

THE GUIDE TO LIVING WITH DIABETES



Pediatric Endocrinology

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The best way to contact your provider-
through the Healow APP!
Download the Healow app from your app store
Use the passcode: HAACCD

The Best Way to Contact Your Provider – Through the Healow App!

For non-emergency communication with your provider, we recommend using our secure **patient portal** through the **Healow app**. This convenient, free app gives you access to many helpful features right at your fingertips!

Why Use the Healow App?

- **Send non-urgent messages** directly to your provider
 - **Schedule or reschedule appointments**
- **View your medical records**, including your medication list and some lab results

 **Please Note:** Messages sent through the app are only reviewed during **business hours**:

Monday–Friday, 7:00 AM to 4:00 PM

Messages are **not monitored on evenings or weekends**.

 **If you are experiencing a medical emergency, do not use the app. Please go to the nearest emergency room immediately.**

If you need care outside of business hours, the ER is the best place to go.

How to Get Started:

1. Download the **Healow** app from your app store
2. Use the **passcode: HAACCD**
3. Follow the on-screen prompts to complete setup

 **Need help?** If you run into any issues, contact the Healow support team at **help@healow.com**.

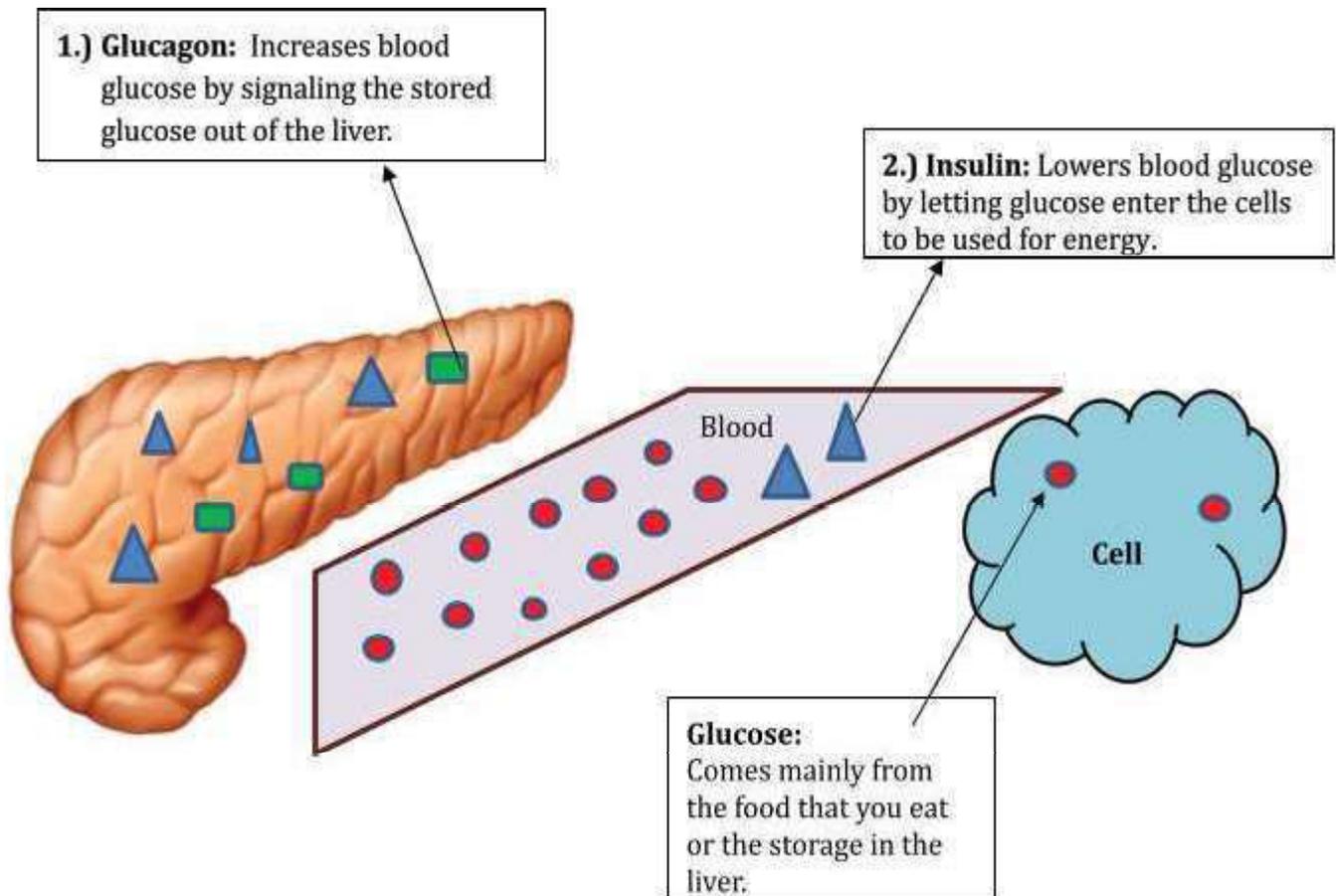
WHAT IS DIABETES?

Diabetes is a disease characterized by high blood glucose (sugar) because your body cannot produce insulin.

People with diabetes cannot use the energy from the food they eat. The Pancreas (an organ behind your stomach) produces no insulin at all. Insulin helps the body use glucose from the food for energy. Due to no insulin blood glucose rises. This is called Type 1 diabetes.

PANCREAS

Pancreas makes digestive enzymes and produces two hormones. Hormones are chemical messengers in the body. These two hormones are: glucagon and insulin.



DIABETES DEFINITIONS

- 1) **Bolus:** Insulin given to cover food or lower blood sugar.
- 2) **Carbohydrates (Carbs):** Foods that break down to sugar.
- 3) **Correction Factor:** How many “points” one unit of insulin will lower the blood sugar.
- 4) **Diabetic KetoAcidosis (DKA):** When an excessive amount of ketones build up in your body and cause the person to become very ill very quickly, in a matter of hours.
- 5) **Hemoglobin A1c:** A blood test that reflects the average blood glucose over the last three months.
- 6) **Hyperglycemia:** Blood glucose greater than 300 mg/dL.
- 7) **Hypoglycemia:** Blood glucose less than 70 mg/dL.
- 8) **Insulin to Carbohydrate (Carb) ratio:** How many grams of carbs will be covered by one unit of insulin.
- 9) **Ketones:** What is produced when the body uses fat for energy instead of sugar.
- 10) **Target blood sugar:** The blood sugar value used for insulin dose calculations.

BLOOD SUGAR MONITORING

1. Clean hands:

- Wash your hands with soap, and pat dry.
- You can also clean your finger with an alcohol wipe.

2. Good working glucometer:

- Check the expiration date on the bottle of strips.

WHEN TO MONITOR

- ✓ Before meals
- ✓ Bedtime
- ✓ 2am until instructed otherwise
- ✓ 15 minutes after treating a low
- ✓ If experiencing symptoms of a high or low blood sugar
- ✓ Every two hours when sick and/or with moderate to large ketones



GOAL BLOOD SUGARS

Daytime blood sugars: 80-180 mg/dL

Bedtime blood sugars: 150mg/dL

INSULIN TYPES

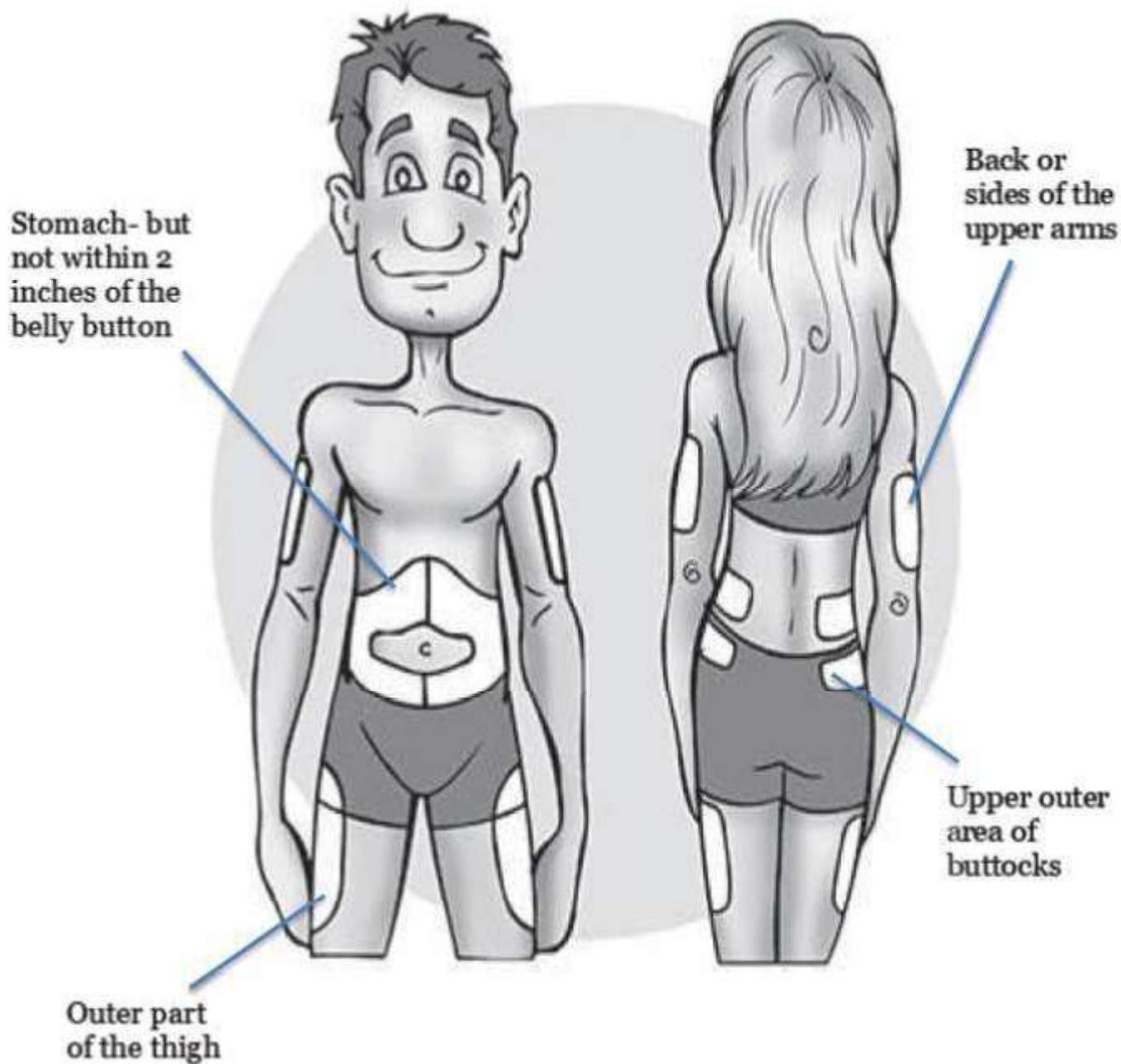
Type	Brand Name	Begins Working	Main Effect	All Gone
Rapid Acting Insulin	Humalog Novolog Admelog Fiasp	10-15 minutes	90 minutes - 2 hours	3 hours
Long Acting Insulin	Basaglar Lantus Tresiba	1-4 hours	24 hours	24 hours

- ❖ **Rapid Acting Insulin (Humalog, Novolog, Admelog):** Begins working quickly, It is taken with meals and snacks (carb coverage) and brings down high blood sugar (correction).
 - *****BE CAREFUL** not to give a correction dose of rapid acting insulin if it has been less than 3 hours since the last correction dose.
- ❖ **Long Acting Insulin (Basaglar, Lantus, Tresiba,):** It should be given at the same time each day.

INSULIN CARE

- ✓ Store unopened insulin vials or pens in the refrigerator.
- ✓ Open insulin can be stored at room temperature at 32-85 degrees Fahrenheit.
- ✓ Never use insulin after the expiration date stamped on the vial or pen.
- ✓ Your insulin pen or vial (except Tresiba) expire 28 days after you open it. Tresiba pens can be used up to 56 days.

INSULIN INJECTIONS



WHY ROTATE?

Lipohypertrophy

- A buildup of fat cells from repeated injections at the same site. This looks like a fatty lump on the surface of the skin.
- If you keep injecting in these areas the insulin will not be absorbed as easily and may cause elevated blood sugars.



1.) *Calculating extra insulin for high blood sugar correction factor*

***NOTE:** If blood sugar is at or below 120 mg/dL, **SKIP THIS STEP!**

$$\text{BLOOD SUGAR} - 120 \div \text{CORRECTION FACTOR} = \underline{\hspace{2cm}}$$

****Example:** Your blood sugar is 180. The correction factor is 30.

$$180 - 120 = 60 \div 30 = \mathbf{2 \text{ units}}$$
 of insulin

****Example:** Your blood sugar is 90. The correction factor is 30.

$$90 - 120 = -30 \quad \mathbf{\text{Do not calculate. SKIP THIS STEP!}}$$

2.) *Calculating insulin for food/beverages.*

$$\text{Total grams of carbohydrate} \div \mathbf{\text{INSULIN TO CARBOHYDRATE RATIO}} = \underline{\hspace{2cm}}$$

****Example:**

8 oz. of milk	12 grams of carbs
1 cup of Mac & Cheese	30 grams of carb
TOTAL CARBS: 42 grams of carb	

Insulin to carb ratio: 1 unit for every 20 grams of carbs.

$$42 \text{ grams} \div 20 = \mathbf{2.1 \text{ units}}$$
 of insulin

3.) *Add numbers from each step together the total dose of insulin for that meal.*

$$\mathbf{2 + 2.1 = 4.1 = \text{rounded to } 4}$$

CALCULATING AN INSULIN DOSE WHEN **NOT** TO USE THE CORRECTION FACTOR

- If your blood sugar is at your target or less than your target.
- If it has been less than 3 hours since your correction bolus.
- If you have treated a low blood sugar in the past 3 hours.
- If it has been less than 3 hours since vigorous exercise.
- At bedtime or during the night unless directed otherwise by your doctor.



WHAT ARE CARBOHYDRATES (CARBS)?

Carbs are...

- Foods that break down to sugar in the body
- Found in many of the foods your child eats.
- Important nutrients that supply the blood sugar that your child's body and brain need.

Which foods contain carbs?

- Fruits
- Milk, yogurt, pudding
- Grains like rice, cereal, pasta, bread
- Starchy vegetables like potatoes, beans, corn, squash
- Snack foods like pretzels, chips, popcorn, and sweets including cakes, candy, and cookies
- Sugary drinks like juice, soda, sweet tea

What do you need to know?

- Your child's body turns carbs into blood sugar.
- Your child's body uses insulin to move blood sugar into the body cells where it is used for energy.
- Balancing insulin with carbs at each meal and snack can help keep your child's blood sugar closer to target levels.

TOOLS FOR CARB COUNTING

- Food Labels
- Restaurant Websites
- Calorie King Book



- Apps or Websites
 - *Calorie King
 - Glucose Buddy
 - My Fitness Pal
 - Nurish App



- Measuring cups/spoons
 - Optional: Food Scale
- Ask your Dietitian!

WHAT IS A FREE SNACK?

- A very low carb snack that will not raise blood sugar. It is less than 5 grams of carbohydrate for the entire snack and does not need to be covered by insulin.
- Watch portions of free snacks. It is easy to “stack” free snacks and end up with over 5 grams of carbohydrate.
 - For example, 1 sugar free popsicle is 3 grams, if you gave 2 popsicles. Total carbohydrates would be 6 grams.

Free Snacks

	Grams of carbohydrate
<u>Vegetables</u>	
Carrots, 4 small (4")	3
Celery, 1 stalk	1
Cucumber, ½ cup sliced	1
Dill Pickle, 1 large	3
Lettuce, 1 cup	2
Olives, 3 small	1
Salsa, 2 Tablespoons	2
<u>Proteins</u>	
String cheese (1 oz.)	1
Deli Meats, 1 slice (1 oz.)	1
Bacon	
Ham or Turkey	
Egg	0
Scrambled eggs with cheese	0
Pork Rinds	0
Beef Jerky	0
Chicken, Fish (plain)	0
Peanut Butter, 1 tablespoon	3
Cream cheese, 1 tablespoon	2
<u>Nuts</u>	
Almonds, 15 large	3
Cashews, 7 large	5
Peanuts, 15 large	3
Walnuts, 15 halves	3
<u>Miscellaneous</u>	
“Two Good” Brand Yogurt	2
Sugar free Jell-O	0
Diet Soda	0
Crystal light	0
Sugar free Popsicle, 1 Popsicle	3

FOOD LABEL BASICS

Nutrition Facts			
Serving Size 8 Crackers (28g)			
Amount per serving			
Calories	120	Fat Calories	30
% Daily Value			
Total Fat	3.5g		5%
Saturated Fat	1g		5%
Trans Fat	0g		
Polyunsaturated Fat	1.5g		
Monounsaturated Fat	0.5g		
Cholesterol	0mg		0%
Sodium	140mg		6%
Total Carbohydrate	22g		7%
Dietary Fiber	1g		3%
Sugars	7g		
Protein	2g		
Vitamin A	0%	Vitamin C	0%
Calcium	10%	Iron	4%

Check the serving size: 8 crackers. Is that how much you plan to eat?

This number—28 g—is the weight of the crackers, not the amount of carbs in the serving.

Count total carbs.

You do not need to count sugars separately because they are already counted as part of the total carbs.

FOOD LABEL BASICS

Sugar-Free and Fat-Free Foods

Be sure you know what you are getting!

Sugar-free foods can be part of a healthy meal plan in small amounts. Keep in mind, though, that many of these foods still have carbs (which can be in the form of other sweeteners such as sorbitol, isomalt, and mannitol) and so may still affect your blood glucose levels.

If it is sugar-free, I can eat as much as I want, right?

Not really... many sugar-free foods have calories, carbs, and lots of fat. In fact, some sugar-free foods may have the same amount of calories and carbs as non-sugar-free options. Therefore, make sure you read the labels!

Comparing Labels

Compare labels below. Notice that the regular ice cream has the same amount of carbs and calories as the sugar-free ice cream. It also has about the same amount of fat and more saturated fat.

Regular Ice Cream

Nutrition Facts		
Serving Size 1 bar (45g)		
Servings Per Container 6		
Amount per serving		
Calories	120	Calories From Fat 60
% Daily Value		
Total Fat	7g	11%
	Saturated Fat 4g	20%
Cholesterol	30mg	10%
Sodium	35mg	1%
Total Carbohydrate	13g	4%
	Dietary Fiber 0g	0%
	Sugars 13g	
Protein	2g	

Sugar-Free Ice Cream

Nutrition Facts		
Serving Size 1 bar (45g)		
Servings Per Container 6		
Amount per serving		
Calories	120	Calories From Fat 70
% Daily Value		
Total Fat	8g	13%
	Saturated Fat 6g	32%
Cholesterol	10mg	4%
Sodium	40mg	2%
Total Carbohydrate	13g	4%
	Dietary Fiber 0g	2%
	Sugars 4g	
Protein	3g	



Answers That Matter.

Examples of Carb Amounts in Foods

It is important to read food labels for the exact carb amount in a food item. Below are some common serving sizes.

Bread, Cereal, Grain, Pasta, and Rice		One Serving = 15g of Carbohydrates	
Breads: Bagel (1/3 large or 1 oz) Biscuit (2 inches) Bread (1 slice or 1 oz) Bun, hamburger/hot dog (1/2 bun or 1 oz) Crackers (4 to 6) English muffin (1) French toast (1 slice) Melba toast (4 slices) Muffin (1/4 or 1 oz) Oyster crackers (20) Pancake or waffle (4 inches) Stuffing (1/3 cup)		Tortilla (6 inches) Cereals: Bran, flakes (1/2 cup) Cold cereal, unsweetened (3/4 cup) Cold cereal, sugar-frosted (1/2 cup) Granola (1/4 cup) Hot cereal, oatmeal, grits (1/2 cup) Puffed cereal (1 1/2 cups) Grains (cooked): Barley (1/3 cup) Couscous (1/3 cup) Pasta (1/3 cup) Rice, white or brown (1/3 cup)	
Starchy Vegetables		One Serving = 15g of Carbohydrates	
Corn/peas (1/2 cup) Corn on the cob, large (1/2 cob) Mixed vegetables (1 cup) Potato, baked (1 small, 3 oz)		Potato, mashed (1/2 cup) Squash, acorn, butternut (1 cup) Sweet potato (1/2 cup)	
Beans, Peas, and Lentils		One Serving = 15g of Carbohydrates	
Baked beans (1/3 cup) Beans, peas, lentils, cooked (1/2 cup) Garbanzo beans, cooked (1/3 cup)		Hummus (1/3 cup) Lima beans (2/3 cup) Refried beans, canned (1/2 cup)	
Non-starchy Vegetables		One Serving = 5g of Carbohydrates	
<p>In general, 1 serving = 1 cup raw, 1/2 cup cooked, 1/2 cup juice, or 1/2 cup tomato sauce</p> <p>Beans (wax or green), bean sprouts, beets, broccoli, brussel sprouts, cabbage, carrots, cauliflower, celery, cucumber, eggplant, greens, lettuce, mushrooms, okra, onions, pea pods, peppers, radishes, rutabaga, spinach, tomatoes, or zucchini.</p>			

Fruit	One Serving = 15g of Carbohydrates
Apple or orange (1 small) Apricots (4 whole or 8 dried halves) Banana, extra small (4 inches long or 4 oz) Blueberries ($\frac{3}{4}$ cup) Fruit cocktail ($\frac{1}{2}$ cup) Cantaloupe (1 cup cubes) Cherries, sweet, fresh (12) Dried fruit (2 Tbsp) Grapefruit, large ($\frac{1}{2}$) Grapes, small (17) Juice, grape or prune, fruit juice blends, 100% juice ($\frac{1}{3}$ cup)	Juice, apple, grapefruit, orange, pineapple, pomegranate ($\frac{1}{2}$ cup) Kiwi ($\frac{1}{2}$ cup sliced) Mango ($\frac{1}{2}$ small or $\frac{1}{2}$ cup) Papaya ($\frac{1}{2}$ of small fruit or 1 cup cubes) Peach (1 medium) Pear ($\frac{1}{2}$ large) Pineapple, fresh ($\frac{3}{4}$ cup) Plum (2 small) or 3 dried (prunes) plums Raspberries (1 cup) Strawberries (1 $\frac{1}{4}$ cup) Watermelon (1 $\frac{1}{4}$ cup, diced)
Milk	One Serving = 12-15g of Carbohydrates
Fat-free or low fat milk, soy or cow's (1 cup) Fat-free plain yogurt ($\frac{2}{3}$ cup)	Fat-free, artificially sweetened flavored yogurt ($\frac{2}{3}$ cup)
Snack Foods	One Serving = 15g of Carbohydrates
Animal crackers (8 crackers) Gingersnaps (3 small cookies, 1 $\frac{1}{2}$ inches across) Graham crackers (3, 2 $\frac{1}{2}$ inch squares) Popped popcorn (3 cups)	Pretzels ($\frac{3}{4}$ oz) Rice cakes (2 cakes, 4 inches across) Snack chips (baked, about 8 chips or $\frac{3}{4}$ oz; regular, 13 chips or 1 oz; also count two fat choices) Vanilla wafers (5 wafers)
Sweets	One Serving = 30g of Carbs
One Serving = 15g of Carbs Brownie, unfrosted (1 $\frac{1}{4}$ inch square - 1 oz) Cake, unfrosted (2 inch square - 1 oz) Cookies (2 small, sandwich type) Fruit juice bars (1 bar - 3 oz) Ice Cream ($\frac{1}{2}$ cup) Jam/Jelly (1 Tbsp) Muffin ($\frac{1}{4}$ of 4 oz muffin) Pancake syrup (1 Tbsp) Regular gelatin ($\frac{1}{2}$ cup) Regular soda (1, 12 oz can) Sports drinks (1 cup) Yogurt, frozen, fat-free ($\frac{1}{3}$ cup)	One Serving = 30g of Carbs Cookie, one large (6 inches wide = 60g carbs) Cupcake, small, frosted (1 $\frac{3}{4}$ oz = 30g carbs) Doughnut, glazed (1, $\frac{3}{4}$ inches across, 2 oz = 30g carbs) Pie, pumpkin ($\frac{1}{8}$ of an 8 inch pie = 30g carbs) Pudding, regular ($\frac{1}{2}$ cup = 30g carb) Sherbet ($\frac{1}{2}$ cup = 30g carbs) <i>Please note that this has more carbs:</i> Pie, fruit, 2 crusts ($\frac{1}{8}$ of an 8 inch pie = 45g carbs)

Combination Foods

Food	Serving Size	Carbs
Casseroles	1 cup	30
Chili (beef and bean)	5 oz	45
Lasagna, meat	1 cup	30
Macaroni and cheese	1 cup	30
Hamburger	1 2-oz bun	30
Pizza, thin crust, cheese	¼ of a 12-inch pizza	30
Pot pie	1 7-oz pie	38
Spaghetti with meatballs	1 cup	30
Stew	1 cup	15
Taco (meat and cheese)	1 taco	15
Submarine sandwich	6-inch sub	45

School Lunch Items

Item	Grams of Carbs
Beef Burrito	45
Corn dog	23
French fries, 2 oz	30
Grilled cheese sandwich	30
Hamburger with bun	30
Hot dog with bun	23
Taco, hard or soft, 6-inch	15

Calculating Carbs in Lunch Foods

School Lunch Items	Grams of Carb
6 baked chicken nuggets	15
½ cup mashed potatoes	15
½ cup green beans	5
½ cup canned fruit in natural juices	15
1 carton 2% white milk	12
	Total = 62 grams of carbs
Packed Lunch from Home	Grams of Carb
½ sandwich, meat/cheese	15
1 oz bag chips	15
15 small grapes	15
2 sandwich cookies	15
Bottled water	0
	Total = 60 grams of carbs

HYPOGLYCEMIA OR LOW BLOOD SUGAR

Blood sugar less than 70

Causes: Too much insulin, more active than usual, skipping a meal, miscalculation or carbohydrates or illness

Symptoms:



SHAKY



HEADACHE



HUNGRY

What to do: "Rule of 15"

- **Check** blood sugar right away if having any symptoms of low blood sugar.
- **Treat** with 15 grams of rapid acting carbohydrates (if blood sugar is less than 50, double the treatment with 30 grams of carbohydrates)
- **Re-check** after 15 minutes. If blood sugar is still less than or equal to 70, eat another 15 grams. Once blood sugar is above 80 eat a meal or snack with no insulin.



4 oz of fruit juice

1 tube of
cake gel



10-15
skittles



4 oz **REGULAR** soda



4 glucose
tablets



1 cup of
skim milk

BEDTIME AND OVERNIGHT

Bedtime and 2 am: Target blood sugar is **150**.

- If blood sugar is less than 70 do the “rule of 15”, and then give an additional 10-15 gram of complex carbohydrate snack **(DO NOT GIVE ADDITIONAL INSULIN)**.
- If blood glucose reading is 71-150, give 10-15 gram snack of complex carbohydrates **(DO NOT GIVE ADDITIONAL INSULIN)**

Examples of a complex carbohydrate snack:

	Carbohydrate Grams
1 Egg (Boiled, Scrambled) + 1 Slice Whole Grain Toast	15
1 Cheese Stick + 17 Small Grapes	15
2 TBSP Peanut Butter + 5 Whole Wheat Ritz Crackers	13
1-2 TBSP Cream Cheese + ½ 100% Whole Wheat English Muffin	12
2 TBSP Peanut Butter + 3 Graham Cracker Squares (2 ½ in each)	21
½ Bagel Thin + 1 Slice Cheese + 6 Thin Slices Pepperoni	13
½ Cup Cottage Cheese + ½ Cup Canned Peaches	18
1 Slice Cheese + 1 Slice Whole Wheat Toast	15
1-2 TBSP Cream Cheese + 5 Triscuit Crackers + 5 Slices Cucumber	15
10 Tortilla Chips + 2-3 TBSP Salsa	20
2 TBSP Peanut Butter + 1 Small Apple	21
Yogurt OR Greek Yogurt	Check Label
3 Cups Popcorn with ¼ Cup Shredded Cheese	15

GLUCAGON

What is glucagon?

- It is a hormone your body makes in the pancreas, just like insulin, but it does the opposite job. It raises your blood sugar by telling your liver to release stored glucose into the blood stream when your sugar (glucose) level gets low
- Glucagon is like an emergency tool that quickly raises blood sugar

When to give glucagon?

- If blood sugar is severely low, your child can't eat or drink something sugary safely
- A person is unresponsive, lost consciousness or has seizure
- A person is confused, disoriented, incoherent
- A person is combative, biting, kicking

How to give glucagon?

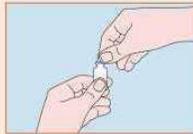
- Check blood sugar (if possible) to make sure it is below 70 mg/dl
- Injection to muscle ("red box kit") or fat tissue (G-voke) or nasal spray (Baqsimi)
- Turn the person on his/her side as he/she may vomit upon awakening
- Call 911 after administration
- Be sure to know how to use before emergency happens

What are some side effects?

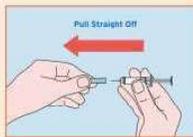
- Diarrhea, upset stomach, vomiting
- Irritation where the shot was given
- Feeling weak and tired
- Headaches
- If nasal spray was used: nose or throat irritation, runny nose, nose bleeds

INJECTABLE GLUCAGON

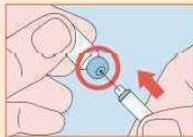
Glucagon emergency kit



Step 1. Using your thumb, flip the orange plastic cap off the Glucagon vial.



Step 2. Pick up the prefilled syringe containing sterile water. Hold the syringe with 1 hand and with your other hand pull the needle cover off the syringe. **Do not remove the plastic backstop from the syringe.**



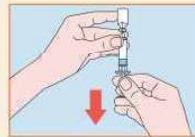
Step 3. Pick up the Glucagon vial. Hold the vial of dry powder with 1 hand and with your other hand push the needle of the prefilled syringe through the center of the rubber stopper.



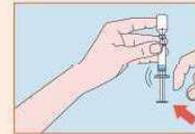
Step 4. Hold the vial and syringe together, with the needle still inserted into the vial. Carefully turn the vial and syringe together right side up. Slowly push the plunger down until the syringe is empty. **Do not take the syringe out of the vial.**



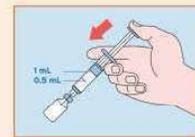
Step 5. Hold the entire unit (the vial and syringe) in 1 hand and gently shake the vial until the powder is completely dissolved. Do not use if it is cloudy or if you see particles in the solution. **Do not take the syringe out of the vial.**



Step 6. Firmly hold the vial and syringe together, with the needle still inserted into the vial. Carefully turn the vial and syringe together upside down. Gently pull down on the plunger and slowly withdraw all of the liquid into the syringe. **Do not pull the plunger out of the syringe.**



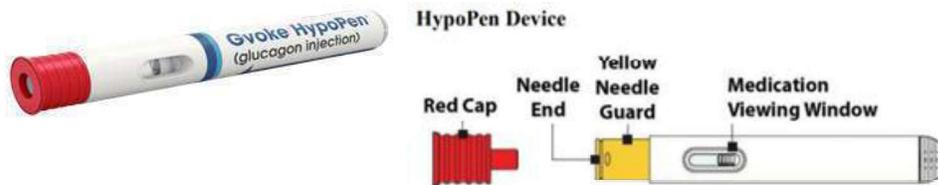
Step 7. Keep the needle inside the vial. Check the syringe for air bubbles. If you see bubbles, tap the syringe until the bubbles rise to the top of the syringe. Gently push on the plunger to move only the air bubbles back into the vial.



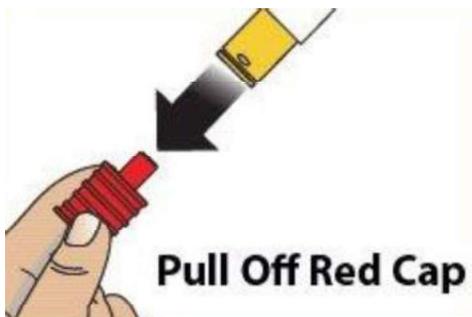
Step 8. Hold the vial and syringe as shown. Take the syringe and needle out of the vial when the correct dose of glucagon is in the syringe.

INJECTABLE GLUCAGON

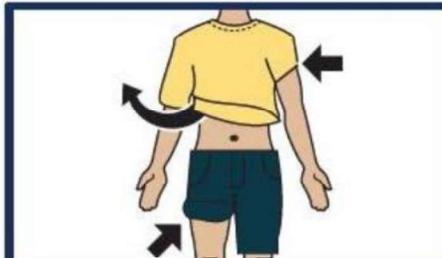
G-Voke (2 years or older)



- Premixed, ready -to-use pen
- Keep at room temperature
- One time use
- Administred to the fat tissue



Expose Skin of Injection Site

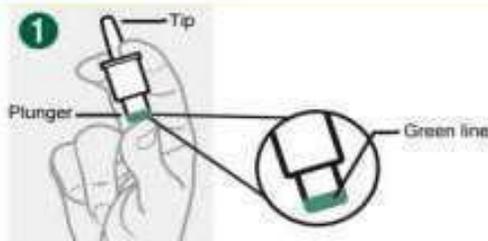


GLUCAGON NASAL SPRAY: BAQSIMI (Only approved for 4 years and older)

- Do not remove the shrink wrap or open the tube until you are ready to use it.
- Storage up to 86 degrees.

HOW TO ADMINISTER BAQSIMI

Giving the Dose



1

- **Hold Device** between fingers and thumb.
- **Do not push Plunger** yet.



2

- **Insert Tip** gently into one nostril until finger(s) touch the outside of the nose.



3

- **Push Plunger** firmly all the way in.
- **Dose is complete** when the **Green Line** disappears.

After giving BAQSIMI

- Call for emergency medical help right away.
- If the person is unconscious turn the person on their side.
- **Throw away the used Device and Tube.**
- Encourage the person to eat as soon as possible. When they are able to safely swallow, give the person a fast acting source of sugar, such as juice. Then encourage the person to eat a snack, such as crackers with cheese or peanut butter.
- If the person does not respond after 15 minutes, another dose may be given, if available.

HYPERGLYCEMIA OR HIGH BLOOD SUGAR

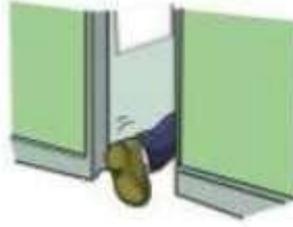
Blood sugar greater than 300

Causes: Skipping a dose of insulin, eating more than usual, less active than usual, sick or under stress.

Symptoms:



VERY THIRSTY



EXCESSIVE URINATION



SLEEPY

What to do:

- Check ketones if blood sugar over **300 mg/dL**

*****If ketones in the urine are present:**

Negative-Trace or Small	Moderate-Large
<ul style="list-style-type: none"> - Drink water or sugar free fluids (8-16 oz) - Insulin as per your insulin regimen - Re-check blood sugar and ketones in 3 hours 	<ul style="list-style-type: none"> - Drink water or sugar free fluids (8-16 oz) - Additional insulin likely - Do not allow exercise/play

Prevention:

- Check blood sugars regularly as directed by your doctor.
- Follow your diabetes care plan for insulin dosing and schedule.
- Contact your diabetes care team if your blood sugar has been high for more than three days and you don't know why

KETONES

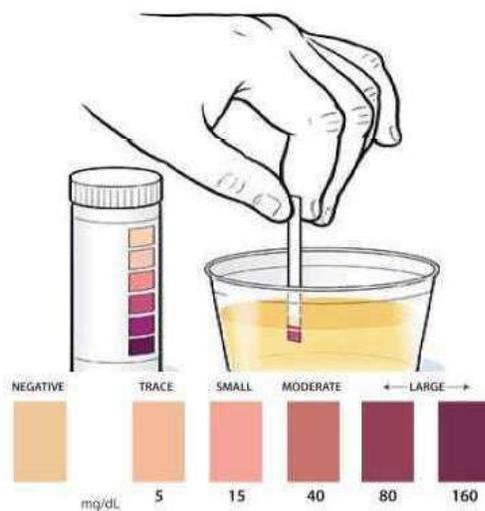
When to check:

- Blood sugar is above 300 mg/dL for over 4 hours.
- Your child is sick
- Can be checked by urine or blood

Steps:

1. Have your child urinate into a container or directly on the strip.
2. Follow the package instructions about how to read the strip.
3. Compare the color on the strip to the color gradient on the bottle.

Remember to **check** the ketone canister for an **expiration date** after you **first open them.**



Blood:

"normal"	<0.6 mmol/l
moderate	0.6-1.5 mmol/l
large	>1.5 mmol/l

MISSED INSULIN DOSES

Remember you may still see higher blood sugars throughout the day than usual

Long acting	
Less than 4 hours	Give routine dose
If given in the morning and has been more than 4 hours	Half the routine dose in the evening, half the routine dose in the morning, and then next day give a full routine dose at routine time.
If given at night and more than 4 hours	Half the routine dose in the morning, that evening give the other half routine dose, next day give the full routine dose at routine time.

Rapid acting with meals	
Within 60 minutes	Give the full dose of insulin calculated.
After 60 minutes and no longer than 2 hours	Cover half the amount of insulin calculated for carbs and do full correction of pre-meal blood sugar .

Miscalculated carbs, questionable delivery of the amount of insulin, or missed blood sugar check at the meal	
Breakfast or lunch	Correct blood sugar at the next meal
Dinner	Check blood sugar in three hours and give half the calculated correction

WHEN TO CALL FOR HELP or GO TO EMERGENCY ROOM

- ✓ Severe low blood glucose requiring glucagon, CALL 911 after treatment has happened.
- ✓ Urine ketones moderate or large (blood ketones greater than 1.5) and vomiting
- ✓ Vomiting and/or diarrhea if more than six hours.
- ✓ Persistent blood glucoses greater than 300 mg/dL.
- ✓ Frequent blood glucoses less than 70 mg/dL occurring in the same day or at the same time each day.
- ✓ Overnight blood glucose less than 70 mg/dL treat as directed.
 - * contact office the next day during regular business hours.
- ✓ Random blood glucose review
 - There may be times in between visits when it is determined that medication adjustment is needed based on identified patterns or trends. In case assistance is needed please contact the office so that telehealth visit can be scheduled
- ✓ Diabetes prescription refills
 - **PLEASE ALLOW 2 BUSINESS DAYS TO PROCESS PRESCRIPTION REFILL REQUEST!**

***Call your pediatrician to treat the underlying illness (stomach ache, sore throat, rashes, and/or fever).**



Physical Activity

Being healthy and getting active does not mean a complicated routine.



Nutrition for Blood Glucose and Physical Activity

- Exercise generally lowers glucose levels; however, hyperglycemia may occur during high-intensity exercise
- If glucose levels are <100 mg/dL or >300mg/dL, strenuous exercise should be avoided until levels are in range
- It is important to check your blood sugar before and after exercise (and every 30-60 minutes during) as every person responds to food and exercise differently
- Pre-exercise snacks should include complex carbohydrates and protein
- During exercise, use a carb-containing beverage such as a sports drink (regular Gatorade/Powerade)

Intensity	Blood Glucose	Carbohydrate Recommendation
Low	<100 mg/dL	10-15g per hour
	≥100 mg/dL	No carbohydrate needed
Moderate	<100 mg/dL	15-30g before activity Then, 10-15g for every 30-60 minutes
	≥100 mg/dL	10-15g every 30-60 minutes
Vigorous	<100 mg/dL	30-45g (check glucose often, ~30 minutes)
	≥100 mg/dL	30g (depends on intensity and duration)



WHAT TO TAKE AND LEAVE AT SCHOOL

- Testing supplies
 - Glucose monitor and test strips
 - Lancet device and lancets
 - Alcohol swabs
- Insulin
 - Pen needles or syringes
 - Insulin pens or vial
- Treatment for hypoglycemia
 - Rapid acting carbohydrate source
 - Glucose tabs
 - Juice box
 - Fun size skittles bag
 - Cake gel
 - _____
- Snacks to follow hypoglycemia treatment
 - Peanut butter crackers
 - Granola bar
 - Fruit and nuts
 - _____
- Glucagon kit or Baqsimi
- Cooling system to keep medications and strips cool if no clinic is available
- Emergency telephone numbers
 - School form

TIPS FOR SCHOOL SUCCESS WITH DIABETES

1. Most schools require physician orders (school plans) for students diagnosed with Type 1 Diabetes. These are updated at the start of each school year and will be given to families at diagnosis and updated as needed. Give one to the school nurse who will ensure that all involved with your child will have this information easily accessible and know how to respond.
2. Put together a kit for your child to keep in the nurse's office that contains extra supplies: items to treat a low blood glucose level, extra food/snacks, insulin, glucagon, glucose meter, strips, lancets, an information sheet, and pump supplies (if your child is on an insulin pump).
3. Create a 504 plan for your child (refer to 504 sample plan and checklist). It can be helpful to have this plan in place, even when everything is going well. Both high and low blood glucose levels can have an impact on your child's ability to learn, as well as a serious impact on their health. 504 plans can help to ensure that accommodations can be in place, so your child can continue to meet their educational goals during these times. Our social worker is happy to review plans developed by parents and school teams. Try to be proactive and prevent your child from feeling singled out in the classroom.
4. Talk to your child's teachers and care providers about diabetes. You and your child could offer to present information to the teacher/class about diabetes.
5. Meet at the start of each school year with your school team to ensure you have provided updated physician orders and that 504 plans are updated annually.
6. Your diabetes team is available to answer questions that teachers have and collaborate with school nurses whenever needed.
7. Come up with an emergency plan with their teacher/clinic nurse regarding special circumstances such as a lockdown.

SAMPLE SECTION 504 PLAN

The attached sample Section 504 Plan was developed by the American Diabetes Association (ADA) and the Disability Rights Education and Defense Fund, Inc. (DREDF).

[NOTE: This model 504 Plan lists a broad range of services and accommodations that might be needed by a child with diabetes in school. The plan should be individualized to meet the needs, abilities, and medical condition of each student and should *include only those items in the model that are relevant to that student*. Some students will need additional services and accommodations that have not been included in this model plan.]

.....

Section 504 Plan for _____

School _____

School Year: _____

_____	_____	_____	_____ type <u>diabetes</u>
Student's Name	Birth Date	Grade	Disability

Homeroom Teacher: _____

Bus Number: _____

OBJECTIVES/GOALS OF THIS PLAN

Diabetes can cause blood glucose (sugar) levels to be too high or too low, both of which affect the student's ability to learn as well as seriously endangering the student's health both immediately and in the long term. The goal of this plan is to provide the special education and/or related aids and services needed to maintain blood glucose within this student's target range, and to respond appropriately to levels outside of this range in accordance with the instructions provided by the student's personal health care team.

REFERENCES

School accommodations, diabetes care, and other services set out by this Plan will be consistent with the information and protocols contained in the National Diabetes Education Program *Helping the Student with Diabetes Succeed: A Guide for School Personnel*, June 2010.

DEFINITIONS USED IN THIS PLAN

1. ***Diabetes Medical Management Plan (DMMP)***: A plan that describes the diabetes care regimen and identifies the health care needs of a student with diabetes. This plan is developed and approved by the student's personal health care team and family. Schools must do outreach to the parents and child's health care provider if a DMMP is not submitted by the family **[Note: School districts may have other names for the plan. If so, substitute the appropriate terminology throughout.]**

2. Quick Reference Emergency Plan: A plan that provides school personnel with essential information on how to recognize and treat hypoglycemia and hyperglycemia.

3. Trained Diabetes Personnel (TDP): Non-medical school personnel who have been identified by the school nurse, school administrator, and parent who are willing to be trained in basic diabetes knowledge and have received training coordinated by the school nurse in diabetes care, including the performance of blood glucose monitoring, insulin and glucagon administration, recognition and treatment of hypoglycemia and hyperglycemia, and performance of ketone checks, and who will perform these diabetes care tasks in the absence of a school nurse.

1. PROVISION OF DIABETES CARE

1.1 At least _____ staff members will receive training to be Trained Diabetes Personnel (TDP), and either a school nurse or TDP will be available at the site where the student is **at all times** during school hours, during extracurricular activities, and on school sponsored field trips to provide diabetes care in accordance with this Plan and as directed in the DMMP, including performing or overseeing administration of insulin or other diabetes medications (which, for pump users includes programming and troubleshooting the student’s insulin pump), blood glucose monitoring, ketone checks, and responding to hyperglycemia and hypoglycemia including administering glucagon.

1.2 Any staff member who is not a TDP and who has primary care for the student at any time during school hours, extracurricular activities, or during field trips shall receive training that will include a general overview of diabetes and typical health care needs of a student with diabetes, recognition of high and low blood glucose levels, and how and when to immediately contact either a school nurse or a TDP.

1.3 Any bus driver who transports the student must be informed of symptoms of high or low blood glucose levels and provided with a copy the student’s Quick Reference Emergency Plan and be prepared to act in accordance with that Plan.

2. TRAINED DIABETES PERSONNEL

The following school staff members will be trained to become TDPs by _____(date): _____

3. STUDENT’S LEVEL OF SELF-CARE AND LOCATION OF SUPPLIES AND EQUIPMENT

3.1 As stated in the attached DMMP:

(a) The student is able to perform the following diabetes care tasks without help or supervision:

and the student will be permitted to provide this self-care at any time and in any location at the school, at field trips, at sites of extracurricular activities, and on school buses.

- (b) The student needs assistance or supervision with the following diabetes health care tasks:

- (c) The student needs a school nurse or TDP to perform the following diabetes care tasks:

- 3.2 The student will be permitted to carry the following diabetes supplies and equipment with him/her at all times and in all locations:

- 3.3 Diabetes supplies and equipment that are not kept on the student and additional supplies and will be kept at:

- 3.4 Parents are responsible for providing diabetes supplies and food to meet the needs of the student as prescribed in the DMMP.

4. SNACKS AND MEALS

4.1 The school nurse or TDP, if school nurse is not available, will work with the student and his/her parents/guardians to coordinate a meal and snack schedule in accordance with the attached DMMP that will coincide with the schedule of classmates to the closest extent possible. The student shall eat lunch at the same time each day, or earlier if experiencing hypoglycemia. The student shall have enough time to finish lunch. A snack and quick-acting source of glucose must always be immediately available to the student.

4.2 The attached DMMP sets out the regular time(s) for snacks, what constitutes a snack, and when the student should have additional snacks. The student will be permitted to eat a snack no matter where the student is.

4.3 The parent/guardian will supply snacks needed in addition to or instead of any snacks supplied to all students.

4.4 The parent/guardian will provide carbohydrate content information for snacks and meals brought from home.

4.5 The school nurse or TDP will ensure that the student takes snacks and meals at the specified time(s) each day.

4.6 Adjustments to snack and meal times will be permitted in response to changes in schedule upon request of parent/guardian.

5. EXERCISE AND PHYSICAL ACTIVITY

5.1 The student shall be permitted to participate fully in physical education classes and team sports except as set out in the student's DMMP.

5.2 Physical education instructors and sports coaches must have a copy of the emergency action plan and be able to recognize and assist with the treatment of low blood glucose levels.

5.3 Responsible school staff members will make sure that the student's blood glucose meter, a quick-acting source of glucose, and water is always available at the site of physical education class and team sports practices and games.

6. WATER AND BATHROOM ACCESS

6.1 The student shall be permitted to have immediate access to water by keeping a water bottle in the student's possession and at the student's desk, and by permitting the student to use the drinking fountain without restriction.

6.2 The student shall be permitted to use the bathroom without restriction.

7. CHECKING BLOOD GLUCOSE LEVELS, INSULIN AND MEDICATION ADMINISTRATION, AND TREATING HIGH OR LOW BLOOD GLUCOSE LEVELS

7.1 The student's level of self care is set out in section 3 above including which tasks the student can do by himself/herself and which must be done with the assistance of, or wholly by, either a school nurse or a TDP.

7.2 Blood glucose monitoring will be done at the times designated in the student's DMMP, whenever the student feels her/his blood glucose level may be high or low, or when symptoms of high or low blood glucose levels are observed.

7.3 Insulin and/or other diabetes medication will be administered at the times and through the means (e.g., syringe, pen or pump) designated in the student's DMMP for both scheduled doses and doses needed to correct for high blood glucose levels.

7.4 The student shall be provided with privacy for blood glucose monitoring and insulin administration if the student desires.

7.5 The student's usual symptoms of high and low blood glucose levels and how to respond to these levels are set out in the attached DMMP.

7.6 When the student asks for assistance or any staff member believes the student is showing signs of high or low blood glucose levels, the staff member will immediately seek assistance from the school nurse or TDP while making sure an adult stays with the student at all times. Never send a student with actual -- or suspected -- high or low blood glucose levels anywhere alone.

7.7 Any staff member who finds the student unconscious will immediately contact the school office. The office will immediately do the following in the order listed:

- 1. Contact the school nurse or a TDP (if the school nurse is not on site and immediately available) who will confirm the blood glucose level with a monitor and immediately administer glucagon (glucagon should be administered if no monitor is available);**
- 2. Call 911 (office staff will do this without waiting for the school nurse or TDP to administer glucagon); and**
- 3. Contact the student's parent/guardian and physician at the emergency numbers provided below.**

7.8 School staff including physical education instructors and coaches will provide a safe location for the storage of the student's insulin pump if the student chooses not to wear it during physical activity or any other activity.

8. FIELD TRIPS AND EXTRACURRICULAR ACTIVITIES

8.1 The student will be permitted to participate in all school-sponsored field trips and extracurricular activities (such as sports, clubs, and enrichment programs) without restriction and with all of the accommodations and modifications, including necessary supervision by identified school personnel, set out in this Plan. The student's parent/guardian will not be required to accompany the student on field trips or any other school activity.

8.2 The school nurse or TDP will be available on site at all school-sponsored field trips and extracurricular activities, will provide all usual aspects of diabetes care (including, but not limited to, blood glucose monitoring, responding to hyperglycemia and hypoglycemia, providing snacks and access to water and the bathroom, and administering insulin and glucagon), and will make sure that the student's diabetes supplies travel with the student.

9. TESTS AND CLASSROOM WORK

9.1 If the student is affected by high or low blood glucose levels at the time of regular testing, the student will be permitted to take the test at another time without penalty.

9.2 If the student needs to take breaks to use the water fountain or bathroom, check blood glucose, or to treat hypoglycemia or hyperglycemia during a test or other activity, the student will be given extra time to finish the test or other activity without penalty.

9.3 The student shall be given instruction to help him/her make up any classroom instruction missed due to diabetes care without penalty.

9.4 The student shall not be penalized for absences required for medical appointments and/or for illness. The parent will provide documentation from the treating health care professional if otherwise required by school policy.

10. COMMUNICATION

10.1 The school nurse, TDP, and other staff will keep the student's diabetes confidential, except to the extent that the student decides to openly communicate about it with others.

10.2 Encouragement is essential. The student is treated in a way that encourages the student to eat snacks on time, and to progress toward self-care with his/her diabetes management skills.

10.3 The teacher, school nurse or TDP will provide reasonable notice to parent/guardian when there will be a change in planned activities such as exercise, playground time, field trips, parties, or lunch schedule, so that the lunch, snack plan, and insulin dosage can be adjusted accordingly.

10.4 Each substitute teacher and substitute school nurse will be provided with written instructions regarding the student's diabetes care and a list of all school nurses and TDP at the school.

11. EMERGENCY EVACUATION AND SHELTER-IN-PLACE

11.1 In the event of an emergency evacuation or shelter-in-place situation, the student’s 504 Plan and DMMP will remain in full force and effect.

11.2 The school nurse or TDP will provide diabetes care to the student as outlined by this Plan and the student’s DMMP, will be responsible for transporting the student’s diabetes supplies, and equipment, will attempt to establish contact with the student’s parents/guardians and provide updates, and will and receive information from parents/guardians regarding the student’s diabetes care.

12. PARENTAL NOTIFICATION

12.1 NOTIFY PARENTS/GUARDIANS IMMEDIATELY IN THE FOLLOWING

SITUATIONS:

- Symptoms of severe low blood sugar such as continuous crying, extreme tiredness, seizure, or loss of consciousness.
- The student’s blood glucose test results are below _____ or are below _____ 15 minutes after consuming juice or glucose tablets.
- Symptoms of severe high blood sugar such as frequent urination, presence of ketones, vomiting or blood glucose level above _____.
- The student refuses to eat or take insulin injection or bolus.
- Any injury.
- Insulin pump malfunctions cannot be remedied.
- Other: _____

12.2 EMERGENCY CONTACT INSTRUCTIONS

Call parent/guardian at numbers listed below. If unable to reach parent/guardian, call the other emergency contacts or student’s health care providers listed below.

EMERGENCY CONTACTS:

_____	_____	_____	_____
Parent’s/Guardian’s Name	Home Phone Number	Work Phone Number	Cell Phone Number
_____	_____	_____	_____
Parent’s/Guardian’s Name	Home Phone Number	Work Phone Number	Cell Phone Number

Other emergency contacts:

_____	_____	_____	_____
Name	Home Phone Number	Work Phone Number	Cell Phone Number
_____	_____	_____	_____
Name	Home Phone Number	Work Phone Number	Cell Phone Number

Student's Health Care Provider(s):

_____	_____
Name	Phone Number
_____	_____
Name	Phone Number

This Plan shall be reviewed and amended at the beginning of each school year or more often if necessary.

Approved and received:

_____	_____
Parent/Guardian	Date

Approved and received:

_____	_____
School Administrator and Title	Date

_____	_____
School Nurse	Date

This sample 504 plan was developed by the American Diabetes Association (ADA) and the Disability Rights Education and Defence Fund, Inc. (DREDF). We have just added it to our survival guide for you to reference and use as a guide when speaking to your school guidance counselor.

YOU ARE NOT ALONE

Community Resources for Coping and Support

- Diabetes Camp (Camp Seale Harris)
 - Contact: Maria Martin: 850-712-7395
 - Email: MDMartinT1D@campsealeharris.or
- Florida diabetes camp (floridadiabetescamp.org)
- School Health Systems

Facebook groups:

- Type1 Families and Friends NWFL/AL
- Florida Panhandle – MOD Squad Florida Panhandle (Mothers of Diabetics)
- Eglin AFB – Tyndall’s Sweeties
- Global – Type 1

Resources to help answer your questions/concerns

- Contact your Endocrinology Clinic
- American Diabetes Association (www.ada.org)
- Breakthrough T1D (*formerly JDRF*) (breakthrough1d.org/northernflorida)
- Beyond Type 1 Website (beyondtype1.org)

Ways to keep you and your diabetes in good control

- Contact your Endocrinology Clinic for questions
- Keep your appointments every 3 months



MENTAL HEALTH AND DIABETES

Just as it is important to take care of your physical health, it is equally as important to take care of your mental health. People with T1D are at a higher risk for mental health issues, including diabetes distress, depression, anxiety, and disordered eating. However, these are all treatable. It is important to recognize your feelings about having diabetes and talk with a trusted adult. Our social worker is a trained mental health professional who is willing to meet with you outside of clinic visits when needed as well. It is vital to reach out to your support team.

Connecting and building relationships with other children/adolescents with T1D can also be beneficial. Talking with others who are also living through it is important in not feeling alone and different from your peers.

Sometimes diabetes management can be challenging. It's normal for people of all ages to feel worn-out and frustrated with managing their diabetes. This is called diabetes distress. When distress goes unchecked, it can turn into diabetes burnout. Diabetes burnout is when people start to ignore their diabetes management. These feelings of anger, sadness, denial, and stress can eventually lead to depression. It is okay to ask for help when we start to feel these feelings. When you ask for help, you can learn more tools to take care of your health. There is no shame in needing help.

**Website to search for a psychologist.
Therapist visit available in person or via telehealth.**

**** [psychologytoday.com](https://www.psychologytoday.com)
** [growththerapy.com](https://www.growththerapy.com)**

MENTAL HEALTH AND DIABETES CONTINUED

Coping skills to handle those big emotions:

1. Read a book
2. Listen to music
3. Take 5 slow, deep breaths
4. Take a break
5. Talk to an adult
6. Count slowly
7. Exercise
8. Color or draw
9. Get a drink

Caregivers

Your mental health is important as well. Having a child with a chronic illness can be challenging. Some signs you may be experiencing burnout: exhaustion, feeling anxious, irritability, feeling depressed, and social isolation. This is your permission slip to practice self-care. Self-care doesn't have to be expensive. For example, going for a walk, getting coffee with a friend, taking a bath, or reading a book. If you feel more refreshed and relaxed afterwards, then it is self-care. Taking care of yourself is not selfish. This helps you re-fill your tank, so that you can continue being the best caregiver you can be. It is also important for you to have a support system. Connecting with other caregivers of children with T1D can help you not feel alone in your experience. The Type1 Families and Friends NWFL/AL Facebook page is a great place to connect with other T1D families.

MINDFUL COMMUNICATION

Diabetes can infiltrate many of the conversations at home. Here are some ways to make sure that these interactions stay positive.

1. Avoid using the terms “good” and “bad” to describe blood sugars—they are simply “in range” or “out of range,” even “high” and “low” are okay as long as they are said without an incriminating tone. Especially avoid saying “Wow, your numbers were so good today!” because if tomorrow they are all out of range, it will seem like a failure. All blood sugars should elicit the same reaction—neutrality.
2. Don’t “test” a blood sugar; “check” it to see where it is. Again, “test” indicates potentially positive/good and negative/bad results (think of your child taking tests in school)—we don’t want emotions to be associated with blood sugar.
3. All blood sugars provide information to make a decision; rather than viewing individual BG numbers as a result of a decision that was made, view each check as data to help guide future decisions. So, rather than asking what your child did or what went wrong, ask your child if they know what to do to get their BG back into range. We can alter the future, not the past!
4. Look at trends to resolve recurring issues. Knowing that one blood sugar was out of range or a check was missed does not provide valuable information. Valuable data requires at least a few days to a couple of weeks of data in order to identify a trend. Together with your child, look over data one or two times a week to identify trends.
5. After school/work, the first several topics or questions to talk about are **not** diabetes-related. Eventually, it is appropriate to include questions that are diabetes related, but make sure the question is seeking useful information. Example: What did you learn in school today? What was your favorite part of gym class? Did you see your friend Emma after her vacation? Do you have enough supplies in your kit for school? Avoid the temptation to gather information that will not be helpful at making future decisions!

MINDFUL COMMUNICATION CONTINUED

6. Avoid blaming the person with diabetes for challenges. Diabetes is hard, there will be mistakes. Identify challenges and take a team approach to resolving them. Example: “It seems like it has been difficult for you to check at lunchtime. I have some thoughts, and maybe you or the school nurse do as well, about what may help. We want to help come up with a good solution.”
7. Avoid talking/complaining about the financial cost/burden of diabetes around your child. This includes talking about missing work for medical appointments or calls from the school. Kids hear this and internalize it in a way it shouldn't be.
8. When reviewing BGs weekly via upload or log review, make sure you are in a comfortable, safe space with a clear mind and no distractions. Review the numbers, make decisions, and move along. Ask your child how they are feeling about diabetes that week. Use open-ended questions. Example: “Do you feel like diabetes got in your way this week?” or “What do you think went really well with diabetes this week?” You'll be surprised what you hear when you just ask.