

# blood sugar testing, ketone testing, and insulin injections

## blood sugar (glucose) testing

### blood sugar testing at home

The most accurate way to monitor diabetes control is by checking your child's blood sugar. Blood sugar is also called blood glucose. This can be done easily at home by using a glucose meter. The diabetes nurse educator will provide a glucose meter for your child and show you how to use it.

Keep the following points in mind for using your meter:

1. You should only use a meter that has date, time and memory.
2. Make sure the correct date and time are programmed in the meter. This is really important to be able to review the blood sugars in the meter.
3. Each meter also has a 1-800 number on the back for help. You can call that number 24 hours a day, seven days a week. The meter manual is also helpful if you have problems or forget information.
4. It is important to use the proper strip for your glucose meter. Each meter has strips specifically made for that meter. Check the expiration date on each new bottle of strips.
5. Your meter will alert you to when the batteries need to be replaced. The batteries can be bought at local pharmacies.
6. Do not expose the meter to extreme heat or cold, such as leaving it in the car in the winter or summer.
7. For your child's safety and best interest, check blood sugar at least four times a day.
  - Before breakfast
  - Before lunch
  - Before dinner
  - Before bedtime snack
8. Check if your child complains of feeling ill or has symptoms of low blood sugar.
9. You will need to check more often when your child starts a sport or their activity increases. This will affect their blood sugar.
10. When insulin changes are made, you will sometimes need to check the blood sugar at midnight and/or 3:00 am. This is for your child's safety. Follow your care team's instructions.
11. The first week that your child is home you will also be checking blood sugar at midnight and 3:00 am. These are more of safety checks to make sure they're not dropping low. Please check with your doctor on when you can stop these checks.

## what to do with blood sugar results

1. **At first, keep a written record of your results.** These records will help you see patterns and manage them correctly, and understand dose adjustments. The diabetes team can provide you with blood sugar records that you can use.

**Example of a glucose record:** You will need to write the following information in the hour closest to the time the event occurs.

date		12am	3am	6am	7am	8am	9am	10am	11am	12pm
Blood sugar	BG									
Number of carbs	Carbs									
Units of insulin given	Insulin dose									
Gym class, etc.	Exercise									
Ketone level	Keytones									

2. **After being discharged from the hospital, you will need to call in blood sugars daily to the diabetes team.** You will receive discharge instructions with your doses, basic daily instructions, and the phone numbers needed to contact the diabetes team. These numbers are in the beginning of this manual.
  - Each glucose meter has software you can use to load the blood sugars from the meter to a computer. You can often download the software from the meter manufacturer's website.
3. **After the diabetes physician (called an endocrinologist) sees you for your follow-up appointment, you should call as your physician directs and when you suspect a need for insulin adjustments.**
  - Blood sugars will increase when your child has growth spurts, has an illness or is stressed (example: school tests).
  - Even though the child is doing nothing wrong, sometimes they will feel that they will get in trouble if their blood sugars are high. It is important not to label blood sugars as good or bad. The numbers are just measurements.

## ketone testing

### when to test for ketones

- Always if blood sugar is above 300 mg/dl.
- Always if your child feels sick or nauseated, even if the blood sugar is under 300 (especially if she/he vomits, even once).
- For the first week after diagnosis, also check the urine for ketones every morning.

### how to check for ketones: using strips

- Completely cover the colored square on the end of the strip by dipping into fresh urine.
- You can hold the strip directly in the urine stream or the urine can be collected in a cup.



Always confirm written records with the meter's memory. If the wrong blood sugars are given to the team, it could lead to harmful dose adjustments.