



Pediatric Diabetes

Important Phone Numbers

- Diabetes Clinic 916-734-3112 (M-F 8AM TO 5PM)
- On-call Pediatric Endocrinologist 916-734-2011 (5PM TO 8AM, WEEKENDS, AND UNIVERSITY HOLIDAYS)

Guide to Diabetes Language

Your team at UC Davis Health wants you to feel respected and included as the leading member of your health care team. To do that, we want to use (and want YOU to use) accurate and also positive language around diabetes.



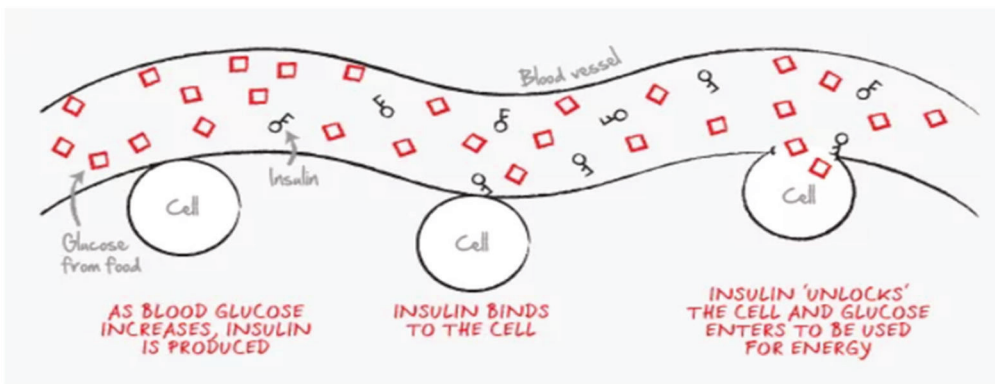
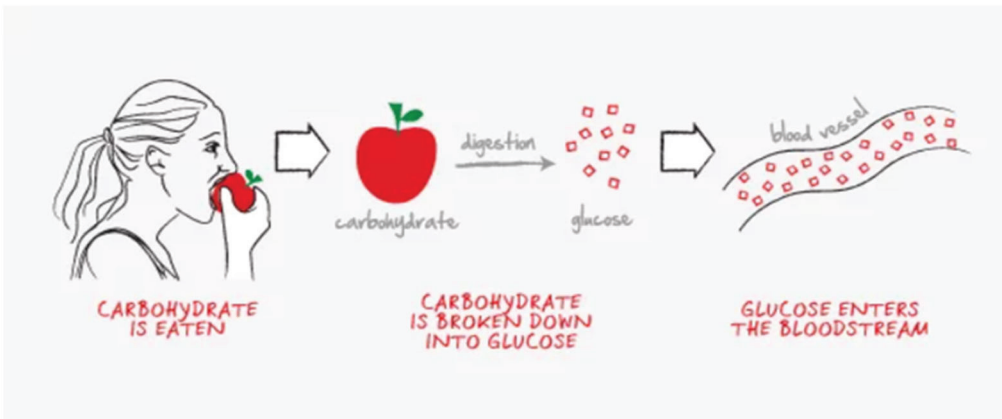
Here is a quick guide for some of the diabetes-specific words that are used in this handbook. You will likely continue to hear your diabetes team use these words in future visits.

- **Blood glucose (BG)** – carbohydrates break down into glucose in the bloodstream. Glucose is a simple sugar in the blood that is used by the cells of the body for energy. Blood glucose is the same as “blood sugar”, and you will hear both terms used.
- **CDE (or CDCES)** – you may see these letters after the name of some of the people on your diabetes team; they stand for “Certified Diabetes Educator” or “Certified Diabetes Care and Education Specialist.” Healthcare workers with this specialty are experts in diabetes and providing education to people with diabetes.
- **DKA (or diabetic ketoacidosis)** – a serious condition caused by lack of insulin. When the body does not make or have enough insulin, it cannot use glucose for energy and begins to break down fat instead. This creates a buildup of acids in the blood stream and can lead to diabetic ketoacidosis.
- **Endocrinology or Endocrinologist** – the field of medicine focused on the endocrine system, which includes glands and hormones. An endocrinologist is an expert in that field, which includes diabetes. Your endocrinologist is your diabetes doctor.
- **Glucometer (glucose meter)** – home measurement tool you use to test the amount of glucose in your blood
- **Hemoglobin A1c (HgbA1c, A1c)** – a blood test that estimates your average BG level for the past 2-3 months. It is a measurement of the percent of blood glucose attached to the oxygen-carrying protein in red blood cells.
- **Ketones** – acids in the bloodstream that are produced by the breakdown of fat in the when there is not enough insulin to use glucose for energy.
- **Pancreas** – an organ of the body that plays many roles in bodily functions; related to diabetes, the pancreas creates and releases hormones into the blood stream. Those hormones include insulin – which lowers blood glucose – and glucagon – which raises blood glucose.

What is Diabetes?

Many people live with diabetes or know someone who is living with diabetes. Treatment looks different for each type of diabetes. With careful attention to a personalized medical plan – as well as keeping a healthy diet and lifestyle – people with diabetes can will live long, active, and healthy lives.

When we eat food, it is broken down into sugar (glucose) and enters the blood stream. When everything is working normally, the body senses sugar in the blood, and the pancreas releases the right amount of insulin. Insulin is a hormone that helps move sugar into your body's cells to be used for energy.



Source: ethoshealth.com.au/blog2-confused-by-diabetes-heres-a-simple-explanation

Type 1 Diabetes

Insulin is made by cells in the pancreas called beta cells. In type 1 diabetes, the body's own immune system starts attacking the beta cells (autoimmune disease). The beta cells are slowly destroyed in the pancreas, which happens over a few months to a few years.



The body breaks down carbohydrates from foods into glucose (sugar), which is needed for energy. Insulin is needed to move the glucose from the blood into the cells of the body. Because the beta cells that make insulin no longer work in people with type 1 diabetes, they need to take insulin to keep blood glucose in a normal range. At this time, insulin can only be given through injection (syringe, insulin pen, or insulin pump).

Type 2 Diabetes

In type 2 diabetes, the body may make insulin, but does not make enough or does not use it correctly. This is called insulin resistance. Most people diagnosed with type 2 diabetes still have normal or increased levels of insulin. However, they can no longer make enough insulin to match their body's resistance to insulin action. Glucose builds up in the blood and causes high blood glucose. Type 2 diabetes is often treated with diet and lifestyle changes. Some people may also take oral medications and/or insulin.

In the United States, more and more adolescents are being diagnosed with type 2 diabetes. Many of these adolescents are overweight (obese). If the child is sick at the time of diagnosis and/or has very high blood glucose levels associated with other symptoms such as weight loss or excessive urination, insulin therapy may be started first. Another reason to start insulin is that not every child who is overweight has type 2 diabetes. Therefore, the doctors may need to run some tests to check that the child does not have type 1 diabetes.

Symptoms of Diabetes

- Excessive urination
- Bed-wetting in a child who was previously toilet trained
- Excessive thirst and/or dry mouth
- Increased appetite
- Weight loss, despite overeating
- Fatigue and weakness
- Blurred vision that fluctuates (due to changes in blood sugar)
- Other non-specific complaints are irritability, apathy, abdominal pain, decline in school performance and restlessness. Adolescent girls may develop yeast infections.

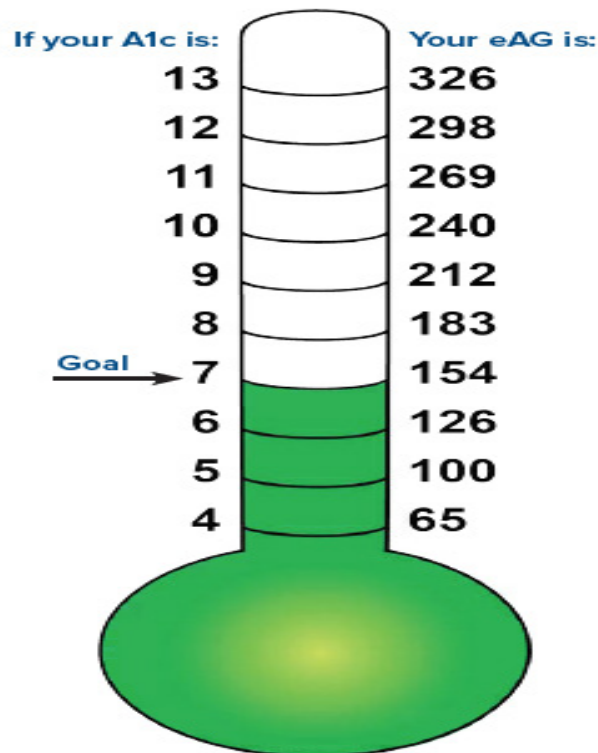


Hemoglobin A1c (also called “A1c”)

Hemoglobin A1c is a blood test that measures the average blood glucose over the past 3 months. It is measured as a percentage. A higher A1c means blood glucose has been regularly higher over those three months.

A1c is a useful tool for monitoring risk for complications related to diabetes. Long-term high blood glucose are related to negative effects on brain function, brain structure, and brain development in children and teens with diabetes.

Your A1c will be checked with each clinic visit with a fingerstick, with your labs, or with an at-home testing kit. For children, the A1c goal is 7% unless unable to verbalize symptoms of hypoglycemia.



Checking Blood Glucose (BG) and Blood Glucose Goals

When do you check blood glucose?

You will check your blood glucose at home using a blood glucose meter (glucometer).

You should check your blood glucose:

- before meals, before bedtime, and at 2am (5 times per day), and
- when there are symptoms of high or low blood glucose

What are your blood glucose goals?

Here are starting blood glucose goals:

Less than 5 years old	71-180 mg/dL
5 years and older	71-150 mg/dL
At bedtime	101-200 mg/dL

The goal is to keep blood glucose in the target range most of the time. Target blood glucoses will change as you learn more about diabetes. Some things to keep in mind:

- Targets may be different based on age, size, activity level, pancreas function, etc.
- There will always be a rise in blood glucose after meals. The goal is for the blood glucose to come back down to target range before the next meal.
- You will learn to treat blood glucose 70 mg/dL or less with **fast-acting** carbohydrate (see page on “Hypoglycemia”). Blood glucoses in the 71-80 mg/dL range are safe, but if blood glucoses are dropping, we want you to treat them with carbohydrate before they reach lower levels.
- If blood glucoses are frequently outside your goal range, then insulin dose adjustments may be needed.



Checking blood glucose

Things you will need to check your blood glucose

- Lancet
- Finger stick device
- Test strip
- Blood glucose meter
- Cotton ball for blotting
- Blood glucose diary



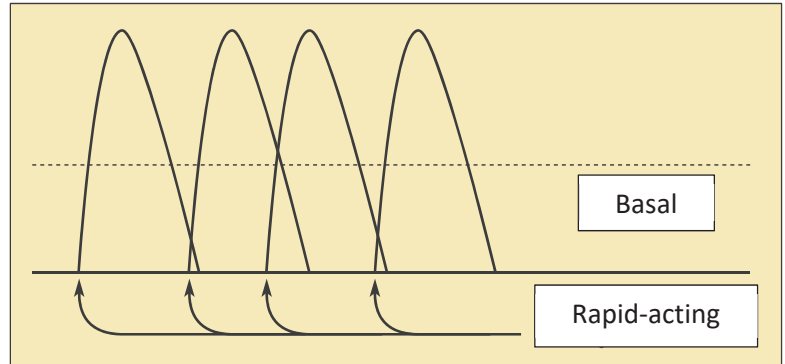
How to check blood glucose

1. Wash and dry your hands.
 - Food or drink left on a finger can cause a falsely high glucose reading. A slightly wet finger can cause a falsely low glucose reading. You should completely clean and dry a finger before checking your blood glucose.
2. Turn meter on.
 - Check that the date and time on meter are correct. *Read instruction manual. Set-up may change from one meter to the next.*
3. Place strip in meter.
4. Perform finger stick.
5. Bring finger to test strip. Fill test strip with blood. Wait for result.
6. Wipe finger with a cotton ball or tissue.
7. Record blood glucose results in diary.

Insulin

Basal insulin is your 24-hour, long-acting insulin and is usually taken once per day. Take it at the same time every day. It will keep your blood glucose in range if you don't eat.

Rapid-acting insulin is taken every time you eat carbohydrates (nutrition dose) and/or when blood glucose is above goal (correction dose). Your total dose before each meal will be nutrition + correction dose. Rapid-acting insulin should be given before EVERY meal or carbohydrate-containing snack.



- The amount of rapid-acting insulin you take depends on your blood glucose (correction dose) and the amount of carbohydrate you eat (nutrition dose).
- If your blood glucose is above the target goal, you will need a “correction dose” of rapid-acting insulin.
- Your “insulin to carbohydrate ratio” is the number of units of rapid-acting insulin you need per gram of carbohydrate. This is how you calculate your nutrition dose.

To calculate how much rapid-acting insulin to take:

1. Check your blood glucose. Compare to your correction scale to determine the correction dose.

EXAMPLE: Correction dose = 1 unit for every 50mg/dL

(or 50 “points”) blood glucose over 150mg/dL

BG = 180

Correction dose = 1 unit

2. Count the grams of carbohydrate in your food. Divide the total carbohydrate grams by your insulin to carbohydrate ratio to determine the nutrition dose.

EXAMPLE: Insulin to carbohydrate ratio = 1 unit for every 10 grams of carbohydrate

Total carbohydrates = 30g

Nutrition dose = 30 grams / 10 = 3 units

3. Add the correction dose to the insulin to carbohydrate dose.
This is your total dose of rapid-acting insulin.

EXAMPLE: Correction dose (1 unit) + Nutrition dose (3 units) = 4 units

The “three-hour rule” for rapid-acting insulin (aka “Insulin Stacking”)

Rapid-acting insulin begins to work about 15 minutes after injection, peaks in about 1 hour, and continues to work for 2 to 4 hours. The three-hour rule prevents “insulin stacking” and a low blood glucose (BG) or hypoglycemia.

What is the three-hour rule?

When eating carbohydrate, always take rapid-acting insulin to cover the carbohydrate you are eating, no matter how recently you took insulin. If you took insulin less than 3 hours ago, use only your insulin to carbohydrate ratio to calculate your insulin dose.

If you were to give a correction dose for high BG within 3 hours of your last dose of rapid-acting insulin, you are “insulin stacking” and this could result in a low BG from taking too much insulin.

The three-hour rule in action

Ray’s insulin to carbohydrate ratio is 1 unit of rapid-acting insulin (Novolog, in this example) for every 15 grams carbohydrate. His correction dose is 1 unit of Novolog for every 50 mg/dL over 150 mg/dL.

Ray eats lunch at noon.
His BG is 182 mg/dL and his lunch contains 60 grams of carbohydrate. He takes 5 units of Novolog insulin.

One hour later (1 PM), Ray’s wants a snack that has 33 grams of carbohydrate. He checks his BG to make sure he is not low (he’s not). He takes 2 units of Novolog to cover the carbs *in his snack only*.

Ray eats dinner at 5 PM. Since it’s been 4 hours since his last insulin dose, he knows he can check his BG and count his carbohydrates and give insulin for *both* his high blood sugar and his carbohydrates.

12 PM	1 PM	2 PM	3 PM	4 PM	5 PM
	5 units Novolog	→			
		2 units Novolog	→		
					BG and carbohydrate insulin

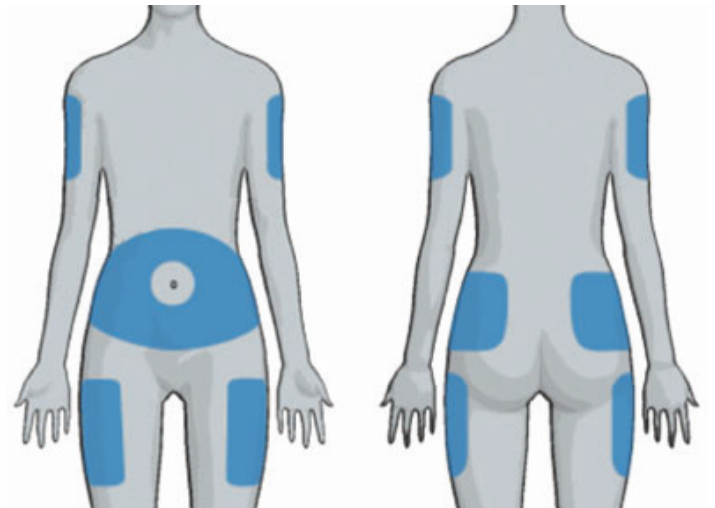
In the early weeks and months of a diabetes diagnosis and learning how to use insulin, it may be better to avoid carbohydrate-containing snacks. This will reduce the risk of insulin stacking and lower the number of pokes a person needs in a day. Less frequent carbohydrate intake can also help the doctors better understand your BG trends and insulin needs.

Insulin injections

- Do not mix basal/ 24-hour insulin with any other insulin.
- Rotate/change the spot where you give your insulin to prevent swelling, lumps, and scar tissue.
- Inject insulin into fatty tissue.
- After injection, wait 5-10 seconds before removing the syringe (needle)/insulin pen from your body.

Injection Sites

- **Abdomen (stomach):** Stay 2 inches away from the belly button or scars. Insulin is absorbed the best from the abdomen.
- **Arms:** Measure one hand width down from the shoulder and one hand width up from the elbow. Use the fleshy outer surface.
- **Legs:** Measure one hand width down from the groin and one hand width up from the knee. Use the top and outer part of the leg, staying away from the inner part of the thigh.
- **Buttocks:** Use the upper outer area.



Injecting cold insulin may sting. If you store your insulin in the refrigerator, warm it to room temperature before injecting.

Insulin Storage

- Keep **unopened** bottles/pens of insulin in the refrigerator or in a cool place (less than 86 degrees Fahrenheit).
- **Open** bottles/pens of insulin may be stored at room temperature (less than 86 degrees Fahrenheit) and away from direct sunlight **for up to one month**.
- NEVER store insulin in the freezer.
- Write the date on the bottle/pen when it is opened. Expiration dates of insulin will vary. Check the product instructions or ask the pharmacist for information about insulin expiration.

Step-by-Step Guide to Using an Insulin Pen

See Tiger TV channel 944

1. Wash and dry your hands.
2. Arrange your supplies: sharps container, alcohol wipes, insulin pen and needle.
3. Remove the pen cap and wipe the stopper using an alcohol wipe.
4. Remove the seal and push the new needle straight onto the pen.
5. Screw needle on tight.
6. Remove the outer shield (a), and then remove the inner shield (b).
7. Check the flow of the medication by dialing two units. With the needle facing up, press the thumb button until you see a drop of medication. If necessary, repeat until you see a drop of medication.
8. Dial your medication dose.
9. Clean a small area of skin using an alcohol wipe. Insert needle.
10. Press the thumb button down. Post injection, count for ten (10) seconds before removing the needle from your skin.
11. Throw the needle away after one use. Use a safe sharps container.

2



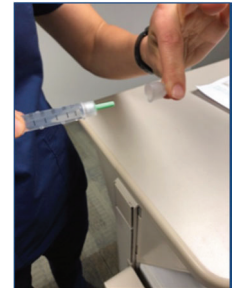
3



4



6-a



6-b



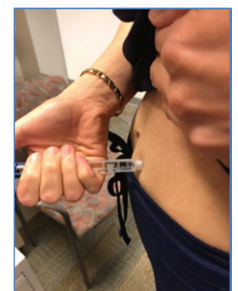
7



8



10



Step-by-Step Guide to Using an Insulin Syringe

See Tiger TV channel 948

If You Use Vials and Syringes



Step 1
Clean the top of the vial with an alcohol pad, then remove the cap from the syringe needle.



Step 5
Make air bubbles less likely by slowly pulling down on the plunger. Draw insulin past your dose. Tap the syringe a few times so any bubbles rise to the top.



Step 2
Draw air into your syringe—an amount equal to the units of insulin you'll be injecting. To do so, pull back the syringe's plunger until its black stopper reaches your insulin dose amount on the syringe barrel. So if you will be taking 6 units of insulin, pull back the plunger until the stopper hits the 6 etched onto the barrel.



Step 6
Without removing the syringe from the vial, slowly push the plunger until the edge of its black stopper reaches the number of units in your dose, as marked on the syringe. If you see any bubbles, push all that insulin back into the vial and repeat these steps until no bubbles are present.



Step 3
Put the vial on a flat surface and hold it. Insert the syringe into the vial, and press down on the plunger to inject the air from Step 2 back into the vial.



Step 7
Identify an injection site. Pinch up a bit of skin (if necessary). Insert the needle at a 90-degree angle. Hold the needle in the skin for 5 seconds to ensure there is no leakage.



Step 4
With the syringe still in the bottle, turn the vial and syringe upside down. The tip of the needle should be fully covered by insulin.



Step 8
Dispose of your syringe and needle in a sharps container.

Source: Diabetes Forecast® (American Diabetes Association)

Sharps Disposal Locations

As of September 1, 2008, state law (Section 118286 of the California Health and Safety Code) made it illegal to dispose sharps waste in the trash or recycling containers and requires that all sharps waste be transported to a collection center in an approved sharps container.

For more information including “take back” programs, visit or call:

**www.safeneedledisposal.org
(800) 643-1643**

Different cities and counties have different sharps disposal options

- Some sharps disposal programs allow needles, syringes, and lancets to be placed into hard-sided containers (such as a bleach bottle) and labeled “sharps”
- Other programs require an actual sharps container to be used and may provide the container
- Some programs allow for mailing sharps waste for disposal

Local enforcement agency contacts:

<u>County</u>	<u>Department</u>	<u>Telephone</u>
El Dorado	Environmental Management	530-621-5300
Sacramento	Environmental Health	916-875-8468
Yolo	Planning and Public Works	530-666-8852
Placer	Western Placer Waste Management Authority	916-543-3960 (Roseville)
		530-885-3735 (Auburn)



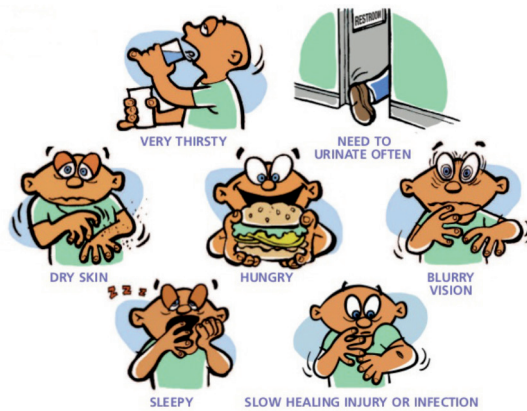
Hyperglycemia (High Blood Glucose)

Common Causes:

- Too much carbohydrate/ sugar
- Too little insulin
- Illness/ stress

If your blood glucose is high, you may feel:

- Need to urinate often
- Dry skin
- Hungry
- Blurry vision
- Sleepy
- Slow healing injury or infection
- Very thirsty



Treating High Blood glucose

1. Test blood glucose.
2. **If more than 3 hours since the last insulin injection**, give insulin according to your correction scale.
3. If blood glucose stays over 350 mg/dL 3 hours after giving correction dose, or the child is sick or vomiting, test urine for ketones.

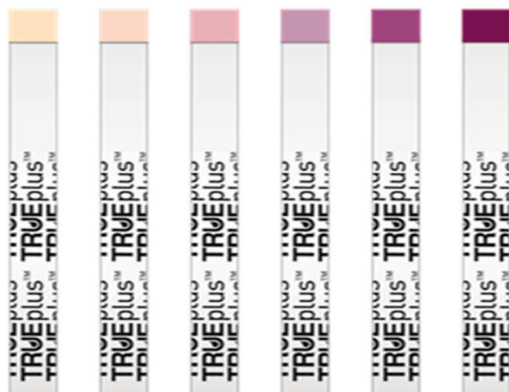
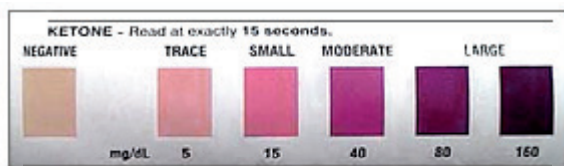
What are Ketones?

Ketones are made by the body when there is not enough insulin in the body, or when the insulin you are taking has gone bad. A build-up of too many ketones in the blood can lead to a dangerous condition called diabetic ketoacidosis (DKA).

Check urine for ketones if blood glucose is higher than 350 mg/dL, when you are sick or have fever, vomiting, stomach-ache, or headache.

You will check for ketones by dipping a urine ketone strip in urine. Ketones can also be checked by blood with a blood ketone meter.

What to do with ketone strip results:	
Large or Moderate	<p>Call your diabetes team:</p> <ul style="list-style-type: none"> ▪ If Monday through Friday, 8 am to 5 pm, call Diabetes Clinic at 916-734-3112 – tell the staff you are calling about ketones. ▪ If 5 pm to 8 am, on weekends and university holidays, call on-call Pediatric Endocrinologist at 916-734-2011. <p>Check blood glucose every 3 hours, drink fluids, and take correction insulin.</p>
Small	Drink plenty of water, take correction insulin if appropriate, and recheck ketones in 2-3 hours
Trace	Continue routine diabetes care and drink plenty of water. Recheck for ketones in 2-3 hours.
Negative	Continue routine diabetes care.



Depending on the brand, ketone strips may go bad 2-6 months after opening. Check the package insert or ask the pharmacy about the “shelf life” of your strips.

Hypoglycemia (Low Blood glucose)

Common Causes:

- Too little carbohydrate
- Too much insulin
- Extra activity or exercise



Treating Low Blood Glucose

1. You should treat blood glucose 70 mg/dL or less. Here's how:
2. Tell someone you feel low and check blood glucose.
3. If blood glucose is 70 mg/dL or less, treat by eating or drinking fast-acting carbohydrate. (Refer to table in "Pediatric Diabetes Low Blood Glucose Treatment" handout for correct amount of fast-acting carbohydrate based on age).
4. **If blood glucose is 50 mg/dL or less, take DOUBLE the amount of fast acting carbohydrate.**
5. Wait 15 minutes then re-check blood glucose. Repeat step 2 if blood glucose is 70 mg/dL or less.

Never give food to a person who is unconscious/unresponsive (will not wake up / does not respond) from hypoglycemia. **If the person is unconscious/ unresponsive, give Baqsimi or Glucagon and call 9-1-1.**

If your blood glucose is low, you may feel:

- Shaky
- Fast heartbeat
- Sweaty
- Dizzy or shaky
- Anxious
- Hungry
- Burry vision
- Weak or tired
- Headache
- Nervous or upset

Pediatric Diabetes Low Blood Glucose Treatment

Fast-acting carbohydrates for low blood glucose (less than 70mg/dL) based on age:

Age	Carbohydrates (grams)	Juice (ounces)	Sugar* (number of teaspoons, cubes or packets)	Glucose tabs
Younger than 16 months	4	1	1	
16 months to 6 years	8	2	2	2**
7 to 10 years	12	3	3	3
11 years & older	16	4	4	4

For blood glucose 50mg/dL or less, DOUBLE the amount of recommended treatment

* Sugar can easily be dissolved in water

**Only give glucose tablets to children older than 4 years old who can safely chew and swallow tablets

These guidelines are recommendations for the treatment of hypoglycemia. Please consult with your endocrinologist as needed.



The above examples are provided for informational purposes only; the exact brands pictured are not favored over similar products available in stores.

Glucagon

A person needs Glucagon when they are having a severely low blood glucose AND they are unresponsive or unconscious, having a seizure, and/or are unable to take fast-acting carbohydrate like juice, sugar, icing, or honey by mouth. You should always have Glucagon with you.



Directions for use

1. Remove the flip-off seal from the bottle of Glucagon. Wipe rubber stopper on the bottle with an alcohol swab.
2. Remove the needle protector from the syringe and inject the entire contents of the syringe into the bottle of Glucagon. Remove the syringe from the bottle.
3. Swirl bottle gently until Glucagon dissolves completely. The solution should be clear and water-like in consistency.
4. The usual dose is 1 mg. For children weighing less than 44 lbs., give ½ mg (0.5 mg mark on syringe). There is no danger of overdose with Glucagon.
5. Inject immediately into muscle: buttock, thigh, or arm.
6. Glucagon may cause vomiting. Turn patient on his or her side to prevent choking.
7. Call 9-1-1 immediately after giving Glucagon.



Download this helpful smartphone app
Glucagon – Information you need to feel
prepared to use Glucagon

Nasal Glucagon: BAQSIMI (for people ages 4 years and older)

BAQSIMI is a nasal glucagon (sprayed through the nose) that can be used to treat severe low blood glucose (hypoglycemia).

Directions for use

1. Do not remove the shrink wrap until you are using BAQSIMI. Remove shrink wrap by pulling on the red stripe.
2. Open the lid and remove the device from the tube.
3. Hold the device between your fingers and thumb.
4. Insert tip into one nostril until finger(s) touch the outside of the nose.
5. Push plunger all the way in. Dose is complete when the green line disappears.

Note – each device contains one dose (one dose is 3 mg). This dose is the same for all people ages 4 years and above.

For a “how-to” video, visit www.baqsimi.com/how-to-use-baqsimi.

After giving BAQSIMI

Content should be broken up into sections as it makes sense to do so. Remember that bullet lists can help people better read and understand key information:

- Call 9-1-1 right away.
- Turn the person on their side.
- If the person does not respond after 15 minutes, another dose may be given, if another device is available.
- The person receiving BAQSIMI should eat as soon as possible. When they can safely swallow, give the person a fast-acting source of sugar.

Important Information to Know

- Store at temperatures up to 86°F (30°C) in the shrink-wrapped tube provided. Do not refrigerate or freeze.
- Do not remove the shrink wrap or open the tube until you are ready to use it.
- Do not push the plunger or test BAQSIMI before you are ready to use it.
- BAQSIMI contains 1 dose of glucagon nasal powder and cannot be reused.



For more information visit
manufacturer's website: www.baqsimi.com

Nutrition and Type 1 Diabetes

Foods are made of carbohydrates, protein, and fat – or a mixture of these. Carbohydrates turn into sugar in your body. When you eat carbohydrates, you must take an insulin injection.

Which foods have carbohydrate? Carbohydrates come from starch and sugar in food. Carbohydrates can be found in the following food groups:



Starches



Milk and yogurt



Fruits



Foods with added sugar

To find the amount of carbohydrates in the food you eat:

- read nutrition labels,
- use online resources, and/or
- use smartphone applications.

Measuring cups or food scales will help you be most accurate in measuring the amount of carbohydrate-containing foods you eat at meals and snacks.

Carbohydrate Food Lists

These food lists may be helpful in estimating carbohydrates when you do not have a food label or other resource available. Remember that each choice is only an estimate of carbohydrate content.



Starches (15 grams carbohydrate each choice)

½ small bagel or ¼ large bagel (1 oz)	½ hamburger or hot dog bun
1 slice bread (1 oz)	1 pancake (4 inches across)
½ cup cooked beans or lentils	⅓ cup cooked pasta
½ cup cooked cereal	3 cups popcorn
¾ cup dry cereal, unsweetened	⅓ cup cooked rice or quinoa
½ English muffin	6 saltine crackers
20 thin French fries	1 (6-inch) tortilla
	13 tortilla chips (1 oz)
	1 waffle (4 ½ inches)

Starchy Vegetables:

½ cup corn or green peas
1 small potato
½ cup mashed potato, sweet potato, or yam
1 cup winter squash (acorn, butternut, pumpkin)

Fruits (15 grams carbohydrate each choice)

1 small (4 oz) apple	2 Tbsp dried fruit	1 medium (5 ½ - 6 ½ oz) nectarine, peach, orange
8 dried apricot halves	17 small grapes	¾ cup fresh pineapple
1 (4-inch) banana	½ cup kiwi, sliced	1¼ cup strawberries
¾ cup blueberries	1 cup cubed melon (cantaloupe or honeydew)	1¼ cup watermelon
½ cup canned fruit, in juice		

Milk and Yogurt (12 grams carbohydrate each choice)

1 cup milk	1 cup sweetened soy milk	1 cup plain nonfat or low-fat yogurt
------------	--------------------------	--------------------------------------

Sweets, or “Other Carbohydrates” (15 grams carbohydrate each choice)

1 small (1¼- inch square) brownie, unfrosted	1 (2-inch square) piece cake, unfrosted	½ cup ice cream, sorbet, or sherbet
3 small sugar-free cookies	½ cup sugar-free pudding	1 (3 oz) fruit juice bar
		5 vanilla wafers

Low-carbohydrate food groups

Non-starchy vegetables

Include vegetables in your diet every day. Remember to count starchy vegetables (such as potatoes, corn, and peas) as carbohydrate.

- Artichokes
- Asparagus
- Beets
- Broccoli
- Carrots
- Cauliflower
- Cucumber
- Eggplant
- Green beans
- Lettuce, greens
- Mushrooms
- Onions
- Peppers
- Radishes
- Spinach
- Tomato
- Water chestnuts
- Zucchini

Meats and other proteins

Choose lean protein sources more often. Try to eat protein foods with your meals.

- Chicken or turkey
- Cheese
- Cottage cheese
- Eggs
- Fish
- Jerky
- Lean beef, lamb, or pork
- Meatless breakfast “sausage” patties
- Peanut butter
- Tofu or tempeh

Fat

Eat more fat as unsaturated fat, which comes from non-animal sources like avocado, olives, nuts, and seeds.

- Avocado
- Bacon
- Butter
- Coconut milk
- Cream cheese
- Margarine
- Mayonnaise
- Nuts
- Oil
- Olives
- Peanut/nut butter
- Salad dressing
- Seeds

“Free foods”

These foods contain less than 5 grams carbohydrate per serving. Limit “free foods” to 3 servings per day.

- ¼ cup salsa
- 1 Tbsp low-fat sour cream
- 2 Tbsp whipped topping
- 1 sugar-free hard candy
- 2 tsp light jam or jelly
- Sugar-free gelatin
- 1 Tbsp honey mustard or ketchup
- Vinegar or lemon juice
- 1 large dill pickle
- 1 Tbsp fat-free cream cheese
- Diet soda, diet beverage
- 4 tsp sugar-free coffee creamer



Food Labels

If a food has a label, use these steps to count how many carbohydrates you are eating.

1. Check the serving size.
 - Use a measuring cup or food scale to measure your food portion accurately.
2. Check the "Total Carbohydrate".
 - This is the amount (in grams) of carbohydrate per 1 serving. This number includes starch, sugars, and fiber*. Do not count grams of "Sugars" (listed under "Total Carbohydrate") separately.
3. Adjust your carbohydrate count if you are eating more or less than 1 serving.

Nutrition Facts	
Serving Size 1 cup (253g)	
Servings Per Container 2	
Amount Per Serving	
Calories 260	Calories from Fat 72
Total Fat 8g	
Saturated Fat 3g	
Cholesterol 120mg	
Sodium 1010mg	
Total Carbohydrate 22g	
Dietary Fiber 9g	
Sugars 4g	
Protein 25g	

Examples

- If you eat ½ cup of the food in the sample label, your carb intake would be 11 grams.
- If you eat 2 cups of the food in the sample label (1 full container), your carb intake would be 44 grams.

Nutrient Information Lists							
Menu Item	Calories	Total Fat (g)	Cholesterol (mg)	Total Carbohydrate (g)	Dietary fiber (g)	Sugars (g)	Protein (g)
Chicken Burrito (Chipotle)							
12" flour tortilla	320	9	0	50	3	0	8
4 oz chicken	180	7	125	0	0	0	32
4 oz white rice	210	4	0	40	1	0	4
4 oz pinto beans	130	1.5	0	21	8	1	8
2.5 oz fajita vegetables	20	0	0	5	1	2	1
3.5 oz tomato salsa	25	0	0	4	1	1	0

Low-Carbohydrate Snacks

Healthy meals and snacks are an important part of diabetes management. Snacks can help keep hunger away between meals. Snacks low in carbohydrates can help manage blood sugar levels.



Tips for Healthy Snacking

- Portion control is an important part of carbohydrate counting. Use measuring cups and spoons or kitchen scales for accuracy. **The portion sizes listed below contain less than 5 grams net carbohydrates.**
- Be mindful of what and how much you eat by not snacking in front of the TV, computer, or while driving.
- Keep low-carbohydrate, pre-portioned snacks in your backpack, lunch bag, or at work so you have healthy options to choose from when you're hungry between meals.
- In addition to carbohydrate intake, people with diabetes may have other specific nutrition needs to consider (e.g. gluten-free, low sodium, low saturated fat, reduced calorie). **Talk to your dietitian about your other nutrition needs as you choose snacks from the lists below.**

Avocado	<ul style="list-style-type: none"> ▪ ½ whole avocado ▪ 1 mini cup (57g or 2 oz) guacamole – try Wholly Guacamole® Minis
Cheese/Dairy/ Dairy Alternatives	<ul style="list-style-type: none"> ▪ ½ cup no salt added cottage cheese ▪ 1 string cheese ▪ 5 ounces unsweetened almond milk ▪ 1/3 cup ricotta cheese + ¼ cup raspberries ▪ Blue cheese and yogurt dip with vegetables: <ul style="list-style-type: none"> ○ Mix together 2 Tbsp blue cheese and 1 oz unsweetened plain whole milk yogurt; serve with zucchini spears, bell pepper strips, carrot sticks ▪ 1 serving cheese snack – try Whisps® Parmesan Cheese Crisps (23 crisps) or Just the Cheese® snacks (2 bars)

Egg	<ul style="list-style-type: none"> ▪ 1 egg: try scrambled, hard-boiled or deviled
Meat	<ul style="list-style-type: none"> ▪ 2 ounces lunch meat – eat on its own or wrap around 1 string cheese ▪ 2 ounces tuna salad ▪ 1 ½ ounces beef or turkey jerky (cured without sugar) – try Epic™ bar (check label for carb content) or Mission Meats-brand meat sticks ▪ 1 all-meat hot dog + 1 Tbsp mustard ▪ Chicken salad: <ul style="list-style-type: none"> ○ 3 oz cooked chicken breast (chopped) + handful chopped celery + 3 Tbsp lite mayonnaise + sprinkle of slivered almonds
Nuts/ Seeds and Nut/ Seed Butters, Olives	<ul style="list-style-type: none"> ▪ 1 oz nuts: pecans (19 halves), Brazil nuts (6 kernels), macadamia nuts (10-12 kernels), walnuts (14 halves), pecans (19 halves), almonds (22 kernels), pistachios (49 kernels) ▪ 10 olives ▪ 2 Tbsp natural nut butter – eat on its own or dip with celery sticks ▪ 3.5 Tbsp pumpkin seeds, ¼ cup sunflower seed kernels
Non-starchy Vegetables	<ul style="list-style-type: none"> ▪ ½ cup raw, non-starchy vegetables with 1 Tbsp hummus ▪ ¼ cup edamame (boiled, shelled) ▪ Celery stuffed with 2 Tbsp cream cheese or 2 Tbsp natural peanut butter ▪ Caprese salad: <ul style="list-style-type: none"> ○ Two slices tomato with 2 slices mozzarella cheese, basil leaves, and drizzled with balsamic vinegar ▪ ¼ cup babaganoush with vegetables for dipping ▪ 1 cup steamed broccoli with 1 oz shredded cheddar cheese melted on top ▪ Stuffed mushroom caps: <ul style="list-style-type: none"> ○ In a skillet, cook onion and spinach. Add feta cheese and stuff mixture into mushroom caps. Bake in oven for 25-30 minutes at 350 degrees. ▪ 2 mini bell peppers stuffed with 2 Tbsp cream cheese ▪ Pizza zucchini <ul style="list-style-type: none"> ○ Slice zucchini and top with dab of pizza sauce and sprinkle of mozzarella cheese – cook in oven until cheese is bubbly. ▪ 1 cup salad greens + ½ cup diced vegetables + drizzle of vinegar and oil ▪ 1 ounce kale chips ▪ 1 package (5 gm) seaweed snacks

<p>Non-starchy Vegetables</p>	<p><i>Vegetables make great stand-alone snacks. Consider any of these non-starchy vegetable choices (½ cup cooked or 1 cup raw will provide about 5 g carbs):</i></p> <ul style="list-style-type: none"> ▪ Artichoke ▪ Asparagus ▪ Green beans ▪ Broccoli ▪ Brussels sprouts ▪ Cabbage ▪ Carrots ▪ Cauliflower ▪ Celery ▪ Chicory ▪ Chinese cabbage ▪ Cucumber ▪ Dill pickle ▪ Eggplant ▪ Greens ▪ Jicama ▪ Kohlrabi ▪ Leeks ▪ Lettuce ▪ Mushrooms ▪ Okra ▪ Onions ▪ Peppers ▪ Radishes ▪ Rutabaga ▪ Sauerkraut ▪ Snow peas or pea pods ▪ Spinach ▪ Summer squash ▪ Swiss chard ▪ Tomato ▪ Turnips ▪ Water chestnuts ▪ Zucchini
-------------------------------	---

Dietary resources

Book

- “The Calorie King Calorie, Fat & Carbohydrate Counter” by Allan Borushek

Website



Calorie King:
calorieking.com



SparkRecipes
recipes.sparkpeople.com



Diabetes Food Hub:
diabetesfoodhub.org



USDA Food Database
nal.usda.gov/fnic/food
comp/search/s

Smartphone apps



Calorie King



Lose It!



Figwee Visual Food Diary



My Fitness Pal

Diabetes plate method

The diabetes plate method can help you control portion sizes of all foods, including carbohydrates, throughout the day.

¼ plate: Protein

Keep lean protein to 3-4 oz. portions.

- Choose loin or round cuts of meat
- Include fish twice a week
- Remove skin from chicken

Examples:

- chicken or turkey
- lean beef
- fish
- beans
- lentils
- eggs
- tofu

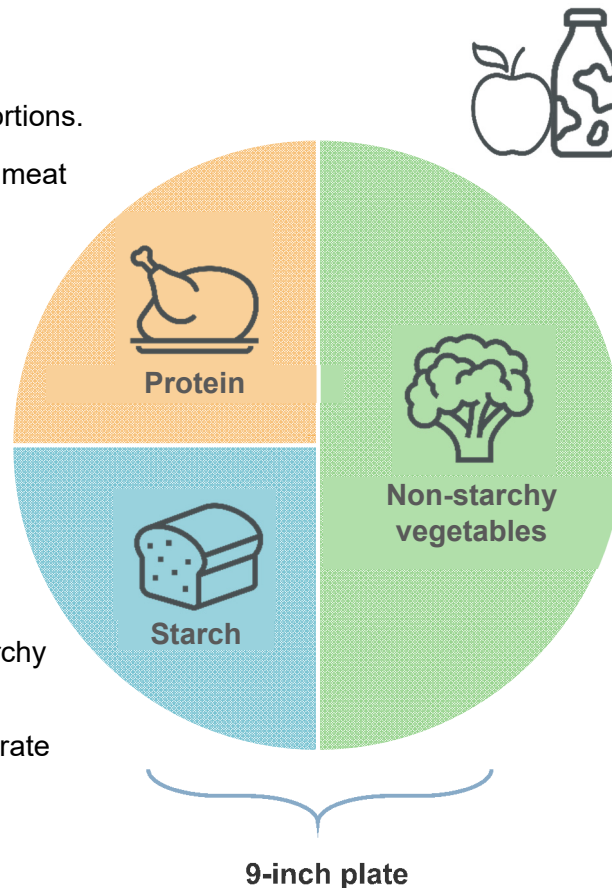
¼ plate: Starch

Keep grains, starches and starchy vegetables to ¼ of your plate.

- This is a controlled carbohydrate
- Choose whole grains for more fiber

Examples:

- whole-wheat bread
- bagel
- tortilla
- pita bread
- waffle
- pancake
- pasta
- brown rice
- unsweetened cereal
- potato
- corn
- peas



½ plate: Non-starchy Vegetables

Fill half your plate with non-starchy vegetables. These items are:

- Low in calories
- Low in fat
- High in fiber
- Slower to digest and keep you full longer

Examples:

- salad
- green beans
- tomatoes
- carrots
- broccoli
- asparagus

Meal Planning for Type 1 Diabetes

This activity will help you identify which foods and beverages contain carbohydrates and let you practice calculating insulin doses for meals and snacks.



Directions for Foods List:

- Start by writing down all of your normal foods and drinks. It may be helpful to think of this like a grocery list: write down all of the individual items you eat and drink during a normal week.
- Use the Calorie King book or any of the electronic resources to find the carbohydrate content of each item on your list.
- Once complete, keep this list as a reference guide for carbohydrate counting.

Directions for Sample Menu Plans:

- Write down breakfast, lunch, and dinner meals for three days. Include foods and drinks that you normally eat and drink. If you eat at restaurants often, include a meal from your favorite restaurant.
- Use your foods list, Calorie King book or any of the electronic resources to count the total carbohydrate content of meals and snacks.
- Use your insulin to carbohydrate ratio to calculate the amount of insulin needed for each meal and snack.

Helpful Information for this Activity:

Your Insulin to Carbohydrate Ratio: _____ units of insulin per _____ grams carbohydrate

Aim for _____ grams of carbohydrate per meal.

Children should consume at least 130 grams of carbohydrate per day for brain function.

Sample foods list

Food Name	Amount	Grams of Carbohydrate per Amount Listed
100% whole wheat bread (Orowheat® brand)	1 slice	18
Thomas® English muffin	1 muffin	25
KIND® bar (dark chocolate nuts and sea salt flavor)	1 bar	16
Strawberries	1 cup halves	12
Peanut butter (Jif® brand)	2 Tbsp	8
Blueberries	½ cup	11
String cheese	1 piece	1
Guacamole	2 oz	5
Tortilla chips	2 oz	38
Black olives	1 oz	2
Salmon, cooked	4 oz	0
Brown rice	½ cup cooked	22
Cucumber	¼ cup slices	1

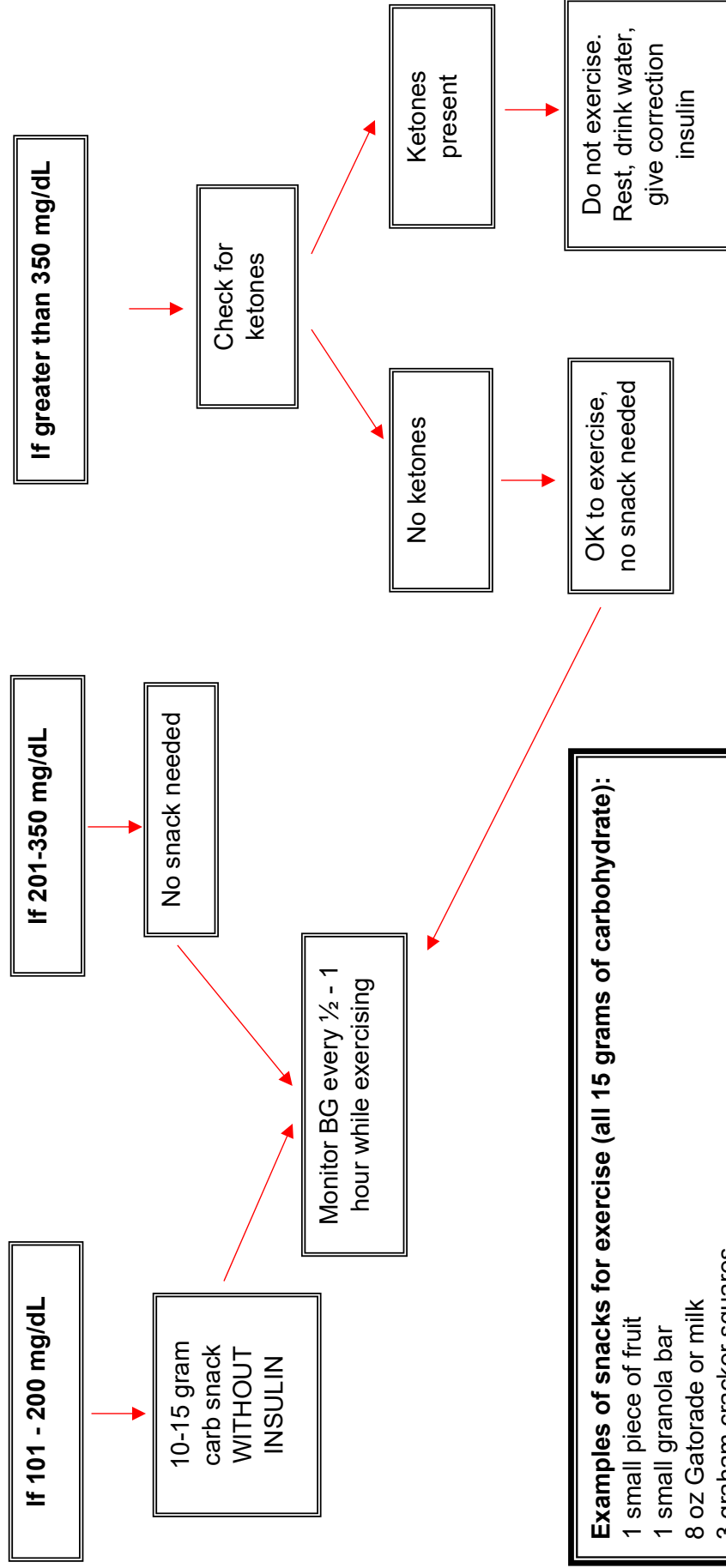
Sample menu

Insulin to Carbohydrate Ratio: <u>1</u> units of insulin per <u>12</u> grams carbohydrate			
Food and Drink <i>List each item separately</i>	Amount	Grams of Carbohydrate	Insulin Dose Per meal
Baby carrots	1 cup	8	
Ranch dressing	2 Tbsp	3	
Sandwich:			
100% whole wheat bread (Orowheat® brand)	2 slices	36	
Turkey breast lunch meat	3 slices	2.7	
Cheddar cheese slice	1 slice	0	
Mustard	2 tsp	0	
Whole milk	8 oz	12	
		Total carbs = 61.7	61.7 ÷ 12 = 5.1 units -> 5 units

Basic Exercise Guidelines



Check Blood Glucose (BG)
before exercise
(BG must be greater than 100mg/dL to begin exercise)



Examples of snacks for exercise (all 15 grams of carbohydrate):

- 1 small piece of fruit
- 1 small granola bar
- 8 oz Gatorade or milk
- 3 graham cracker squares
- 4 peanut butter/cracker sandwiches (packaged, ex: Ritz, Keebler)

How to Help with Needle Related Procedures

Helping a child with a needle related procedure is not always easy. But there are ways to make it less scary, while also giving the child a sense of control.

Some tips to keep in mind:

- Children are sensitive to their space and the emotions of others. Aim to stay positive.
- Let your child know what to expect when they need their procedure. Explain honestly why it is needed.
- Have your supplies ready to go before doing your child's procedure.
- Create a routine so your child knows what will happen each time.
- When possible, give choices. For example, your child can choose a comfort position (see below), count to three before the poke, watch the poke, or focus on something else, like a video.
- For younger children, there are other ways to help your child focus on something else. You can sing a song, blow bubbles, look at an "I Spy" book, or make up a story.
- To reduce the feeling of the poke, try putting ice or a heat pack where the needle will go before cleaning the skin.
- Ask your Certified Child Life Specialist for more information about medical play.

Comfort Positions



If you are interested in support from a Certified Child Life Specialist, please see the contact information at ucdavis.health/childlife.

Helpful Diabetes Websites

The following websites contain a lot of information. Topics include Diabetes education, recipes, peer-to-peer support, tip sheets, information on managing Diabetes at school, Diabetes support targeted specifically towards parents, kids, and teens, opportunities for community involvement, and much more.

- **American Diabetes Association** diabetes.org
Diabetes basics, Parents and Kids section, etc.
- **Diabetes Research Institute Foundation** diabetesresearch.org
Support for parents, Parents Empowering Parents: “The PEP Squad”.
- **Diabetes Youth Families** dyf.org
Many resources, camp information, peer programs. “Brave Buddies” online support group for parents of children with Type 1 Diabetes.
- **International Diabetes Federation** idf.org
Diabetes information, support, and resources in multiple languages.
- **Juice Box Podcast – Type 1 Diabetes** juiceboxpodcast.libsyn.com/
Free online blog and stories about families managing Type 1 Diabetes.
- **Juvenile Diabetes Research Foundation** jdrf.org
Get connected with an adult JDRF volunteer who has diabetes themselves or has a child with diabetes.
- **Kids Health** kidshealth.org
Diabetic facts and myths, dealing with feelings, teen Diabetes Center, etc.
- **National Institute of Diabetes and Digestive and Kidney Diseases** niddk.nih.gov/health-information/diabetes
Information on Type 1 and Type 2 Diabetes.

If you are interested in support from a Certified Child Life Specialist, please see the contact information at ucdavis.health/childlife.

Diabetes Camps

Children and teens with diabetes can do the same activities they have done before their diagnosis. The camp setting allows for children and teens to meet other people their age who share a similar experience, being diagnosed with Diabetes.

- **Diabetes Youth Families dyf.org**
 - Bearskin Meadow Camp**
 - Additional Programs**
 - Camp de los Ninos
 - Weekend Family Retreats
 - Campamento Familiar en Español: Family weekend retreat held in Spanish
- **California Diabetes Association/Nevada Diabetes Association diabetesnv.org**
- **Lions Diabetic Camp at Lake McCumber mccumberdiabetescamp.org**
- **Camp Conrad-Chinook diabetescamping.org**

If you are interested in support from a Certified Child Life Specialist, please see the contact information at ucdavis.health/childlife.

How to Help Your Child Cope with Diabetes

Younger age group: Infant to Pre-School

What to expect	Possible reactions to new diagnosis
<ul style="list-style-type: none"> ▪ Look for people they can trust and will take care of their needs ▪ Fear strangers and new, unfamiliar spaces ▪ Want consistency of caregivers and a daily routine ▪ Are in the process of making a bond and attachment with caregiver(s) ▪ Learn about the world through their senses ▪ Like to do things by themselves ▪ Use play to express themselves, learn, and gain control ▪ Increase verbal skills, may associate specific words with pain (i.e., "Owie") 	<ul style="list-style-type: none"> ▪ Increase in infant stress responses: looking away, arching back, changes in activity level ▪ Behavior changes such as clinginess to parents, increased stranger anxiety, increased protest of cares (i.e., biting crying, kicking) ▪ Possible regressive behaviors such as changes in eating, sleeping, toileting, or strong reactions to pain ▪ May see diabetes cares as a punishment or consequence for being "bad"

Older age group: School-Age to Teenage

What to expect	Possible reactions to new diagnosis
<ul style="list-style-type: none"> ▪ Importance of family and friends ▪ Recognition and success may be important to your child ▪ Begin to desire privacy and independence in daily tasks ▪ Learn best with clear, simple explanations ▪ Can understand basic body parts and how they work ▪ Have a fear of the unknown and fear of pain 	<ul style="list-style-type: none"> ▪ May know others with diabetes which can impact their view and understanding ▪ May not understand diabetes well ▪ May feel like they caused diabetes, may need reminders that it is not their fault ▪ Can have a wide variety of emotional reactions ▪ May initially become more stressed as they realize that diabetes is a life-long diagnosis

Ways to support your child with Diabetes Management

- Children watch cues from their caregivers. Try to remain calm and confident when performing diabetic cares.
- Have materials ready before checking you child’s blood sugar, giving insulin, and/or changing the infusion set.
- Help give your child simple explanations before doing diabetes cares and give them a warning before diabetes cares such as “before lunch” or setting a 5-10 minute timer.
- Create a consistent routine so your child knows what to expect and try to not do diabetes cares in the child’s bed so this can remain a “safe space”.
- Help your child comfort themselves with favorite comfort items and/or object to suck on (i.e., pacifier).

- Provide appropriate choices such as where your child wants the blood sugar check or insulin injection. As they get older encourage them to participate in their cares, such as pushing on the syringe or giving the injection to their own body .
- Give your child appropriate “jobs” such as washing hands, holding a band aid, and choosing a distraction activity. As they get older, jobs can include carb counting.
- Use distraction techniques to help your child focus on something else (i.e., sing a song, listen to music, provide light-up toys, play peek-a-boo, blow bubbles, take deep breaths, look at a picture book).
- Use Comfort Positions (see How to Help with Needle Related Procedures document in binder).
- Allow opportunities for safe medical play such as acting out diabetes cares on a stuffed animal. This can help a child understand their cares better and help you see any misconceptions the child may have.
- Read books with your child about emotions and care routines to support expression of feelings.
- Ask your child to explain their understanding of steps and why diabetic cares need to happen.
- Help your child find ways of sharing their diagnosis with friends, classmates, and family to ease transition back to school and in the community (I.e., “My body needs help turning my food and drink into energy so I can still do fun things!”)

Type 1 diabetes apps and resources

These apps and the information therein are neither associated with nor endorsed by UC Davis or the University of California. Any information of guidance provided within the app is solely that of the app developer. Use at your own risk. Always check with your doctor if you have questions or concerns about your health and wellness.

MyUCDavisHealth



Download the **MyUCDavisHealth** app to communicate securely with your diabetes care team, access test results, request prescription refills, and manage your appointments.

BG management



MySugr: Integrates CGM with Accucheck Guide. Health coach option. \$

Nutrition



Calorie King: Look up carb counts in this accurate nutrition database



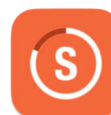
Figwee: Unique portion scale lets you visualize foods to better card counting



Fooducate: Food tracker with nutrition ratings



MyFitnessPal: Food tracker, easy to use to stay on track with nutrition goals



Streaks: Set goals and build new habits. \$

More Resources

Websites

American Diabetes Association®

diabetes.org



Children with Diabetes®

childrenwithdiabetes.com/



DYF (Diabetes Youth Families)

dyf.org/



Juvenile Diabetes Research Foundation

jdrf.org/t1d-resources/newly-diagnosed/



e-Meet & Greets

[Parents/Caregivers of
Children with T1D Ages 13-21](#)



[Parents/Caregivers of
Children with T1D Ages 5-12](#)



[Parents/Caregivers of
Children with T1D Under 5](#)



[Ask the Endo](#)



[T1D Teen Connect](#)



Videos

Nemours Children's Health

kidshealth.org/en/parents/in-diabetes-vd.html



eBooks

Jumohealth Understanding Type 1 Diabetes

jumohealth.com/comics/understanding-type-1-diabetes/read



Important phone numbers

<p>Pediatric Diabetes Clinic For clinic appointments/other scheduling needs, non-urgent diabetes or nutrition questions, and medication or supply refills. Call during regular business hours</p>	<p>Mon. – Fri., 8 a.m. – 5 p.m. 916-734-3112 1-800-770-6850 MyUCDavisHealth Refill Request for refills</p>
<p>Diabetes Management Letters for School Call during regular business hours</p>	<p>Mon. – Fri., 8 a.m. – 5 p.m. 916-734-1211</p>
<p>UC Davis Hospital Operator for urgent issues Ask for the “pediatric endocrinologist on-call”. Use this number ONLY for Urgent matters after hours</p> <p>Urgent issues include:</p> <ul style="list-style-type: none"> ▪ Hypoglycemia (low blood glucose) requiring use of Baqsimi/Glucagon ▪ Moderate to Large urine ketones ▪ Sick/vomiting and unable to eat or drink 	<p>Mon. – Fri. from 5 p.m. – 8 a.m., weekends, and university holidays 916-734-2011 1-800-641-6464</p>
<p>UC Davis Hospital Operator for blood glucose readings for weekends/holidays. Call around 12 p.m. You should receive a call back within 30 minutes. <u>Please have blood glucose data ready to review.</u></p>	<p>916-734-2011 1-800-641-6464</p>
<p>Non-Diabetes Related Appointments/Questions</p>	<p>Call your primary care doctor</p>
<p>Insulin pump or CGM troubleshooting</p>	<p>Call the manufacturer</p> <ul style="list-style-type: none"> ▪ Dexcom: 1-888-738-3646 ▪ Medtronic: 1-800-633-8766 ▪ Omnipod: 1-800-591-3455 ▪ Tandem: 1-877-801-6901

Welcome to UC Davis Pediatric Diabetes Clinic

Glassrock Building, 2521 Stockton Blvd (3rd Floor)-Free Parking is available in the lot southeast of the Glassrock Building.

Contacting clinic: M-F 8-5: (916) 734-3112. After hours, weekends and holidays: 916-734-2011. Ask hospital operator to page the “pediatric endocrinologist” on-call.

Immediately following discharge

- You will get regular phone calls from our team to discuss blood sugars and adjust insulin if needed. Make sure we have updated contact info and the best way to reach you.

To assist you and your child with your transition back home and provide ongoing diabetes care/education/support, your child will have three diabetes clinic appointments scheduled after leaving the hospital:

First diabetes clinic appointment

The first diabetes clinic appointment will be within the next few weeks.

- This first appointment will be in our clinic with the pediatric endocrinologist or physician’s assistant and the clinic social worker.

Second and third appointments

The second and third appointments may be scheduled as in clinic or as Video Visits.

- The second appointment will take place one week after your 1st appointment and is with the dietitian.
- The third visit will take place 1-2 weeks after your 2nd appointment and is with the pediatric endocrinologist or physician’s assistant and a diabetes nurse.

Bring your binder, blood glucose diary, and diabetes devices (ex: glucose meter, Continuous Glucose Monitor) to each in-person appointment and to every appointment in the future.

You’ll see the entire team during these first visits. Our team consists of the following and below is a brief description of how we can help assist you:

Endocrinologist: Your diabetes doctor will make insulin updates to match changes needed with your meal plan and blood sugars, address your labs, and clarify your type of diabetes.

Dietitian: Carb counting clarification, meal plan adjustments, label confusion, snack/meal planning, timing of meals, exercise/sports nutrition.

Nurse educator: Our nurse educator will review important information about diabetes management, and answer questions about your child’s diabetes needs.

Social worker: Our social worker will provide support, assessing your child’s mood and coping following their diagnosis. Social work can also provide info on the following: support groups, summer camps, and information on returning to school and work. They can also answer questions about applying for financial assistance or medical insurance if needed.



Items you will need to manage your diabetes

Blood glucose checking	Insulin	Other
<ul style="list-style-type: none"> ▪ Blood glucose meter (glucometer) ▪ Test strips for meter ▪ Lancet device (for finger sticks – comes with glucose meter) ▪ Lancets <p><i>Write down blood glucose results in your diary and bring to clinic. Bring your meter with you to all appointments. Your team cannot make changes to your insulin without the information from your meter.</i></p>	<ul style="list-style-type: none"> ▪ Basal/ 24-hour long-acting insulin ▪ Rapid-acting insulin/ “daytime” insulin ▪ Syringes/ pens 	<ul style="list-style-type: none"> ▪ Glucagon emergency kit ▪ Ketostix ▪ Batteries (for meter) ▪ Glucose tablets or gel or juice ▪ Cotton balls ▪ Alcohol swabs ▪ Sharps disposal container

After Hospital Discharge

After discharge, insulin doses will likely need to be adjusted every few days. Please call the Pediatric Diabetes Voicemail during the weekdays (8 a.m. – 12 p.m.) at 916- 703-5971 to report blood glucose values. A nurse will return your call to discuss insulin dose changes. If you do not hear back from a clinic nurse by 5pm and you think an insulin dose change is needed, please call the UC Davis Hospital Operator to get into contact with the pediatric endocrinologist on-call.



Diabetes blood glucose diary

Name _____ Month and year _____

Date	Breakfast					Lunch					Dinner					Bedtime					2 a.m.			
	Blood Glucose (BG) --- TIME	Carbohydrates (Carbs)	Insulin (units) for BG	Insulin (units) for Carbs	Total Insulin Dose	BG --- TIME	Carbs (grams)	Insulin (units) for BG	Insulin (units) for Carbs	Total Insulin Dose	BG --- TIME	Carbs (grams)	Insulin (units) for BG	Insulin (units) for Carbs	Total Insulin Dose	BG --- TIME	Carbs (grams)	Insulin (units) for BG	Insulin (units) for Carbs	Total Insulin Dose		Long-Acting Insulin Dose (units)		
Sun.																								
Mon.																								
Tues.																								
Weds.																								
Thurs.																								
Fri.																								
Sat.																								

Hypoglycemic (Low Blood Glucose) Events

Date/ Time	BG	Treatment (i.e., 4 oz. juice)	Follow-up BG

Date/ Time	BG	Treatment (i.e., 4 oz. juice)	Follow-up BG

Diabetes Knowledge Review

This review is a tool that can be used to decide which diabetes topics you feel comfortable with and which topics need more explanation. The following questions cover the information that has been discussed during your hospital stay.

Some of the following questions may have more than one right answer. For these questions, select the one answer you think is best.

This review is not a test and will not delay discharge. Please use any resources you need to answer the questions to the best of your ability.

1. A person with diabetes needs to take rapid-acting insulin (for example, Novolog):
 - a) At breakfast, lunch, and dinner
 - b) Any time they eat or drink something that contains carbohydrate
 - c) When blood sugar is above goal and it has been more than 3 hours since the last correction dose
 - d) All of the above

2. A person with diabetes should check urine for ketones if they:
 - a) Are sick with a cold or flu
 - b) Miss a dose of basal (24-hour) insulin
 - c) Have a blood sugar over 350 mg/dL
 - d) All of the above

3. Low blood sugar can be caused by:
 - a) Exercise
 - b) Too much insulin for the amount of carbohydrate eaten
 - c) A and B

4. A person needs Glucagon when they are having a severely low blood sugar AND they are:
 - a) Unresponsive or unconscious
 - b) Having a seizure
 - c) Unable to take juice, sugar, icing or honey by mouth
 - d) All of the above are reasons to give Glucagon

5. Are the following statements true (T) or false (F)?

- | | | |
|---|---|---|
| Food or drink left on a finger before testing can cause a falsely high glucose reading. | T | F |
| A slightly wet finger can cause a falsely low sugar reading. | T | F |
| You should completely clean and dry a finger before testing. | T | F |
| Too much blood on the test strip can cause a falsely high reading. | T | F |

6. Jeremy took his insulin with lunch at a birthday party. One hour later, he wants to eat a slice of cake. The best plan would be to:

- Give insulin for the carbohydrate in the cake only.
- Give insulin for the carbohydrate in the cake plus an extra dose if blood sugar is high.
- Eat the cake without giving insulin, and give extra insulin at the next meal if needed.
- Avoid eating the cake.

7. Jayden is watching a movie in the evening and falls asleep before giving his basal (24-hour) insulin. He sleeps late the next morning and wakes up with stomach pain and nausea. His blood sugar is 438 mg/dL. What should he do?

- Test for ketones.
- Call the doctor.
- Both A and B.

8. Ellen uses the following insulin doses:

- Insulin to carbohydrate ratio of 1 unit for every 15 grams carbohydrate.
- Correction dose of 1 unit for every 50 mg/dL above 150 mg/dL – see table below:
 - 151-200 mg/dL: add 1 unit
 - 201-250 mg/dL: add 2 units
 - 251-300 mg/dL: add 3 units
 - 301-350 mg/dL: add 4 units
 - >350 mg/dL: add 5 units

Ellen is planning to eat a sandwich with 2 slices of bread (30 grams carb), a small apple (15 grams carb), and a cup of milk (15 grams carb). Her blood sugar is 126 mg/dL.

How much insulin should Ellen take? _____ units

9. Children with a new diagnosis of diabetes often react with:

- Anger
- Sadness
- Early acceptance followed by weeks or months of anger and sadness
- A bad temper and getting upset about things they normally would not
- Delayed acceptance and integration of diabetes into normal life
- Any or all of the above

Use the nutrition label to answer questions 10 and 11.

10. How many total grams of carbohydrate are in **one container**?

- a) 28 grams
- b) 31 grams
- c) 39 grams
- d) 62 grams

11. If your insulin to carbohydrate ratio is 1:10, how much insulin would you give for **one serving** of this food?

- a) 1 unit
- b) 2 units
- c) 3 units

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings per Container 2			
Amount Per Serving			
Calories 280	Calories from Fat 120		
	% Daily Value*		
Total Fat 13g			20%
Saturated Fat 5g			25%
Trans Fat 2g			
Cholesterol 2mg			10%
Sodium 660mg			28%
Total Carbohydrate 31g			10%
Dietary Fiber 3g			0%
Sugars 5g			
Protein 5g			
Vitamin A 4%	•	Vitamin C 2%	
Calcium 15%	•	Iron 4%	
<small>*Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.</small>			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat. Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g
Calories per gram:			
Fat 9	•	Carbohydrate 4	• Protein 4

Congratulations! You've completed the diabetes knowledge review.

Are there any diabetes care topics you want more information on?

Is there any diabetes care you feel uncomfortable providing?
