 or more types of insulin.

The table on the next page shows how the different types of insulin work after they are injected.

Insulin Type	Starts Working	Working Hardest	How Long It Lasts
Humalog (Lispro) Novolog (Aspart)	5 to 15 minutes	1 hour	2 to 4 hours
Regular (R)	½ to 1 hour	2 to 3 hours	6 to 10 hours
NPH	2 to 4 hours	4 to 10 hours	10 to 16 hours
U 500	<i>Ask your provider for information</i>		
Glargine (Lantus) Detemir (Levemir)	2 to 4 hours	(Does not apply)	24 hours or more

When to Inject Insulin

Inject your insulin at the times of day your care team has told you to.

- If you take Regular (R) insulin, wait 30 to 60 minutes to eat after you give your shot.
- If you take Humalog or Novolog insulin, eat **within 5 to 15 minutes** of giving your shot, unless your provider tells you otherwise.

Do **NOT** go to sleep after taking Regular or Humalog/Novolog insulin without eating first.

Where to Inject Your Insulin

You can inject insulin in your stomach, arms, thighs, and the area above your hip bone. Where you inject changes how fast the insulin works. It works fastest if given in the stomach and slowest if given in the thigh.

Talk with your healthcare team about where to give your shot for each time of the day. For example, it is usually best to give your breakfast and dinner shots in the stomach, so the insulin will start working more quickly before the meal. It may be best to give your bedtime shot in the thigh, so the insulin will work more slowly during the night.

In each area where you inject insulin, do **not** use the same exact site each time. But, do take each shot in the same area at the same times every day. For example, if you take fast-acting insulin in your abdomen before breakfast every day, rotate where in your abdomen you inject each time. This will keep scar tissue from building up.

Common Questions About Insulin

How is insulin made?

Most insulins used today are “human” insulin. They are chemically the same as insulin made by the human pancreas, but they are made in a lab. They are not made from a human pancreas. This means there is no risk of catching HIV/AIDS or any other disease from your insulin.

How should I store my insulin?

Keep the bottle(s) of insulin you are using at room temperature. Keep extra bottles in the refrigerator. Do **not** let insulin get too hot or freeze. Do not leave it on a windowsill or in a hot car. Do not put it in the freezer.

Can an insulin shot in my stomach hurt my baby?

NO. The needle is much too short to reach your baby, even in very thin women and even late in pregnancy.

Should I stop my insulin if I am sick and cannot eat?

NO. You may need more insulin when you are sick. Do **NOT** skip your insulin unless your doctor tells you to. See *Sick-day Guidelines* on page 14.

Can I become addicted to insulin? If I have to use insulin during my pregnancy, will I always have to use insulin?

You will not become addicted to insulin. Whether or not you need insulin after pregnancy depends on the type of diabetes you have. If you needed insulin before you became pregnant, you will still need insulin afterward. If you were on diabetes pills before pregnancy *and* your blood sugars were well controlled, you may be able to go back on the pills after pregnancy.

How do I dispose of needles safely?

Ask your nurse how to safely dispose of needles (*sharps*). Sharps containers are boxes used to store used needles and syringes safely. You can buy them at most pharmacies.

You may also dispose of used syringes at any public health clinic or needle exchange. Call 206.205.7837 to learn more.

Sick-day Guidelines

- Do **NOT** skip your dose of insulin.
- Tell your doctor you are sick.
- Test your blood sugar often, at least every 2 to 4 hours.
- Test your urine for *ketones*. Ketones are chemicals that the body makes when it does not have enough insulin. A high level of ketones can harm you and your baby.
- For blood sugars over 250 mg/dl, take extra short-acting insulin (Regular, Lispro, or Novolog) as directed by your provider.
- Drink plenty of fluids, at least ½ to 1 cup (4 to 8 ounces) every hour.
- If you cannot follow your regular meal plan, try foods from the starch/bread food group, such as dry toast, crackers, or rice. Drink liquids such as juice or soda pop with sugar, or eat popsicles with sugar. Take small amounts of food and liquid every hour.
- Tell a friend or family member that you are sick so they can check on you during your illness.

Call your doctor or nurse if:

- You vomit more than once.
- You cannot keep down calorie-containing food or fluids.
- You have a moderate or high level of ketones in your urine.
- Your blood sugar is over 250 mg/dl for 2 tests in a row.

Treating Severely Low Blood Glucose

Severely low blood glucose can cause you to lose consciousness (faint) or have a seizure. If that happens, anything put in your mouth could make you choke.

Glucagon is an emergency medicine that is used if your blood glucose drops too low and it is not safe to give you food. It is given by injection (a shot). Others can safely give you a glucagon injection to help raise your blood glucose from sugar stored in your liver.

Family, friends, and co-workers should know that if a person taking insulin for diabetes becomes unconscious or has a seizure, they should give the glucagon first, then call 911.

Show your family, friends, and co-workers where you keep your glucagon kit. Teach them how to use it. They can practice giving a shot by giving you your normal insulin shot with your help. This practice is important. A person who has never given a shot may not be able to do so in an emergency.

What Family Members and Friends Need to Know

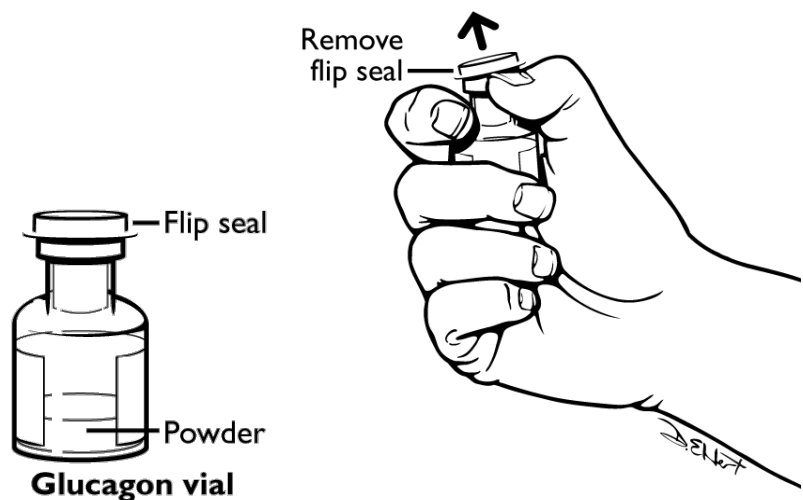
- **Act quickly.** Rapid treatment can lessen health risks. Give the glucagon shot **first**, before calling 911.
- Do **not** check the person's blood glucose before giving glucagon unless you can do so easily and quickly. If someone who takes insulin loses consciousness or has a seizure, assume that they have severely low blood glucose.

But, if the unconscious person is not breathing or has no pulse, do NOT give glucagon. Instead, call 911 right away and start CPR.

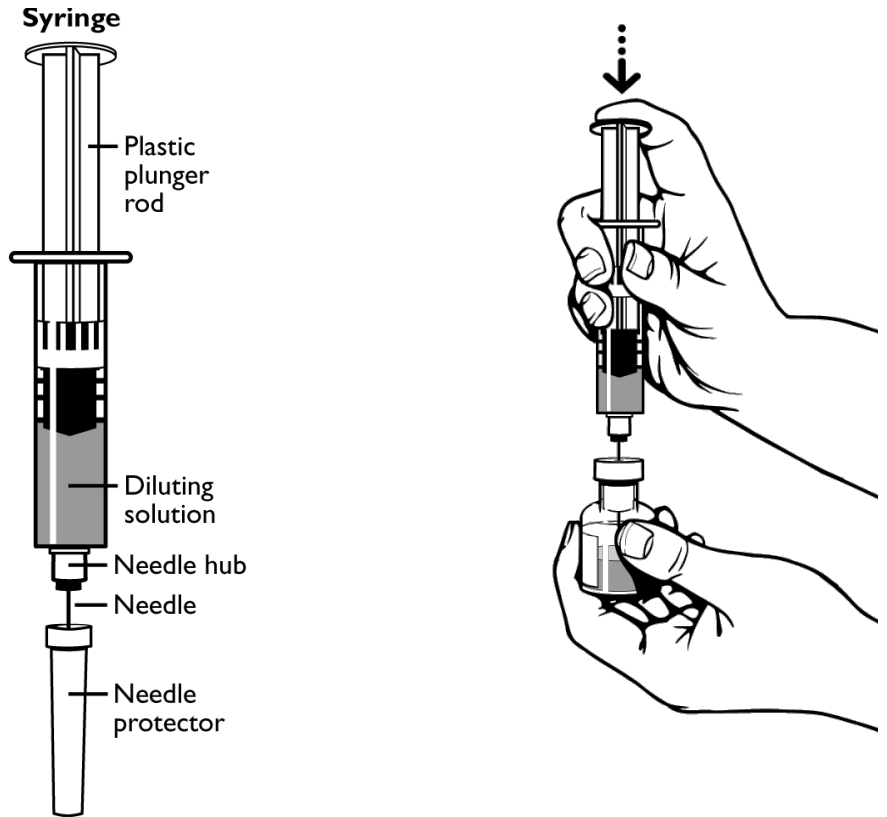
- Turn the patient on their side to prevent choking in case of vomiting. Nausea and vomiting are common side effects of glucagon.
- Follow the instructions on the next 3 pages to give the glucagon shot.

Preparing the Glucagon

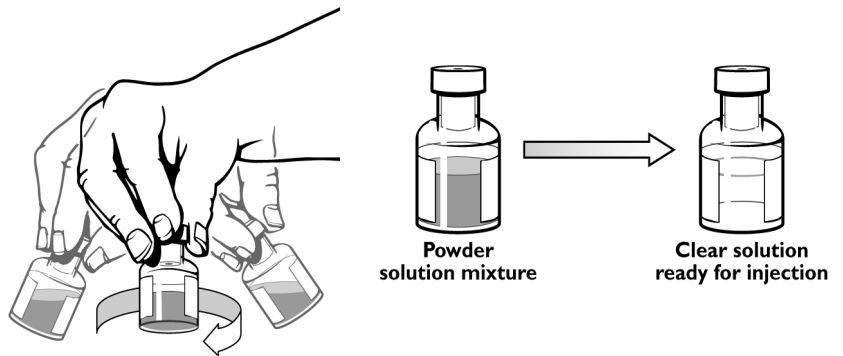
Step 1: Remove the flip-off seal from the bottle of glucagon as shown.



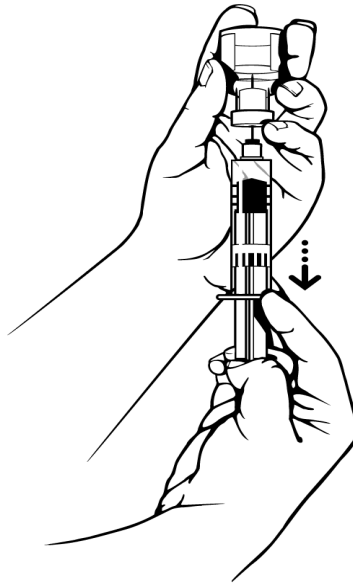
Step 2: Remove the needle protector from the syringe (shot) and inject the entire contents of the syringe into the bottle of glucagon. Remove the syringe from the bottle.



Step 3: Swirl the bottle gently until **all** the glucagon dissolves. Do **not** use the glucagon unless the mixture is clear and looks like water.

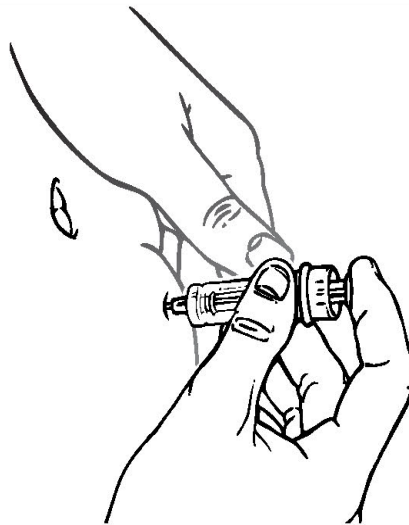


Step 4: Using the same syringe, hold the bottle upside down and insert the needle. Make sure the needle tip stays in the fluid, then gently pull back on the plunger rod to withdraw all the fluid from the bottle. If the plastic plunger rod separates from the rubber stopper, push the rod back in and turn it clockwise.



Giving the Glucagon Shot

Step 5: Insert the needle into the loose tissue of the person's buttock, upper arm, or thigh and inject all of the glucagon fluid. There is no danger of giving too much.



After Giving the Glucagon Shot

Step 6: Turn the person on their side. When they wake up, they may vomit. Turning them will help prevent choking if they vomit.

Step 7: Call 911 as soon as you have given the glucagon shot. This is a medical emergency! Say that the person has diabetes and has received glucagon.

After Calling 911

- Check the person's blood glucose level if you can.
 - Feed the person as soon as they wake up and can swallow:
 - If the blood glucose level is under 70 mg/dL, treat with a fast-acting source of sugar such as apple juice or a soda pop that contains sugar.
- AND**
- When the blood glucose level is over 100 mg/dL, it is OK to offer a snack or meal. Try to provide carbohydrate and protein, such as crackers and cheese or a meat sandwich.
 - If the person does not wake up within 15 minutes, give another shot of glucagon.

Diabetes and Your Delivery Options

During your pregnancy, you and your care provider will talk about your delivery options. Many (but not all) women with diabetes deliver their babies by Cesarean birth for various reasons, including large fetus size.

You and your provider may schedule your delivery before your due date. Once the delivery date is chosen, several things will occur.

Two Days to 6 Weeks Before Delivery

- You will meet with an *anesthesiologist* (a doctor who specializes in treating pain with medicine) to talk about your options for *anesthetics* (pain medicine). This doctor will explain your choices and what they think will be best for you.
- You will have an exam in our clinic. Medical staff who do your exam will give our Labor & Delivery unit the information needed for your delivery, and will tell them when to expect your arrival.

- You may also have an *amniocentesis* a few days before your scheduled delivery date. For this test, your doctor will insert a long, thin, hollow needle through your abdomen into your uterus. About 1 to 2 teaspoons of *amniotic fluid* (the fluid around the baby) are drawn up into the needle. This fluid is tested in our laboratory to make sure that the baby's lungs are developed enough to work well outside your uterus.

The Night Before Your Cesarean

- If you take NPH insulin or glyburide, take them as ordered.
- If you take glargine, Levemir, or metformin, ask your provider how to take these medicines the last few days before your delivery.
- If your surgery is scheduled first thing in the morning, do **NOT** eat or drink anything after midnight the night before.
- Test your blood sugar at 3 a.m. If your blood sugar is low or you are having symptoms of hypoglycemia (shaking, nausea, jitteriness), **take 3 to 4 glucose tablets or 4 ounces of CLEAR juice** such as apple, cranberry, grape. Do **not** drink orange or grapefruit juice.
- Test your blood sugar again in about 15 minutes. Test it again as needed to make sure your blood sugar levels return to and stay within normal limits.

Call Labor & Delivery at 206.598.4616 and come in to the hospital as soon as you can if you do have a low blood sugar event. We will want to check you more often and help stabilize your blood sugar!

Arriving at the Hospital

- Plan to arrive at Labor & Delivery on 6-East at 7 a.m. on the morning of your scheduled Cesarean. Please call first to confirm your appointment: 206.598.4616.
- Remember, if you have a low blood sugar event in the middle of the night, we want you to come to the hospital as soon as you can. Do **NOT** wait until morning!
- Bring your glucose meter and test strips, insulin, syringes and other supplies with you to the hospital. If you are using an insulin pump, please bring extra infusion sets, batteries, and reservoirs because you will be in the hospital for several days

after your baby's birth. (You may not be able to get some supplies at the hospital pharmacy.)

- Be sure to ask us any questions or to share any concerns you have about these instructions or other aspects of your care.

Breastfeeding and Diabetes

If you have diabetes, breastfeeding may offer special health benefits for you and your baby. It is a good idea to talk with your health care provider or *lactation consultant* (a nurse with special training in helping with breastfeeding) about your choice to breastfeed, before your baby is born, so that they can help you to be successful.

Why should I breastfeed?

- Some research links early exposure to cow's milk and cow's milk-based formula to type 1 diabetes. Babies who breastfeed for at least 3 months may have a lower risk of type 1 diabetes. They also may be less likely to become obese as adults.
- Studies show that women who had gestational diabetes who breastfeed have better pancreas function. This may reduce their chances of developing diabetes later in life. Having gestational diabetes is a risk factor for developing type 2 diabetes.
- Some women say they have better overall health and need less insulin during breastfeeding. This could be because their body is adjusting naturally to its changes after the baby is born. In fact, there is a sharp drop in a woman's need for insulin within just hours after giving birth. The stress-busting hormone (*oxytocin*) that a woman's body releases during breastfeeding can also help a diabetic mother feel better, both physically and emotionally.

What should I do after my baby is born?

- Nurse as soon as you can after your baby is born. When you have diabetes, your milk may take 5 or 6 days (rather than 3 or 4) to come in. Until then, your baby will drink *colostrum* – a rich fluid that is packed with good nutrition – from your breasts.
- If your baby is born early or you cannot nurse right away, pump your breasts to get the milk supply going and to help prevent breast engorgement.

- Keep your baby skin-to-skin with you as much as you can right after birth. Studies show that this “kangaroo care” is linked to better blood sugar levels in the baby.
- Since babies born to moms with diabetes may arrive before their due date, breastfeeding gives your baby a head start on a healthy life. It also may help your baby’s own blood sugar levels adjust. The nurses will monitor your newborn right after birth to make sure this happens safely. Little or none of the insulin or oral diabetes medicines you use to control your blood sugar passes through your breast milk to your baby.
- Ask our lactation consultants for help if you have any problems. They can answer your questions both before and after your baby is born.

How can I get off to a good start with breastfeeding?

We want to help both you and your baby enjoy breastfeeding. Here are some tips to help you get started:

- Eat a snack with carbohydrate and protein before and while breastfeeding. This is very important during nighttime feedings. Nursing your baby requires a great deal of energy, so add about 200 calories to your pregnancy diet while you nurse to avoid sudden drops in blood sugar. For your bedtime snack, include 1 to 2 carbohydrate exchanges and 1 to 2 protein servings.
- Test your blood sugar from time to time before and after breastfeeding to see how breastfeeding affects your blood sugar.
- Aim for blood sugars no higher than 150 to 160 mg/dl after meals.
- Drink plenty of fluids (at least 6 to 8 ounces) each time you breastfeed your baby.
- Lose weight slowly. Ask your dietitian for help with a meal plan.
- Meals and medicine changes may be needed as your body makes more milk.
- Position your baby carefully to prevent cracked nipples and breast infections that can lead to *diabetic ketoacidosis* (DKA), if untreated. A lactation consultant can help you with positioning if you need it. Please ask your nurse for our handout, “Attaching Your Baby to Your Breast.”

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.
