Pediatric Endocrinology

Pediatric Diabetes Notebook

NISWONGER Children's HOSPITAL

Table of contents

Discharge and follow-up checklist

Discharge checklist

- ◯ Finished “Survival Skill” training
- ◯ Check take-home supplies against list
- ◯ Glucagon emergency kit is packed
- ◯ Next dose of insulin is written on record form or phone contact made before dose time
- ◯ School orders completed

What to bring to appointments

- ◯ Blood sugar records
- ◯ Meter(s), including school meter
- ◯ A list of questions
- ◯ A list of supplies you need
- ◯ Diabetes Notebook
- ◯ Diabetes ID
- ◯ Treatment for low blood sugar
- ◯ All diabetes supplies

How to contact us

Pediatric Endocrinology
On the fourth floor of the 408 building
behind Niswonger Children's Hospital
408 N. State of Franklin Road, Suite 400B
Phone: 423.431.4946
Fax: 423.431.4947

When you need help:
Call the Diabetes Educator, at 423.431.2370
during office hours, Monday-Friday
8 a.m. to 4 p.m.

How to make an appointment:
The clinic is open Monday-Thursday
8 a.m. to 4:30 p.m. and Friday 8 a.m. to noon.
Phone: 423.431.4946

Please note: Prescription refills and routine blood sugar check-in should be called in during normal business hours.

Emergency & after hours:
Call Niswonger after hours on the nursing line:
423.431.4946

Our pediatric endocrinology providers

- Evelyn Artz, MD
- George Ford, MD, MS
- Evan Los, MD
- Britney Burleson, FNP-C
- Alexis Duty, MSN, FNP-BC

Phone call guidelines for new patients

Phone follow up

First, you will be asked to call the diabetes educator to review blood sugars and adjust insulin doses as needed. The educators can also answer any questions and discuss concerns you may have about your child's diabetes. If you are unable to speak with someone, please leave a message with your child's name, date of birth and a call back number and we will return your call as soon as possible.

Call the diabetes educators during business hours:

- If you see patterns of high or low blood sugars and need insulin adjustments
- Need prescription refills
- Need prior authorization completed
- If you have non-urgent questions or concerns

Urgent phone calls

There is always someone available to speak with you 24 hours a day, 7 days a week including weekends and holidays.

Examples of urgent calls include:

- Caring for a child who is sick
- Moderate and/or large ketones
- Vomiting more than once
- Recurrent low blood sugar that does not correct with usual oral treatment
- If your child will be out of insulin for the next scheduled injection

If your child is having a seizure due to low blood sugar, call 911 immediately!

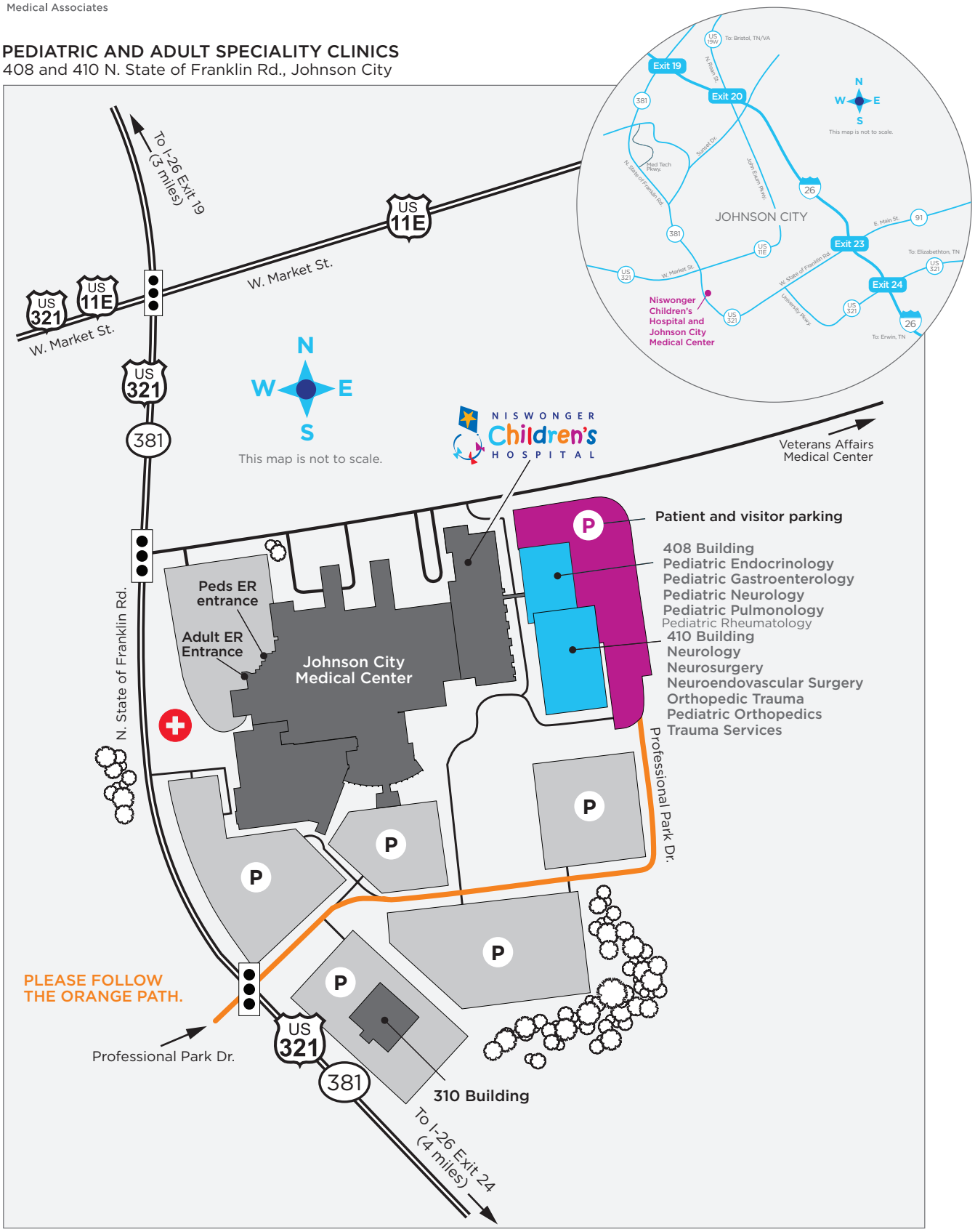
Important Reminders:

- Check ketones with ANY illness or if glucose is greater than 300 for more than 3 hours or 250 on an insulin pump.
- Always wear your Medi-Alert ID and carry all diabetes supplies with you at all times.
- Bring your meter, insulin, low blood sugar treatment and all other medications to **every** appointment.

Aerial campus of Johnson City Medical Center

BalladHealth
Medical Associates

PEDIATRIC AND ADULT SPECIALITY CLINICS
408 and 410 N. State of Franklin Rd., Johnson City



Diabetes “Survival Skills”

Survival Skills

You need to learn these things before you will feel prepared to leave the hospital and take care of diabetes at home:

- How and when to check blood sugar
- Keep written records (blood sugar, urine, ketones, insulin doses, carbohydrate intake)
- How and when to check urine ketones
- Count carbohydrates using food labels
- Calculate and inject insulin
- Discuss a consistent daily routine for diabetes care at home
- Identify, treat and prevent low blood sugars
- Review how and when to use the Glucagon emergency kit
- Review what to do about diabetes during an illness

Other information you’ll need to understand

- What is diabetes, causes, risk factors and warning signs
- How the body processes food, what has changed during the past few weeks and months, and the reasons for those changes
- Factors that affect blood sugar
- How injected insulin works
- Pattern management
- What to do about physical activity
- High blood sugar and ketoacidosis: recognition, prevention and testing for ketones
- Sick day care
- Feelings about diabetes
- Diabetes and school, baby sitters, vacations and camp
- Resources: groups, websites, books, and community organizations
- Potential long-term complications of diabetes, risk factors and preventative care
- Diabetes research: what does the future hold?
- Follow-up care: next visit, ongoing care

This is a long list. It represents far too much information for you to completely understand until you live with diabetes for a while. You will have lots of help. A member of the diabetes care team will be available by phone when needed. It is safe for you to learn as you take care of your child.

What is diabetes?

Diabetes is a condition in which the body does not make or use insulin properly. Insulin is a hormone that is needed to change sugar, starches and other food into energy for daily life. The cause of diabetes is somewhat of a mystery, although both genetics and environmental factors appear to play a role. There are two major types of diabetes.

Type 1 diabetes:
An autoimmune condition in which the body does not make insulin, most often happens in children and young adults. People with Type 1 diabetes must take insulin shots to stay alive. Type 1 diabetes accounts for 5-10% of all diabetes.

Risk factors for Type 1 diabetes:
- 5% risk of a brother or sister also getting diabetes
- 50% chance of an identical twin also being diagnosed with Type 1 diabetes
- Children who have a parent with Type 1 diabetes
- Most often occurs during puberty
- Caucasians (white/fair skin) are higher risk

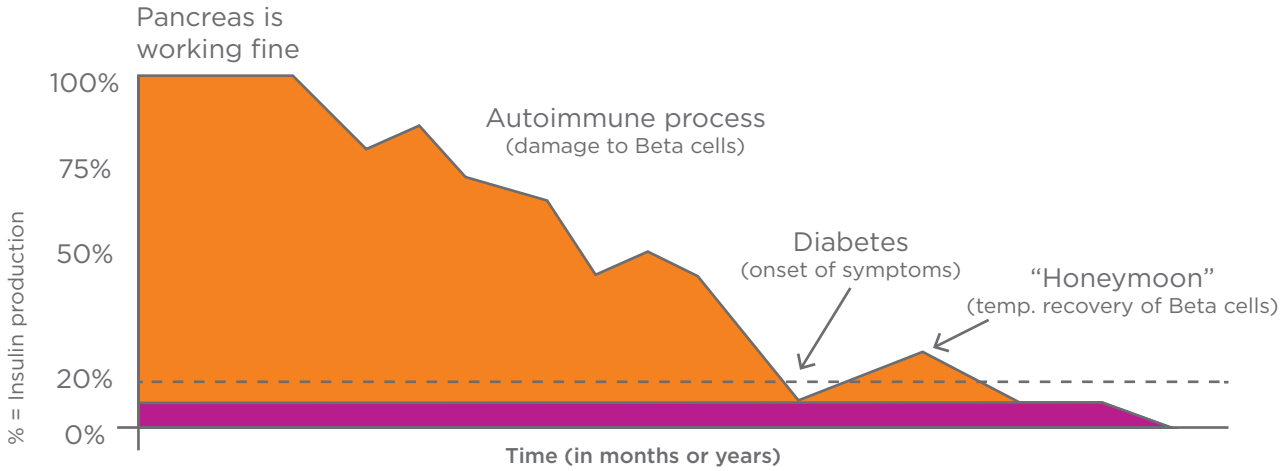
Warning signs of Type 1 diabetes:
- Frequent urination
- Increased thirst
- Extreme hunger
- Unusual weight loss
- Lack of energy
- Irritability

Type 2 Diabetes:
The most common type of diabetes, in which the body does not make enough insulin or does not use insulin correctly. Type 2 diabetes accounts for 90-95% of all diabetes. Type 2 in children and teens is increasing due to obesity and not being active.

Risk factors for Type 2 diabetes:
- Over age 45 (increasing in teens)
- Family history of diabetes
- Being overweight and/or not active
- Higher risk in African Americans, Hispanic Americans, Asian and Pacific Islanders and Native Americans
- Women who had gestational diabetes (diabetes during pregnancy)

Warning signs of Type 2 diabetes:
- Any of the Type 1 warning signs
- Frequent infections (skin, gums or bladder)
- Blurred vision
- Slow healing cuts
- Tingling/numbness of hands or feet
- Acanthosis: (darker color of skin on the neck and armpit)

Onset of type 1 diabetes



Type 1 diabetes develops slowly over many months or years. Once diabetes is diagnosed and treatment with insulin begins, beta cells can "rest". Once these cells have had time to rest, they may start to make insulin again. This is the honeymoon phase. It can begin between 2–8 weeks after starting insulin and can last from 6 months up to 2 years. This is a time when people may think their diabetes has gone away. Not everyone diagnosed with diabetes will have a honeymoon.

How your body uses food:
All parts of your body are made of cells. Your body needs sugar for energy so that you can do things like walk, talk and think. Sugar comes from the foods that you eat, primarily carbohydrates. After you eat carbohydrates, it is broken down into sugar. This sugar is absorbed into your bloodstream and blood sugar level rises. In order to use sugar for energy you need insulin. Insulin is the "key" that allows sugar to pass into the cells where it is used for energy and growth. When your blood sugar rises, the insulin-producing cells in the pancreas can sense this and will release insulin into the bloodstream so the blood sugar does not get too high.

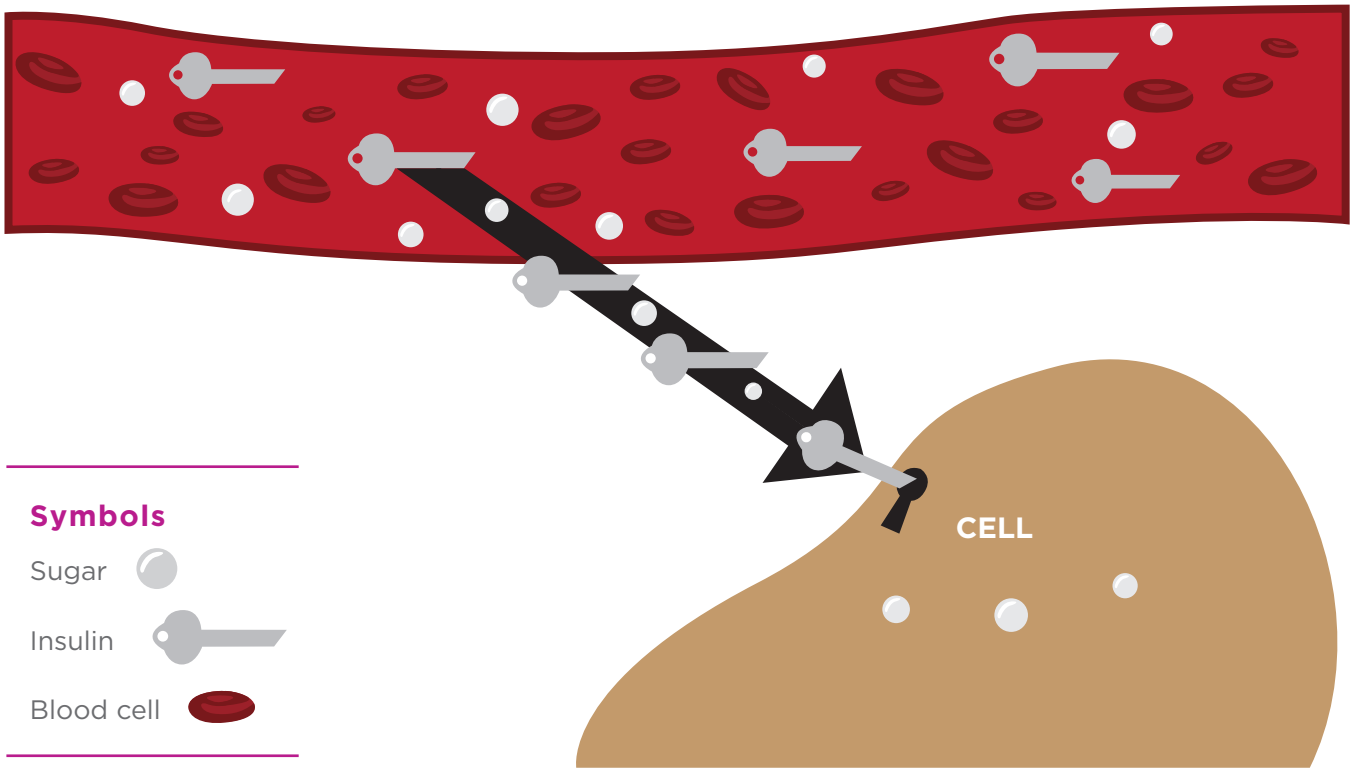
Insulin does three things:

1. Insulin is the "key" that lets sugar enter the cells where it is used for energy.
2. Insulin allows the liver to store sugar.
3. Insulin stops your body from breaking down fat.

Where does insulin come from?
Insulin is made in the pancreas by special cells called beta cells.

What happens when there is not enough insulin?

1. The blood sugar level goes up because the sugar cannot get out of the bloodstream into the cells.
2. Sugar begins to spill over into urine causing you to urinate more often.
3. You become thirsty. This is your body's way of trying to replace all the fluid that is being lost by increased urination.
4. You lose weight because fats are being used for energy instead of sugar. If your body is not making enough insulin, sugar cannot be used for energy and your body breaks down fat instead. When fat is used for energy, ketones are produced. Too many ketones can lead to a dangerous condition called diabetic ketoacidosis.



Symbols

Sugar

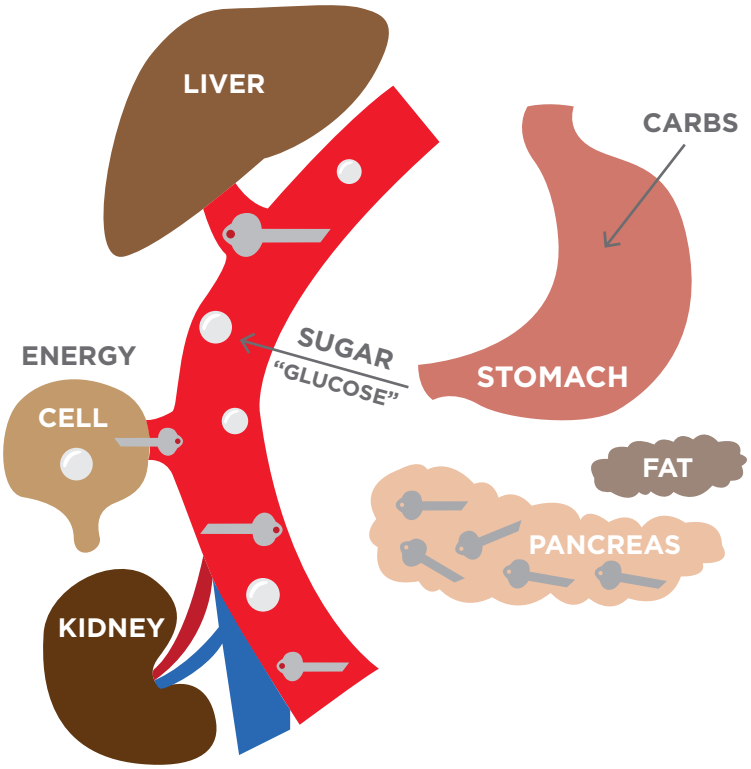
Insulin

Blood cell

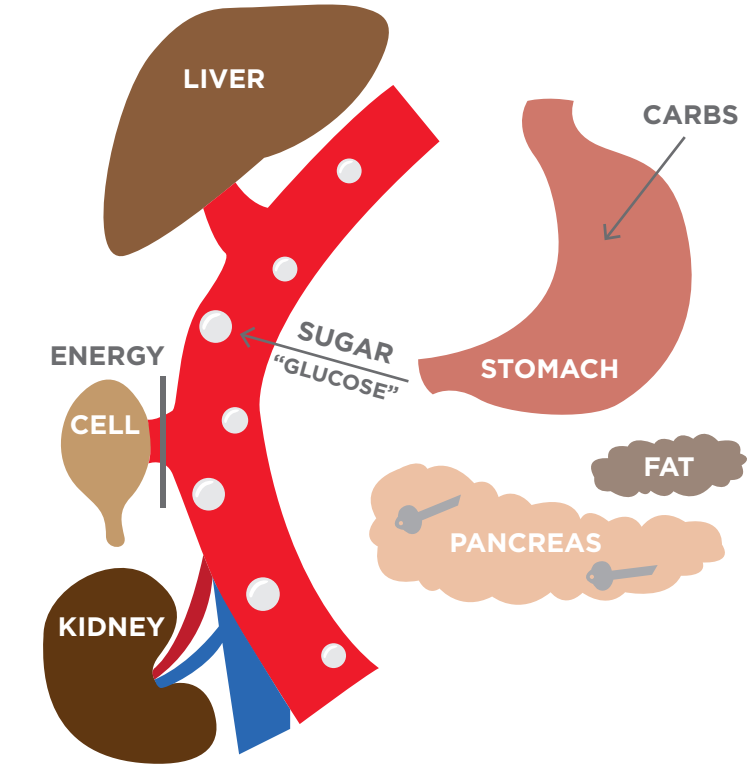
The difference in Type 1 and type 2 diabetes

Type 1 diabetes 5–10% of all diabetes		Type 2 diabetes 90–95% of all diabetes
Average start age 10–12 girls Average start age 12–14 boys	**Age of onset**	Adults Increasing in youth
More common in: Caucasians	**Ethnic factors**	More common in: African Americans Native Americans Hispanic Pacific Islander
Autoimmune Disease (celiac, thyroid)	**Autoimmune?**	Not an Autoimmune Disease
Pancreas loses ability to make insulin	**Effect on pancreas**	Pancreas still makes insulin but cells in the body don't use it correctly
Genetics (gene cell types DR3/DR4) + Environmental factors ↓ Beta Cell destruction = Type 1 Diabetes	**Cause**	Strong family history + Obesity and inactive lifestyle ↓ Insulin resistance = Type 2 Diabetes
Insulin shots 3–6 times per day Blood sugar monitoring 4–6 times per day Carbohydrate counting Regular, active lifestyle	**Treatment**	Oral medication, sometimes insulin Blood sugar monitoring 2–4 times per day Meal planning – weight loss Exercise – 30 minutes daily

In a person without diabetes



In a person with diabetes



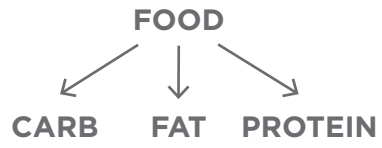
Symptoms

High blood sugar

- Increased thirst
- Increased urination
- Increased hunger
- Blurry vision
- Tiredness
- Dehydration
- Weight loss

DKA – diabetic ketoacidosis

- Nausea/vomiting
- Dehydration
- Urine ketones
- Decreased pH
- Deep/labored breathing
- Coma
- Fruity breath

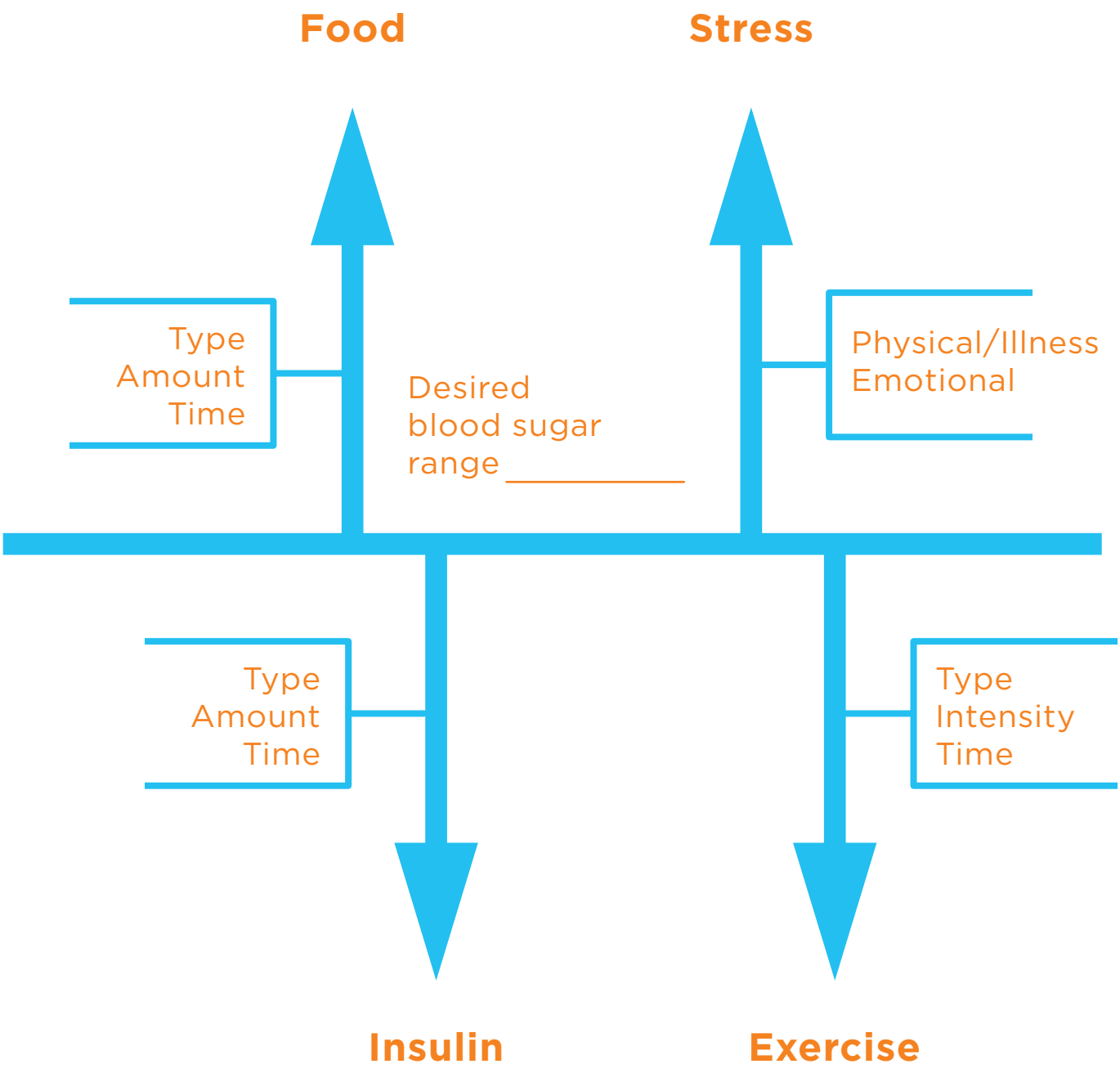


Symbols

Sugar

Insulin

Keeping in balance



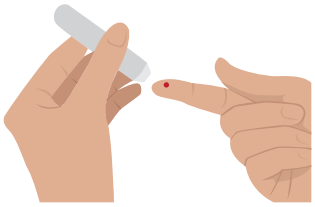
Measuring blood sugar

Why?
To make sure all factors that affect blood sugar are in balance. You will find, as researchers have, that feelings are not a reliable way to determine blood sugar levels.

How often?
Several times per day, since blood sugar changes all the time. Common times to check:

- Before breakfast, lunch and dinner
- At bedtime
- At 2 a.m.
- If feeling symptoms of low blood sugar
- After treating symptoms of low blood sugar
- Around the time of physical activity
- When sick

How?
1. Wash hands in warm water and soap. An alcohol swab can be used, but may tighten skin and make testing harder.
2. Poke the side of one of your fingers.



3. Hang hand down and use a "milking" action to get a drop of blood if having trouble getting enough blood.
4. Touch the strip to the blood drop. Be sure the blood is the only thing that touches the strip.
5. Change lancet at least daily.

What is my target range?

Age	Daytime sugar	Bedtime/Overnight sugar	Hemoglobin A1C%
Infant, toddler and up to age 5	100-180 mg/dL	100 or _____	ADA* 7.0% or less
School age: 6-12 years	80-180 mg/dL	100 or _____	ADA 7.0% or less
Teens: 13-19 years	70-150 mg/dL	100 or _____	ADA 7.0% or less

Other helpful info
- Meters estimate blood sugar level, +/– 5-15%.
- Each meter has a toll free number listed on the back of the meter in case of questions.
- You can check the accuracy of your meter and test strips by using control solution.
- Keep the lid on your test strips closed tight — they are sensitive to light and moisture.
- Keep strips and meter out of extreme temperatures — learn the limits of your meter.

*ADA=American Diabetes Association

The A1C blood test

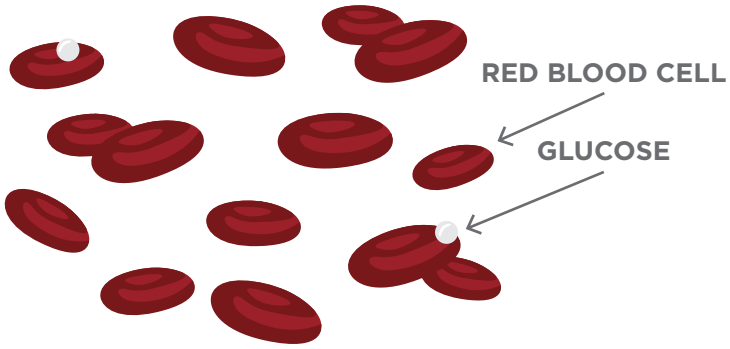
The A1C blood test gives you a picture of your blood sugar level over a period of three to four months. As red blood cells move through your blood, sugar sticks to them. Very simply, the A1C is a measure of how much sugar is sticking to your red blood cells.

Since each red blood cell lives for about three months, the A1C shows your average blood sugar for the past three months. Keeping your A1C at ADA targets can help keep you healthy. Discuss with your doctor what your A1C goal would be.

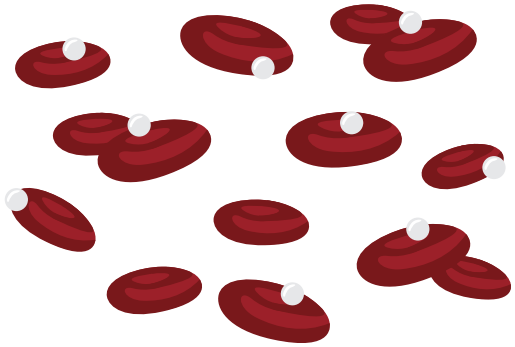
Relationship between your A1C and your blood sugar

A1C%	Estimated Average Blood Sugar mg/dL
6.0	126
6.5	140
7.0	154
7.5	169
8.0	183
8.5	197
9.0	212
9.5	226
10.0	240
10.5	255
11.0	269
11.5	283
12.0	298
12.5	312
13.0	327
13.5	341
14.0	356

Normal A1C



High A1C



The A1C blood test gives you a picture of your blood sugar level over a period of three to four months.

CGM and BGM

What is a continuous glucose monitor?

- A continuous glucose monitor (CGM) is a wearable device that measures and delivers real-time glucose numbers to your smart phone and/or receiver every few minutes. This allows individuals to see current glucose levels and treads. You can share blood glucose data with family/friends and the doctor's office.

Blood glucose meter (BGM) vs. continuous glucose monitor (CGM)

- A blood glucose meter measures glucose levels at one single moment in time, while the continuous glucose monitor continually checks glucose levels throughout the day and night and can alert you if your levels are too high or too low
- CGM and BGM readings will not be the same because they measure from two different types of body fluids – interstitial fluid and blood – which accounts for the variation in blood sugar readings between the two different devices.

Other reasons why the BGM and CGM readings could differ

- Hand cleanliness
- First 24 hours of a new sensor
- Pressure on CGM sensor
- Rapid changes in sugar levels
- Expired test strips

Accuracy of CGM vs. BCM

- Use this table to find out if your CGM number is within an acceptable range compared with blood glucose meter number. The average difference can be up to ± 20%. See website for expanded table.
- If readings are outside acceptable range, use fingerstick reading.
- If using Dexcom, you can calibrate the sensor only when the arrow is showing blood sugars are steady (arrow pointing right). Don't calibrate more than four times a day.

BG Meter reading	CGM reading
50	30-70
100	80-120
150	120-180
200	160-240
250	200-300
300	240-360
350	280-420
400	320-480

What is time in range

- Time in range is the amount of time you spend in the target blood glucose (blood sugar) range – between 70 and 180 mg/dL for most people.
- The goal is to spend at least 70% of your time in range.

Aim for less than 25%	>180 mg/dL
Aim for 70% or more	Target range 70-180 mg/dL (3.9-10.0 mmol/L)
Aim for less than 4%	<70 mg/dL

What to do if your sensor fails or falls off?

- Either replace sensor or return to finger sticks and check blood sugar before each meal and at bedtime.
- Call company for a replacement

CGMs and insulin pumps

- Dexcom and libre sensors will connect to different insulin pumps.
- When a sensor and pump are linked together, it allows the insulin pump to automatically deliver insulin based on high or low blood sugars.
- The pump will deliver more insulin if blood sugars are high and/or deliver less insulin if blood sugars are too low.

Share data with our clinic

- Dexcom code: bhmapedsendo
- Libre code: 4234314946

Resources

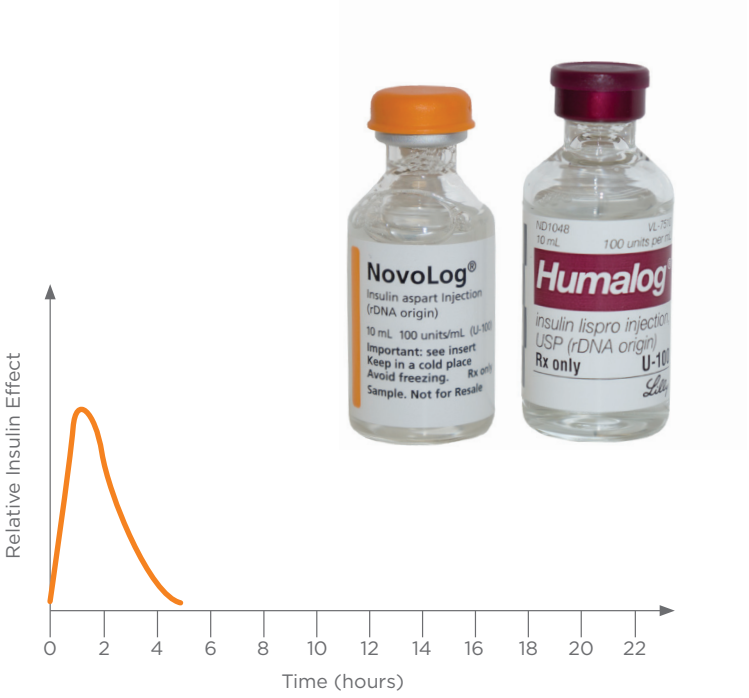
- www.dexcom.com
- www.freestyle.abbott
- www.pantherprogram.org/skin-solutions
  - Provides tips on skin irritation due to sensors and information on adhesive products
- www.breakthrought1d.org
  - Provides information on different insulin pumps currently available

Insulin products

Approximate action times of insulin

Type of insulin	Starts acting	Most active	Lasts in the body
Bolus/Rapid-acting (insulin should be clear)			
Humalog (lispro)	5–15 minutes	1 hour	3–5 hours
Lispro (generic insulin)	5–15 minutes	1 hour	3–5 hours
Novolog (aspart)	5–15 minutes	1 hour	3–5 hours
Apidra (glulisine)	5–15 minutes	1 hour	3–5 hours
Fiasp (aspart)	2-5 minutes	1 hour	4 hours

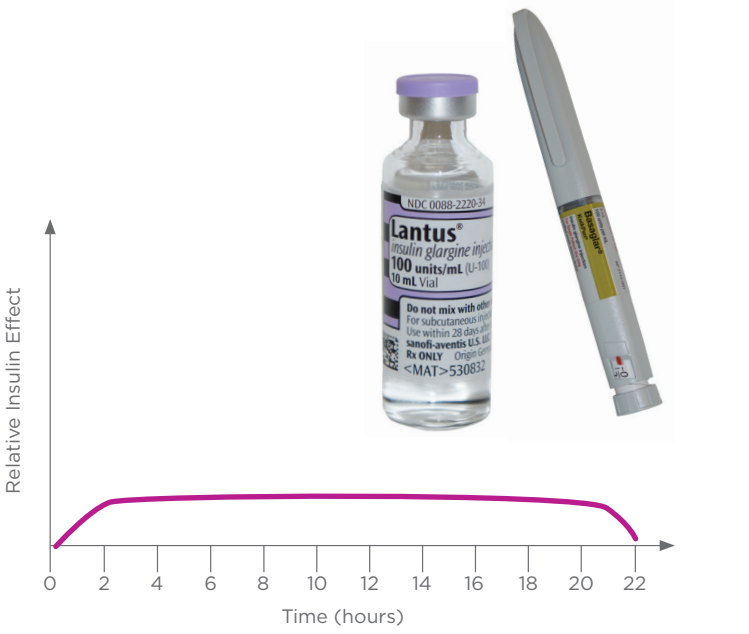
*Bolus insulin should be given immediately before meal, unless told otherwise.



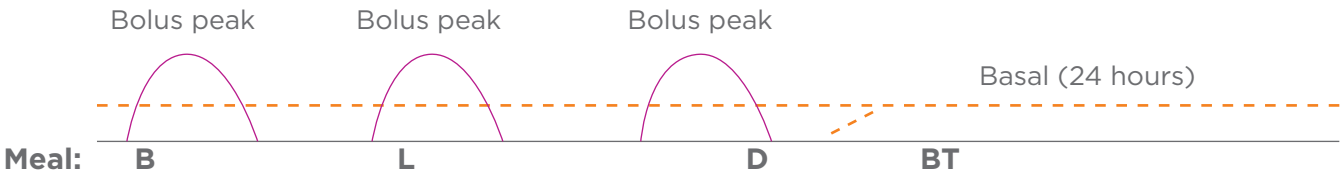
Approximate action times of insulin

Type of insulin	Starts acting	Most active	Lasts in the body
Basal/Long-acting (clear)			
Lantus (glargine)	1–2 hours	None	22+ hours
Basaglar KwikPen	1–2 hours	None	22+ hours
Tresiba (degludec)	1–4 hours	None	About 42 hours

*Basal insulin should be given at the same time everyday. Do not mix with other insulins.



Basal bolus regimen



Time: _____

Common insulin routine ***4 – 6 injections per day**

Basal insulin/long acting
Basal means "base or background." Basal insulin is used to manage the sugar made by your liver during the day and night. Basal insulin is needed throughout the day, even when you are not eating.

Bolus insulin/rapid acting
Bolus means "burst." Bolus insulin is often called mealtime insulin and/or insulin used to correct high blood sugars. Examples of bolus insulins are Humalog (lispro), Novolog (aspart), Fiasp (aspart) and Apidra (glulisine).

At mealtimes, the goal is to "match" your bolus insulin to the amount of carbohydrates you are eating. This is to help keep your blood sugar in target range 2-4 hours after eating. We use an "insulin to carb ratio" to determine the dose of insulin.

High blood sugar correction
This is a dose of insulin used to lower high blood sugar before a meal. This is in addition to the mealtime carbohydrate bolus.

Mealtime dose calculation
To calculate the dose, divide the grams of carbohydrate by the ratio, then add correction if needed.
***Humalog/Novolog should be given just before a meal.**

More about insulin

Storing insulin:

- Do not freeze (under 36˚F).
- Keep insulin out of direct sunlight.
- Do not use if clumps, crystals or cloudy appearance

Unopened (not in-use) insulin:

- Should be stored in refrigerator (36˚–46˚F)
- May be used until expiration date on vial or pen-device.

Open (in-use) insulin:

- Date the vial or pen-device on first use.
- Should be stored at room temperature (below 86˚F) or in the refrigerator (36˚–46˚F) for one month.
- Tresiba Insulin pen-device or vial should be stored at room temperature (below 86˚F) or in the refrigerator (36˚–46˚F) for 56 days.

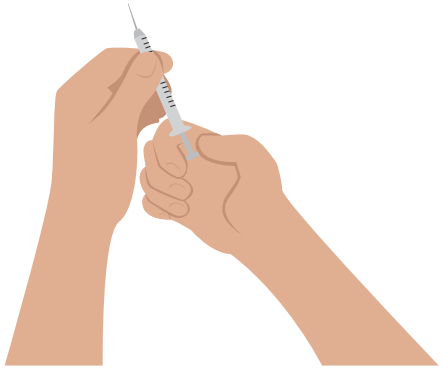
How to dispose of sharp needles:

- Place sharps in a hard plastic or metal container with a tightly secured, screw-on lid. Thick plastic bottles such as detergent bottles or bleach bottles work well. Do not use soda or milk plastic bottles.
- Do not fill the container more than ¾ full to avoid getting a needle stick.
- Before discarding the container, reinforce the lid with heavy-duty tape.
- Do not put sharps in a glass container or in any container that you plan to recycle.
- Keep all containers with sharps out of the reach of children or pets.
- Disposal rules and regulations vary by state and local community. Visit www.safeneedledisposal.org for more information.

Directions for drawing a single dose of insulin

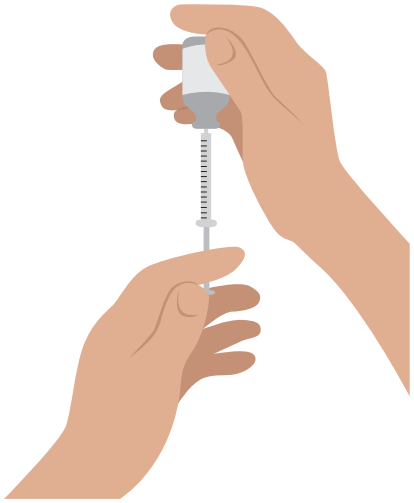
Preparing your insulin syringe:

1. Gather insulin supplies and wash your hands.
2. Wipe the top of the insulin bottle with alcohol.
3. Wipe the area on body with alcohol and allow to dry.
4. Draw air into syringe equal to the dose of insulin that will be drawn out of the bottle.



5. Put needle through rubber stopper and push air into bottle.

6. Turn bottle upside down and pull back on the plunger to draw insulin into your syringe.

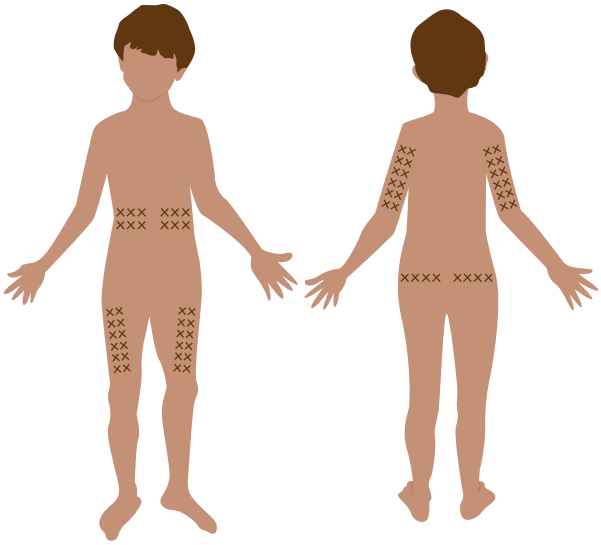


7. Flush in and out three times to remove air bubbles, and then draw your insulin dose into the syringe.
8. Pull needle out of bottle.

Directions for giving insulin

Selecting a site for your shot:

1. Insulin can be injected into the abdomen, back of the arms, thighs and buttocks.
2. To prevent the buildup of scar tissue, make sure to rotate to a different site for each insulin injection.



Giving an insulin shot:

3. Make sure injection area is clean.

4. Gently lift up the skin. Insert needle straight into the skin and push plunger all the way down to inject the insulin.

5. Let go of the skin and count slowly to 5. Pull the needle out. (Observe and document any leakback.)

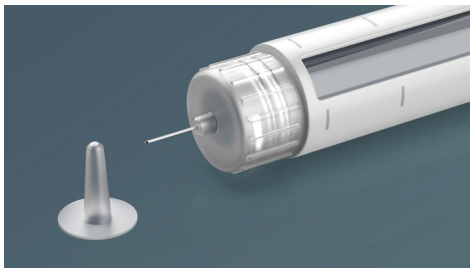
How to inject with a pen needle

Make sure to follow the pen manufacturer's instructions when injecting any subcutaneous medication besides insulin and review any extra preparation steps for insulin injections such as taking off the pen cap, dialing the dose and cleaning the skin.

1. Wash your hands. Remove the peel tab, then press the new needle straight onto the pen – never at an angle – and screw it on firmly.

2. Remove the outer cover and keep it for disposal after the injection.

3. Remove the inner needle shield and discard it.
   Warning: Remove both the outer cover and the inner needle shield before injecting. Failure to remove both shields can prevent the medication or dose from being delivered, potentially leading to serious harm or death.



4. Check the flow of insulin by dialing two units and pressing into the air until a drop of insulin appears. If no drop forms, repeat the process. Then dial your prescribed dose.

5. Insert the needle straight in, press the thumb button and hold for up to 10 seconds before pulling the pen straight out. This pause helps deliver the full dose. Check your insulin's instructions for the exact hold time recommended for your pen.

6. If recapping is necessary, place the outer cover on a flat surface and, with one hand, gently press the pen needle straight down into it. Then unscrew the needle from the pen.

7. Dispose of the pen needle right away in a suitable sharps container.

Insulin doses

Long acting: _____ units at _____ (time)

Rapid acting:
Insulin to cover carbohydrate at meals and snacks:

Breakfast: _____ unit(s) per _____ grams of carbohydrate
Lunch: _____ unit(s) per _____ grams of carbohydrate
Supper: _____ unit(s) per _____ grams of carbohydrate
Snacks: _____ unit(s) per _____ grams of carbohydrate
Or one snack less than _____ grams of carbohydrates between meals without insulin coverage

Insulin for high blood sugar correction:

_____ unit(s) for every _____ mg/dl above _____ mg/dl

High blood sugar correction scale

Blood sugar	Units of insulin
_____	_____ Unit(s)
_____	_____ Unit(s)
_____	_____ Unit(s)
_____	_____ Unit(s)
_____	_____ Unit(s)
_____	_____ Unit(s)

Diabetes routine

- ◯ Wake up – new day

Breakfast

- ◯ Check blood sugar
- ◯ Count carbs
- ◯ Calculate and inject rapid insulin
- ◯ Eat breakfast

- ◯ Snack (≤ _____ grams carb)

Lunch

- ◯ Check blood sugar
- ◯ Count carbs
- ◯ Calculate and inject rapid insulin
- ◯ Eat lunch

- ◯ Snack (≤ _____ grams carb)

Supper

- ◯ Check blood sugar
- ◯ Count carbs
- ◯ Calculate and inject rapid insulin
- ◯ Eat supper

Bedtime

- ◯ Check blood sugar
- ◯ Snack (≤ _____ grams carb)
- ◯ Give long-acting insulin at the same time once daily

- ◯ Sleep

- ◯ Check blood sugar at 2–3 a.m. anytime:
  - Blood sugar was less than _____ at bedtime
  - Dose was increased
  - Had extra physical activity during the day
  - Any illness

Key points

- Lantus (Long Acting) Insulin needs to be given at the same time every day
- Humalog/Novolog (Rapid Acting) – **3 hours** between doses
- Snacks – **2 hours** between eating snacks and checking next routine blood sugar

Why dose insulin before meals

When insulin action and food absorption are matched, blood sugars are more stable.

Even the fastest injected insulin takes 5-15 minutes to start working and may be 60-90 minutes before it's working it's hardest.

Giving insulin after eating causes rapid rises or falls in blood sugar because the insulin action and food absorption times do not match. Only in special circumstances will your provider instruct you to give insulin after eating.

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Blood sugar log sheet

Sunday	2 a.m.	Breakfast	Lunch	Dinner	Bedtime	Snacks
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Monday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Tuesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Wednesday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Thursday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Friday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						
Saturday	**2 a.m.**	**Breakfast**	**Lunch**	**Dinner**	**Bedtime**	**Snacks**
Blood Sugar						
Carbs (g)						
Insulin carb coverage						
Insulin correction						
Total insulin dose						

Low blood sugar (Hypoglycemia)

Causes of low blood sugar

- Not eating enough carbohydrates
- Delayed or skipped meal
- More exercise than usual
- Too much insulin

Having low blood sugar or hypoglycemia means there is not enough sugar (glucose) in your bloodstream. **Any blood sugar reading below ___ mg/dL is low.** Low blood sugar can come on very quickly and needs to be treated quickly. Low blood sugar that is not treated may lead to a seizure or unconsciousness.

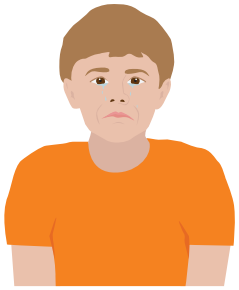
How you may feel with low blood sugar

Shaky

Hungry

Irritable

Tired/Weak



Crying

Sweaty

Feeling:

- Nervous/anxious
- Pounding heart
- Upset stomach/butterflies
- Change in vision
- Tingling/numbness of mouth
- Trouble thinking
- Weak
- Shaky
- Hungry

Showing:

- Sweaty
- Fast heartbeat
- Pale skin
- Confusion/slow speech
- Glassy eyes
- Mood change (irritable, sensitive, crying)
- Sleepy
- Seizure or unconsciousness

What to do if you think you have low blood sugar

Check	Treat	Wait
• Check your blood sugar immediately if you have any symptoms of low blood sugar • If you think your blood sugar is low but cannot check it at that time, treat it anyway	Treat by eating or drinking 15 grams of sugar, such as: • 4 ounces (1/2 cup) of regular fruit juice (orange, apple or grape juice) • 3-4 glucose tablets or 1 tube of glucose gel • 1 tablespoon of sugar, honey or corn syrup • 2 tablespoons of raisins	Wait 15 minutes and then check your blood sugar again: • If it is still low, eat or drink 15 grams of sugar again • If your next meal is more than an hour away, eat a snack that contains 10-15 grams of carbohydrates with protein to keep your low blood sugar from coming back Examples - 1 cup of milk - 2 graham cracker squares with peanut butter - 5 Ritz crackers with cheese

Examples to treat lows:

Examples of a follow-up snack:

Using BAQSIMI

Be prepared for low blood sugar emergencies

If your child depends on insulin, it's crucial to be prepared for low blood sugar emergencies (severe hypoglycemia). When that happens, BAQSIMI is a nasal powder that can help. Everyone involved in your child's care – including family, friends and teachers – should know where you keep BAQSIMI and how to use it.

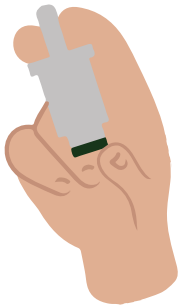
Preparing the dose

When your child's blood sugar drops to dangerous levels, use BAQSIMI by:

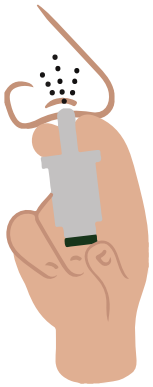
1. Remove the shrinkwrap by pulling on the red stripe. BAQSIMI should remain shrinkwrapped until it needs to be used.
2. Open the lid and removing the device from the tube. Do not press the plunger until you're ready to give the dose.

Giving the dose

1. Hold the device between your fingers and thumb.



2. Do not push the plunger yet.
3. Insert the tip gently into one nostril, until your finger touches the outside of the nose.



4. Push the plunger firmly, all the way in.
5. The dose is complete when the green line disappears.

After giving the dose

1. Immediately call 911.
2. If your child is unconscious, turn him or her onto their side.
3. Throw away the used BAQSIMI device and tube.
4. If your child is conscious, encourage him or her to eat as soon as possible, preferably a fast-acting sugar source such as juice. Then, encourage the child to eat a snack, such as crackers and cheese or peanut butter.
5. If the child does not respond after 15 minutes, another BAQSIMI dose can be given.

Glucagon injection

What is Glucagon?
Glucagon is an injected hormone that is administered if your child's blood sugar is very low.

When would I give Glucagon?
You should give Glucagon if your child's blood sugar is low enough that they become unconscious, are having a seizure, or are unable to take anything by mouth.

How do i mix and administer Glucagon?

1. Remove the gray cap from the vial.
2. Inject all the water from the syringe into the vial.
3. Roll the vial for a few seconds until the pill is dissolved.
4. Using the same syringe, for children above 44 lbs take out 1 mg of the medication. For children below 44 lbs take out ½ mg of medication.
5. Give the injection into the top of the thigh muscle.
6. Turn your child onto his/her side in case of vomiting.
7. Call 911.
8. Call your diabetes doctor at 423.431.4946 once your child is awake or before the next scheduled insulin dose.

How Do You Store Glucagon?
Store your Glucagon kit at room temperature (68–77 degrees Fahrenheit).
Do not mix the Glucagon until needed – the solution is only stable for 24 hours once mixed.

Remember to keep a current Glucagon kit (not expired) and replace kit immediately if ever used.

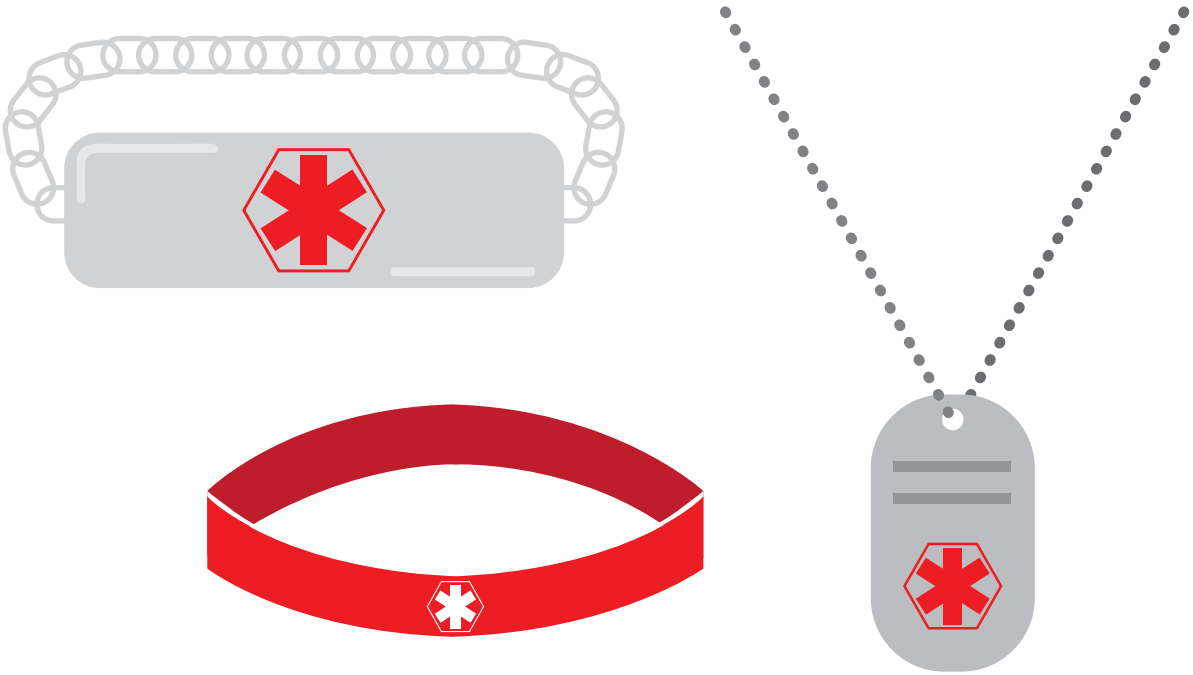
Gvoke
Gvoke is glucagon which is premixed in a pen injector.
Available for children ages two and above.

Diabetes identification

Even with proper management, medical situations or emergencies are still possible. Medical ID bracelets and necklaces can come in handy during times of crisis, especially if you aren't able to direct the person caring for you.

Not only can they be fashionable pieces of jewelry, but also contain information about your condition and your emergency contact information. In some instances, wearing this simple accessory can mean the difference between immediate care and prolonged trial and error during treatment.

American Medical Identifications www.americanmedical-id.com 1.800.363.5985	**Laurens Hope** www.laurenshope.com 1.800.360.8680
MedicAlert® www.medicalert.org 1.800.432.5378	**Road ID** www.roadid.com 1.800.345.6336
Sticky J medical www.stickyj.com 1.866.497.6265	



- Anyone with diabetes should wear identification.
- A driver with diabetes must obtain an identification immediately.

High blood sugar (Hyperglycemia)

Causes of high blood sugar

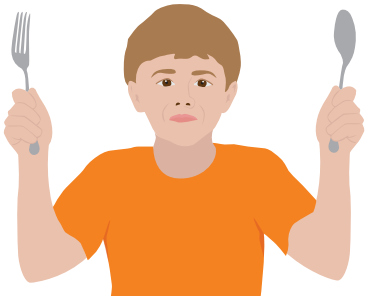
- Not taking enough insulin
- Eating too much carbohydrate
- Stress
- Illness
- Infection
- Less exercise
- Medications that raise blood sugar

Having high blood sugar or hyperglycemia means there is too much sugar (glucose) in your bloodstream. Having high blood sugar can make you feel bad, or sometimes you can have high blood sugar and feel fine. High blood sugar over the years can lead to problems with your eyes, kidneys, feet and other parts of your body.

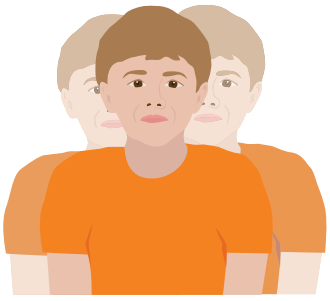
How you may feel with high blood sugar

Frequent urination

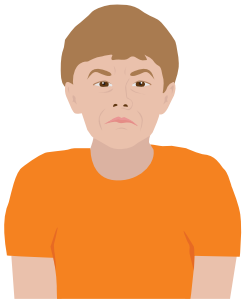
Very thirsty



Hungry

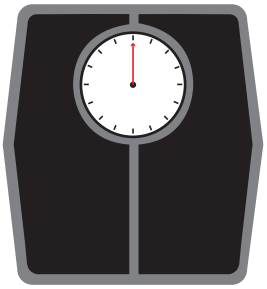


Blurry vision



Moody

Fatigued



Weight loss

What it's like to have high blood sugar:	Why this happens
Frequent urination	Without enough insulin the amount of sugar in the blood increases. The kidneys make more urine to get rid of extra sugar.
Thirsty, dehydrated, dry mouth	Water is lost because of frequent urination.
Hungry	Sugar cannot be used as fuel.
Weight loss	The body breaks down stored sugar, muscle and fat to be used for fuel.
Blurry vision	The lens of the eye swells. This will slowly get better as the blood sugar level decreases.

Ketones/DKA (Diabetic Ketoacidosis)

If you have ketones, start sick day plan. See page 37

What are ketones and ketoacidosis?

- Ketones are acids your body makes when it's using fat instead of glucose for energy. Your body gets most of its energy from glucose, a sugar that mainly comes from carbohydrates in your diet. If you don't get enough energy from glucose, your body breaks down fat for energy instead. The breakdown releases ketones that travel through your bloodstream. The ketones fuel your body's tissues and eventually exit into your urine.
- It's normal and safe to have some ketones in your blood because it's normal for your body to use its backup energy source, fats, when there's not enough usable glucose.
- Too many ketones for too long can make your blood acidic and toxic. This is called ketoacidosis (DKA). DKA can cause coma or death without treatment.

When should I test for ketones?

- When you blood sugar is above 300mg/dL or 250 for pump user for 2-3 hours
- When you are sick with any illness
- If you vomit at any time

How do I check for ketones?

- Dip ketone strip in fresh urine, or through urine stream
- Make sure the entire pad is covered with urine
- Tap off excess urine
- In exactly 15 seconds, compare the color on the strip to the guide on bottle
- Babies/toddlers: check ketones with every diaper change. You may place cotton ball in diapers to get urine.

***Do not exercise if ketones are moderate or large.**

Symptoms of ketoacidosis

- Abdominal pain/stomach cramps
- Blurred vision
- Body aches/weakness
- Fruit/musty breath
- Increased thirst/dry mouth
- Increased urination
- Nausea/vomiting
- Rapid shallow breathing

What can cause ketones to develop?

- Fasting (not eating)
- Illness/infection/surgery
- Missed insulin
- Newly diagnosed diabetes
- Pump site failure
- Stress
- Using old insulin

Sick day plan

tel 423.431.2370

When to start sick day plan

- When not feeling well
- If moderate or large ketones are present, even if blood sugars are normal

Basic sick day plan

- Check blood sugar every 3 hours
- Check ketones every 3 hours or with each diaper change
- Administer carb coverage and high blood sugar correction every 3 hours until ketones are cleared
- Encourage fluid intake—drink at least 8 ounces per hour
- If blood sugars are less than 200mg/dL, drink fluids that contain sugar
- If blood sugars are greater than 200mg/dL, drink sugar-free fluids
- Continue long-acting insulin

When to call

- If ketones are moderate to large
- If vomiting
- If child has difficulty breathing, appears drowsy or difficult to arouse

When to stop sick day plan

- When ketones are cleared

How to interpret blood ketone levels

- Less than 0.6mmol/L is considered normal
- 0.6 to 1.5mmol/L is considered moderate and call office and start sick day plan
- Greater than 1.5 mmol/L-call office and start sick day plan

What are carbohydrates?

Carbohydrates, or carbs, are one of three components (called macronutrients) in the foods you eat that provides fuel. The other two macronutrients are protein and fat. Your body needs all three to grow and function at its best.

Many foods are a combination of carbohydrates, protein and fat. Blood sugar, or blood glucose, is made from the carbohydrates we eat and is used by the cells as a source of energy. We focus on carbohydrates with diabetes because they directly affect our blood sugar levels.

Many foods with carbohydrates are healthy, providing fuel for you to learn and play. The foods you eat do not have to change. You will just need to learn to count the amount of carbohydrates that these foods contain to match your insulin. Carbohydrate content is counted in units called “grams”.

Foods with carbohydrates

The foods you will need to count fall into these groups.

- Breads and cereals
- Fruit and juice
- Dairy and dairy alternatives
- Rice, grains and beans
- Starchy vegetables
- Sweets and snacks

Foods with no/low carbohydrates

Some foods do not contain carbohydrates, or have such a small amount we don’t typically count them.

- Non-starchy vegetables
- Cheese, nuts and seeds
- Meat, poultry, fish and eggs
- Fats

References

Books & booklets

- ADA Complete Guide to Carb Counting, 2nd Edition, Hope S. Warshaw
- The CalorieKing: Calorie, Fat& Carbohydrate Counter, Allan Borushek
- The Ultimate Guide to Accurate Carb Counting, Gary Scheiner

Mobile phone applications

- Carb Counting with Lenny
- My Net Diary: Diabetes Tracker
- The Calorie King

Feeding your family

- Recipes (nutrition information provided for all recipes)
- Food Hero, https://www.foodhero.org/
- American Diabetes Association, http://www.diabetes.org/mfa-recipes/recipes/

Websites

- American Diabetes Association, www.diabetes.org
- American Diabetes Association MyFoodTracker, http://tracker.diabetes.org/myfoodadvisor.html
- Calorie King, www.calorieking.com
- Ellen Satter's Division of Responsibility, www.ellynsatter.com
- Harold Schnitzer Diabetes Center, www.ohsu.edu/xd/health/services/diabetes
- Lilly Diabetes, www.lillydiabetes.com
- Glu, http://myglu.org/

Reading the food label

On the Nutrition Facts label, pay attention to the serving size and carbohydrate (in grams) to help you count your carbohydrates.

Nutrition Facts

Serving Size 1 cup
Serving Per Container 2

Amount Per Serving

Calories 200	Calories from Fat 120
	% Daily Value*
Total Fat 15g	**20 %**
Saturated Fat 5g	**28 %**
Trans Fat 3g	
Cholesterol 30mg	**10 %**
Sodium 650mg	**28 %**
Total Carbohydrate 30g	**10 %**
Dietary Fiber 0g	**0 %**
Sugars 5g	
Protein 5g	

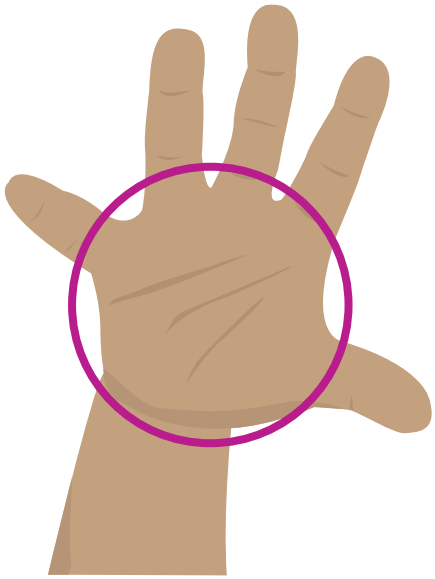
Vitamin A 5%	•	Vitamin C 2%
Calcium 15%	•	Iron 5%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

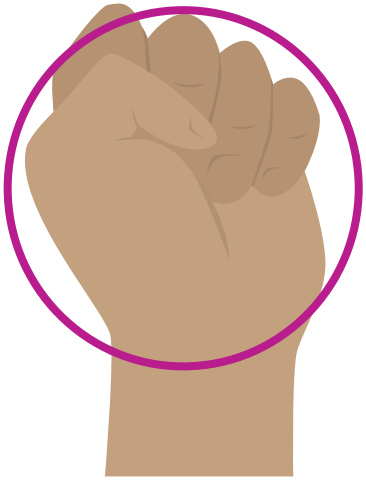
	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbonhydrate		300mg	375mg
Dietary Fiber		25g	30g

A handy guide to portion sizes

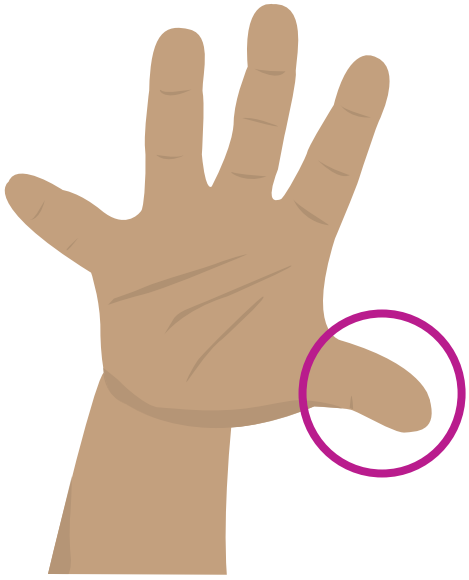
You can also estimate the grams of carbohydrate in your foods by knowing the portion size.



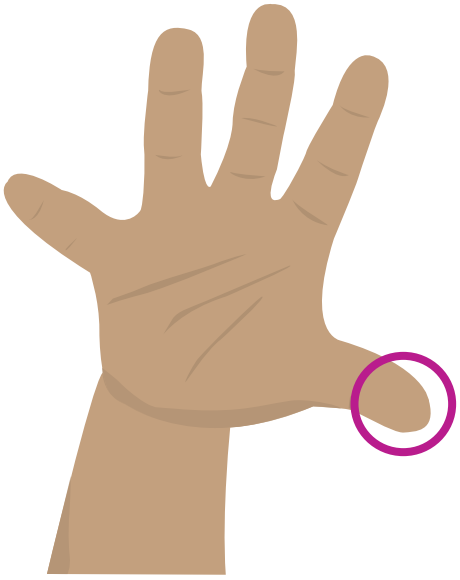
Your palm, not including fingers and thumb, is about **3 ounces.**



A fist is about **1 cup.**



Your thumb is about **1 tablespoon.**



Your thumb tip is about **1 teaspoon.**

Lower carb diets

Carbohydrates are important for normal growth however it is sometimes easy to get overly focused on carbs. Our bodies also need protein and fat in order to be healthy and meet all of our nutrient needs.

Studies have shown that there are potential benefits to eating a lower carb diet. One benefit is needing smaller insulin doses. Since carbs and insulin are the biggest factors that affect blood sugar, a lower carb intake means less insulin. This often keeps blood sugars more steady.

There are many low carb foods that are available and can be substituted for higher carb items.

Example:

Regular bread 1 slice = 15 grams Insulin needed_____	**Cloud bread** 1 slice = < 1 gram Insulin needed_____
Regular pizza crust 1 slice = 30 grams Insulin needed_____	**Cauliflower pizza crust** 1 slice = 9 grams Insulin needed_____
Strawberry yogurt 6 oz = 16 grams Insulin needed_____	**Low carb yogurt** 6 oz = 5 grams Insulin needed_____

* Since carbs vary with the individual brands, always check your food labels.

Overall, while being on a lower carb diet may not work for everyone, it is something to consider as a way of keeping blood sugars in target and preventing lows and highs. Substituting one or two low carb choices per day can make a difference. You may even discover new foods that you never knew you liked!

What if I don't have a nutrition label?

There may be times when nutrition facts are not available. It is important to know how to estimate carbohydrates in different foods so you can dose your insulin accordingly.

You might hear the term "carbohydrate exchange," "serving" or "choice" used. For your reference, 1 Exchange/Choice = 15 grams of carbs. As your insulin dose is dependent on the number of carbohydrates consumed, it is typically better to count your carbohydrates in grams in order to be more precise in your insulin dosing.

Combination and restaurant foods can be estimated although portion sizes and amount of carbohydrate per serving varies.

Combination foods

Casserole, noodle/bean, 1 cup	30g
Lasagna, 3"x4"	30g
Mac and cheese, 1 cup	45g
Fish sticks, breaded, 3 pieces	15g
Coleslaw, ½ cup	15g
Pasta salad, 1 cup	45g
Potato salad, ½ cup	30g
Soup (cream, noodle, rice, vegetable), 1 cup	15g
Ramen, 1 package	50g

Restaurant foods

Breakfast sandwich	30g
Hamburger, regular size	30g
Chicken nuggets, 6 pieces	15g
Chicken sandwich, breaded	45g
Burrito, beef and beans, 8 oz	45g
Pizza, thin crust,1/8 medium	15g
Pizza, thick crust, 1/8 medium	30g
Sub sandwich, 6"	45g
French fries, each	1-2g

These portion sizes generally have about 15 grams of carbohydrate.

Breads & cereals

Sandwich bread	1 slice
Bagel (large)	1/4 each
Burger/hot dog bun	1/2 each
English muffin	1/2 each
Dinner roll (small)	1 each
Pita bread, 6”	1/2 each
Corn bread, 2x2”	1 each
Biscuit, 2”	1 each
Tortilla, 6” corn or flour	1 each
Pancake, 4”	1 each
Toaster waffle	1 each
Croûtons	1/2 cup
Cereal, unsweetened	1/2 cup
Oatmeal	1/2 cup
Granola	1/2 cup

Grains & beans

Rice, cooked	1/3 cup
Pasta, cooked	1/3 cup
Beans, cooked	1/2 cup
Baked beans	1/3 cup
Refried beans	1/2 cup

Fruit & juice

Apple (small)	1 each
Banana (small- 5 inches)	1 each
Blueberries	3/4 cup
Strawberries, whole	1 1/4 cup
Melon	1 cup
Grapes	15 grapes
Peach (small)	1 each
Pear (small)	1 each
Orange (small)	1 each
Watermelon	1 1/4 cup
Dried fruit	2 Tbsp
Fruit juice	1/2 cup

Starchy vegetables

Corn	1/2 cup
Peas	1/2 cup
Potato	1/2 cup
Yam/sweet potato	1/2 cup
Squash	1 cup

Sweets & snacks

Animal crackers	8 each
Graham crackers	2 1/2” – 3 each
Popcorn	3 cups
Saltine crackers	6 each
Teddy Grahams	15 each
Brownie, 2” square	1 each
Cake, frosted 2” square	1/2 each
Pudding	1/2 cup
Pie, single crust	1/16th pie
Syrup	1 Tbsp.
Honey	1 Tbsp
Jelly/jam	1 Tbsp

Dairy & dairy alternatives

These have about 12 grams of carbs

Milk, skim	1 cup
Milk, 1%	1 cup
Milk,2%	1 cup
Milk, whole	1 cup
Chocolate milk	1/2 cup
Rice milk	1/2 cup
Soy milk, sweetened	1 cup
Yogurt, plain	1 cup
Yogurt, fruited	1/2 cup
Ice cream	1/2 cup

Favorite foods reference guide

You don't need to know the carbohydrates in all foods, just the ones you eat. It might be helpful to make a list of the carbohydrates in some of the foods you eat most often. This will be a big help for when you go home and need a quick reference guide.

Breads, cereals, grains & beans			
Food/beverage	**Grams/serving**	**How much I eat**	**Grams in my portion**

Fruit & juice			
Food/beverage	**Grams/serving**	**How much I eat**	**Grams in my portion**

Favorite foods reference guide

Starchy vegetables			
Food/beverage	Grams/serving	How much I eat	Grams in my portion

Dairy & dairy alternative			
Food/beverage	Grams/serving	How much I eat	Grams in my portion

Sweets & snacks			
Food/beverage	Grams/serving	How much I eat	Grams in my portion

Let's plan some meals!

Based on the insulin to carbohydrate ratio:

_____ unit of insulin (Humalog/Novolog) for every_____ grams of carbohydrate

Keep in mind:

- Wait 2–3 hours between Humalog/Novolog doses
- Wait 2 hours between eating snacks with carbs and checking next routine blood sugar

Breakfast Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Breakfast:**
Morning snack Time: Grams of Carbs: Insulin for Carbs:	**Morning snack:**
Lunch Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Lunch:**
Afternoon snack Time: Grams of Carbs: Insulin for Carbs:	**Afternoon snack:**
Dinner Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Dinner:**
Bedtime snack Time: Grams of Carbs: Insulin for Carbs:	**Bedtime snack:**

Let's plan some meals!

Based on the insulin to carbohydrate ratio:

_____ unit of insulin (Humalog/Novolog) for every_____ grams of carbohydrate

Keep in mind:

- Wait 2–3 hours between Humalog/Novolog doses
- Wait 2 hours between eating snacks with carbs and checking next routine blood sugar

Breakfast Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Breakfast:**
Morning Snack Time: Grams of Carbs: Insulin for Carbs:	**Morning snack:**
Lunch Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Lunch:**
Afternoon snack Time: Grams of Carbs: Insulin for Carbs:	**Afternoon snack:**
Dinner Time: Blood Sugar: Correction Dose: Grams of Carbs: Insulin for Carbs: Total Insulin:	**Dinner:**
Bedtime snack Time: Grams of Carbs: Insulin for Carbs:	**Bedtime snack:**

Carb counting for recipes

Recipe for: Chocolate Chip Cookies

Grams of carbs	Ingredients
	2 ¼ cup flour
	1 teaspoon baking soda
	1 teaspoon salt
	2 sticks butter
	¾ cup granulated sugar
	¾ cup brown sugar
	1 teaspoon vanilla
	2 large eggs
	2 cups chocolate chips
	TOTAL grams of carb per recipe

One serving: 1 cookie

Total number of servings per recipe: 24 servings

_____ grams of carb ÷ _____ servings= _____ grams of carb per serving

*carb= carbohydrates

Key: 1 cup flour= 95 g, 1 cup sugar= 200 g, 1 cup brown sugar= 214 g, 1 cup chocolate chips= 160 g

NOTE: You can save your recipes using the American Diabetes Association MyFoodTracker. http://tracker.diabetes.org/myfoodadvisor.html

Carb counting for recipes

Recipe for: _____

Grams of carbs	Ingredients
	TOTAL grams of carb per recipe

One serving: _____

Total number of servings per recipe: _____

_____ grams of carb ÷ _____ servings= _____ grams of carb per serving

*carb= carbohydrates

NOTE: You can save your recipes using the American Diabetes Association MyFoodTracker.
http://tracker.diabetes.org/myfoodadvisor.html

I'm hungry... but it's not meal or snack time!

Read labels:
Sugar-free doesn't mean carb-free.

Having 2-3 of these snacks every day, in addition to meals and snacks, is fine. If consumed much more often, talk to your dietitian.

What are my options?

- Hard-boiled egg
- Beef jerky
- Cheese
- Deli meats
- Dill pickle
- Celery and cream cheese
- Olives
- Avocado
- Nuts (1/4 cup)
- Peanut butter (1-2 Tbsp.)
- Sugar-free popsicle
- Sugar-free Jell-0
- Carrots and ranch dip
- Salad greens with vinaigrette
- Mozzarella and tomato slices
- Sliced bell peppers
- Broccoli and cauliflower
- Sliced cucumber
- Edamame in pods
- Tuna and mayo
- Egg and cheese mini-omelet
- Miso soup
- Sunflower seeds in shells
- Crust-less veggie quiche
- Salsa and raw veggies

Choking hazards

To prevent choking, do not give babies or young children hot dogs, chunks of meat or cheese, grapes, raw vegetables or fruit chunks unless they're cut up into small pieces. Avoid other hard foods, such as seeds, nuts, popcorn and hard candy that can't be changed to make them safe options. Other high-risk foods include peanut butter, marshmallows and chewing gum.

Snack ideas

Ideas for 10-gram carb snacks with protein and fat

- ¼ cup canned peaches (in light syrup) with cottage cheese
- 5 Ritz-type crackers and cheese slices
- ½ cup mandarin oranges and sugar- free Jell-O, have with slices of cheese.
- 1 rice cake topped with spaghetti sauce and grated cheese
- ½ cup milk and 3 animal crackers
- 2 cups popcorn and a string cheese
- ¾ cup milk
- ½ cup dry cheerios and ¼ cup nuts
- 10 grapes with a string cheese (try the grapes frozen!)
- ¼ cup yogurt and a few baby carrots
- 1 cup miso soup and ¼ cup oyster crackers
- Beef jerky and 1 cup strawberries or ½ cup blueberries
- 6 dried apricot halves and 2 tablespoons of nuts
- ½ small banana and cottage cheese
- 2 graham cracker squares with peanut butter on top
- 1 rice cake with cream cheese and turkey on top
- ¾ cup edamame in pods
- ¼ cup blueberries and 2 tablespoons cool whip
- ¼ cup sugar-free pudding made with milk
- 2 sugar free popsicles and 2 tablespoons of nuts
- Sugar-free hot chocolate and 1 string cheese
- 4 saltines topped with tuna salad
- ½ large sliced apple and peanut butter
- 10 baked tortilla chips, melted grated cheese on top with ¼ cup salsa

Ideas for 15-gram carb snacks with protein and fat

- ½ cup canned peaches (in light syrup) with cottage cheese
- 6 Ritz-type crackers & cheese slices
- ½ cup mandarin oranges and sugar-free Jell-O, have with ½ cup milk
- ½ whole wheat English muffin topped with spaghetti sauce and grated cheese
- ½ cup milk and 4 animal crackers
- 3 cups popcorn and string cheese
- 1 piece wheat toast and peanut butter
- 1 cup of milk or ½ cup chocolate milk
- ½ cup cheerios and ½ cup milk
- Quesadilla (one 6-inch tortilla folded over with melted cheese inside)
- 15 grapes with a string cheese (try grapes frozen!)
- Squeezable yogurt and a few baby carrots
- 1 cup miso soup and 3 saltines
- Beef jerky and small piece fruit
- 8 dried apricot halves and 2 tablespoons of nuts
- Fruit cup and cottage cheese
- 3 graham cracker squares with peanut butter on top
- 6-inch flour tortilla rolled up with cream cheese and turkey
- 1 cup light yogurt
- ½ meat and cheese sandwich
- 1 slice of thin crust pizza
- 1 ¼ cup blueberries and ¾ cup light yogurt
- ½ cup sugar-free pudding made with milk
- 1 sugar-free popsicle and 1 cup milk
- Sugar-free hot chocolate and 2 vanilla wafers
- 6 saltines topped with tuna salad
- 1 small sliced apple and peanut butter
- 15 baked tortilla chips, melted grated cheese on top with ¼ cup salsa

Ideas for 30-gram carb snacks with protein and fat

- ½ cup canned peaches (in light syrup), 1 small banana with cottage cheese
- 6 Ritz-type crackers and cheese slices with 15 grapes
- ¾ cup mandarin oranges and sugar-free Jell-O, have with 1 cup milk
- 1 whole wheat English muffin topped with spaghetti sauce and grated cheese
- 1 cup milk and 8 animal crackers
- 3 cups popcorn, a string cheese and 1 small fruit
- 2 pieces wheat toast and peanut butter
- ½ peanut butter and jelly sandwich (made with one slice bread and 1 tablespoon regular jelly)
- Peanut butter and jelly sandwich (made with two slices of bread and 1 tablespoon sugar-free jelly)
- ¾ cup cheerios and 1 cup milk
- Quesadilla (two 6-inch tortillas with melted cheese in the middle)
- 15 grapes with a string cheese (Try the grapes frozen!) and 3 graham crackers
- Squeezable yogurt, 1 ¼ cup strawberries and a few baby carrots
- 1 cup miso soup and 6 saltines
- Beef jerky, small piece fruit, 1 cup milk
- 8 dried apricot halves, 2 tablespoons nuts and 1 cup light yogurt
- Fruit cup, cottage cheese, and 4 ounces calcium fortified orange juice
- 3 graham cracker squares with peanut butter on top and 1 cup milk
- 6-inch flour tortilla rolled up with cream cheese and turkey, have with a small orange
- 1 cup light yogurt and ¼ cup granola
- 1 meat and cheese sandwich made with whole wheat bread
- 1 slice of thin crust pizza and ¾ cup fresh cut pineapple
- 1 ¼ cup edamame in pods and ½ cup apple juice
- ¾ cup blueberries and 1 cup light yogurt
- ½ cup sugar-free pudding made with milk, with 8 animal crackers
- Sugar-free hot chocolate and 7 vanilla wafers
- 6 saltines topped with tuna salad and 1 cup soy milk
- 1 large sliced apple and peanut butter
- 15 baked tortilla chips, melted grated cheese on top with ¼ cup salsa and ½ cup refried beans

Breakfast ideas

45-gram carb breakfast ideas

Waffles on the run

- 2 frozen whole grain toaster waffles
- 1 tablespoon peanut butter

Toast waffles and spread with peanut butter.
Enjoy with 1 cup milk.

Breakfast scramble

- ½ cup liquid egg whites
- ¼ cup diced tomatoes
- 2 tablespoons onion

Sauté onions, add tomatoes. Scramble egg whites and combine with vegetables.
Sprinkle with cheese.
Enjoy with a small piece of fruit and 1 piece whole wheat toast.

Cinnamon and "sugar" toast

- 2 pieces whole wheat toast

Spread a small amount of butter and sprinkle with cinnamon and sweetener such as Truvia* or Splenda*.
Enjoy with 1 cup milk.

Breakfast burrito

- 1 scrambled egg
- 2 tablespoons salsa
- 1 tablespoon sour cream

Put above ingredients in 1 six inch flour tortilla.
Enjoy with 1 cup milk and a small fruit.

Toasted PB & B

- 2 pieces whole wheat bread, toasted
- 1 tablespoon peanut butter
- 1 small banana

Spread peanut butter on one toast, top with sliced banana.

Breakfast parfait

- 1 container light yogurt (check label for ~ 15 g carb)
- 2 tablespoons low-fat granola type cereal
- ½ cup fresh fruit

Layer ingredients in a mug or bowl and enjoy with 1 cup milk.

Pizza in the morning

- 1 whole wheat English muffin, sliced in half
- 1 tablespoon spaghetti sauce
- 1 ounce part-skim mozzarella
- 4 pineapple chunks
- ½ cup milk

Top muffin halves with sauce, grated cheese, add pineapple. Toast until melted and enjoy with milk.

Other breakfast combo ideas:

1 large banana
½ cup cottage cheese
1 piece whole wheat toast

1 cup plain oatmeal
(or 1 packet oatmeal, check label for one with ~ 30g carb)
Mix in fruit of choice: ¾ cup blueberries
or 1 small sliced banana
or 2 tablespoons dried fruit

Whole grain breakfast bar (check label for one with ~ 30g carb)
1 cup milk

1 cup plain shredded wheat
1 cup milk

2 rice cakes, 4 inches across
1 container light yogurt (check label for one with ~15g carb)
1 small apple

½ large grapefruit
2 pieces whole wheat toast
spread with 1 tablespoon almond butter (or peanut butter)

½ large whole wheat bagel
2 tablespoons reduced-fat cream cheese
1 small orange

Breakfast ideas

60-gram carb breakfast ideas

Waffles on the run

- 2 frozen whole grain toaster waffles
- 1 tablespoon peanut butter

Toast waffles and spread with peanut butter. Enjoy with 1 cup milk and a small fruit.

Breakfast scramble

- ½ cup liquid egg whites
- ¼ cup diced tomatoes
- 2 tablespoons onion

Sauté onions, add tomatoes. Scramble egg whites and combine with vegetables. Sprinkle with cheese. Enjoy with a small piece of fruit, 1 cup milk and 1 piece whole wheat toast.

Cinnamon and "sugar" toast

- 2 pieces whole wheat toast

Spread a small amount of butter and sprinkle with cinnamon and sweetener such as Truvia* or Splenda*. Enjoy with 1 cup milk and 1 small orange.

Breakfast burrito

- 1 scrambled egg
- 2 tablespoons salsa
- 1 tablespoon sour cream

Put above ingredients in 1 six inch flour tortilla. Enjoy with 1 cup milk and large banana.

Toasted PB & B

- 2 pieces whole wheat bread, toasted
- 1 tablespoon peanut butter
- 1 small banana

Spread peanut butter on one toast, top with sliced banana. Enjoy with 1 cup milk.

Breakfast parfait

- 1 container light yogurt (check label for 15 g carb)
- 2 tablespoons low-fat granola type cereal
- ½ cup fresh fruit

Layer ingredients in a mug or bowl and enjoy with 1 cup milk and 3 graham cracker squares.

Pizza in the morning

- 1 whole wheat English muffin, sliced in half
- 1 tablespoon spaghetti sauce
- 1 ounce part-skim mozzarella
- 4 pineapple chunks
- 12 ounces milk

Top muffin halves with sauce, grated cheese, add pineapple. Toast until melted and enjoy with milk.

Other breakfast combo ideas:

1 large banana
½ cup cottage cheese
2 pieces whole wheat toast
4 ounces (½ cup) calcium fortified orange juice

1 cup plain oatmeal (or 1 packet oatmeal, check label for one with 30g carb)
Mix in fruit of choice: ¾ cup blueberries or 1 small sliced banana or 2 tablespoons dried fruit
1 cup reduced sugar hot chocolate (check label for packet with 15g carb)

Whole grain breakfast bar (check label for one with 30g carb)
1 cup milk
1 small piece of fruit

1 cup plain shredded wheat
1 cup milk
¾ cup blueberries

2 rice cakes, 4 inches across
1 container light yogurt (check label for one with 15g carb)
1 large apple

1 large grapefruit
2 pieces whole wheat toast
spread with 1 tablespoon almond butter (or peanut butter)

½ large whole wheat bagel
2 tablespoons reduced-fat cream cheese
1 small orange
1 cup milk

45-gram lunch and dinner ideas

Southwest salad

- ½ cup black beans
- 1/3 cup brown rice
- ½ cup corn
- Cheese
- ¼ cup diced tomatoes

Layer on a bed of romaine with salad dressing.
*Add on small orange to make a 60g carbohydrate meal.

Burrito

- ½ cup beans
- 3oz lean meat
- Cheese
- 2 tbsp salsa
- ½ cup lettuce

Put above ingredients in 1 six-inch whole wheat flour tortilla. Enjoy with small orange.
*Add 5 chocolate "kisses" to make a 60g carbohydrate meal.

Stir fry

- ½ cup cooked broccoli
- ½ cup cooked onion
- ½ cup cooked bell pepper
- 3oz chicken
- 3 tbsp stir fry sauce
- 2/3 cup brown rice

Sauté vegetables and chicken separately in sauce. Combine and serve over rice.
*Add 1 cup milk to make 60g carbohydrate meal.

Turkey wrap

- 3oz turkey lunchmeat
- 2tbsp cranberry jelly
- 1 ½ tbsp. cream cheese
- ½ cup romaine lettuce

Combine in 1 six-inch whole wheat flour tortilla. Enjoy with 17 grapes.
*Add ¾ cup low fat plain yogurt to make a 60g carbohydrate meal.

Baked fish and chips

- 3oz baked salmon with dill and lemon on top
- 30 baked sweet potato fries
- ½ cup steamed green beans
- 1 small whole grain dinner roll with butter/margarine

*Add 3 gingersnap cookies or ½ cup canned peaches to make a 60g carbohydrate meal.

Chili

- 1 cup chili
- Tossed salad with dressing
- Cornbread - 1 ¾ - inch cube

*Add 1 cup raspberries to make a 60g carbohydrate meal.

60-gram lunch and dinner ideas

Soup and sandwich meal

- 1 cup vegetable soup
- 1 turkey sandwich (2 slices whole wheat bread, turkey, cheese, mayonnaise, mustard)
- 1 small apple

Chicken and rice meal

- 4 ounces chicken breast
- 2/3 cup cooked brown rice
- ½ cup cooked carrots
- 1 small whole grain dinner roll with butter/margarine
- Tossed salad with salad dressing
- 1 small piece of fruit

Spaghetti and meatballs

- 2/3 cup whole wheat spaghetti
- ½ cup marinara sauce
- 4 - 1" turkey meatballs
- Tossed salad with salad dressing
- ½ cup unsweetened applesauce or small pear

Breakfast for dinner!

- 1 slice toasted whole wheat bread with butter/ margarine
- Eggs or cottage cheese
- ½ cup oatmeal
- 1 cup skim milk
- ½ medium banana

Turkey burger

- 1 whole wheat bun
- 3oz ground turkey meat patty
- Cheese
- Tomato slices
- Romaine lettuce leaf
- Ketchup
- Mustard
- 15 baked French fries
- Tossed salad with salad dressing
- ½ large fruit

Happy Holidays

It can be tricky sticking to your meal plan around the holidays. Think about incorporating new activities for each holiday that take some of the focus off of food. When you do have some holiday treats, it just takes a little more planning to incorporate them into your meal plan. Here are some holiday favorites and the estimated carbohydrate content.

Fun-sized Halloween candy

Candy (serving size)	Grams of carbohydrate
3 Musketeers (0.5oz.)	12g
Airhead (0.55oz., 0.4oz.)	15g, 10g
Baby Ruth (0.7 oz.)	15g
Butterfinger (0.7oz.)	15g
Candy Corn (~10pieces)	15g
Carmel Apple Pop (0.6oz.)	15g
Dum Dum Lollipops (one)	5g
Hershey Kisses (6 kisses)	15g
Hershey Miniatures (1 piece 0.3 oz.)	5g
Hershey Snack Size (1 piece 0.6 oz.)	10g
Kit Kat (2- piece bar)	9g
Milk Duds (1 mini box 12g)	9g
Milky Way (0.6oz.)	13g
M&Ms Original (1 pack)	15g
M&Ms Peanut (1 pack or ~ 8 Pieces)	11g
Nerds (small box)	12g
Runts (0.5oz., ~12 pieces)	14g
Skittles (15 pieces or ~ 1 fun size pack)	15g
Smarties (15 tablets or 0.2oz.)	7g
Snickers (0.7oz.)	12g
Starbursts (4 pieces)	15g
Tootsie Pop (1 sucker)	16g

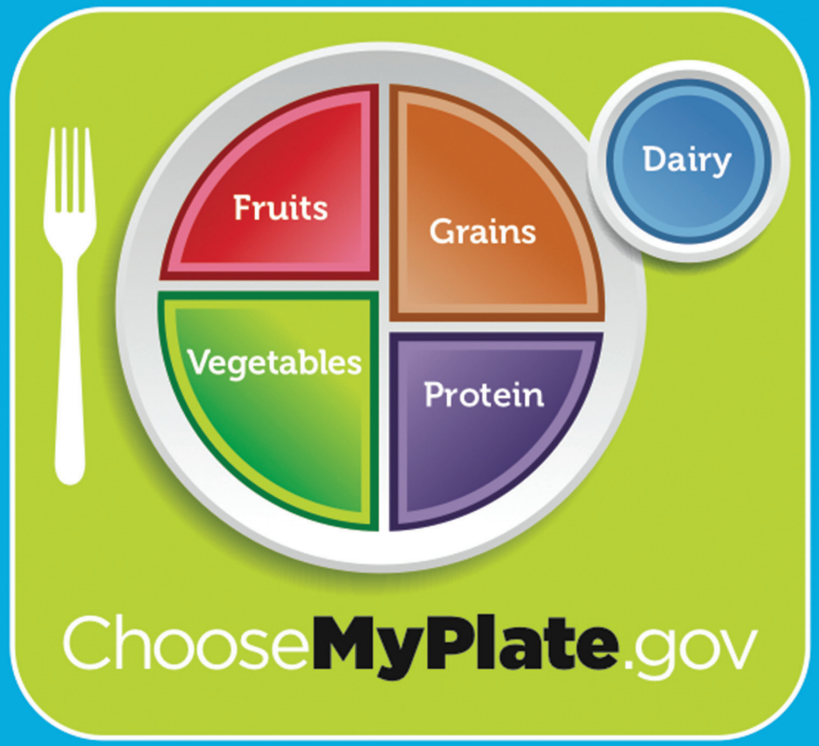
Thanksgiving treats

Serving size	Grams of carbohydrate
½ cup sparkling cider	15g
½ cup fruit salad	15g
½ cup sweet potato and syrup/marshmallows	9g
1 slice of pumpkin pie (1/8pie)	37g
½ cup stuffing	20g
2 tablespoons jellied cranberry sauce	13g
¼ cup green bean casserole	12g

Christmas goodies

Serving size	Grams of carbohydrate
½ cup eggnog	30g
Small candy cane	15g
2 small gingerbread cookies (1oz.)	18g
1 (1.6oz.) sugar cookie	30g
3 Walkers brand shortbread cookies	30g

What's on your plate?



Before you eat, think about what and how much food goes on your plate or in your cup or bowl. Over the day, include foods from all food groups: vegetables, fruits, whole grains, low-fat dairy products, and lean protein foods.

Make half your plate fruits and vegetables.

Make at least half your grains whole.

Switch to skim or 1% milk.

Vary your protein food choices.

Vegetables	Fruits	Grains	Dairy	Protein Foods
Eat more red, orange, and dark-green veggies like tomatoes, sweet potatoes, and broccoli in main dishes. Add beans or peas to salads (kidney or chickpeas), soups (split peas or lentils), and side dishes (pinto or baked beans), or serve as a main dish. Fresh, frozen, and canned vegetables all count. Choose "reduced sodium" or "no-salt-added" canned veggies.	Use fruits as snacks, salads, and desserts. At breakfast, top your cereal with bananas or strawberries; add blueberries to pancakes. Buy fruits that are dried, frozen, and canned (in water or 100% juice), as well as fresh fruits. Select 100% fruit juice when choosing juices.	Substitute whole-grain choices for refined-grain breads, bagels, rolls, breakfast cereals, crackers, rice, and pasta. Check the ingredients list on product labels for the words "whole" or "whole grain" before the grain ingredient name. Choose products that name a whole grain first on the ingredients list.	Choose skim (fat-free) or 1% (low-fat) milk. They have the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. Top fruit salads and baked potatoes with low-fat yogurt. If you are lactose intolerant, try lactose-free milk or fortified soymilk (soy beverage).	Eat a variety of foods from the protein food group each week, such as seafood, beans and peas, and nuts as well as lean meats, poultry, and eggs. Twice a week, make seafood the protein on your plate. Choose lean meats and ground beef that are at least 90% lean. Trim or drain fat from meat and remove skin from poultry to cut fat and calories.
For a 2,000-calorie daily food plan, you need the amounts below from each food group. To find amounts personalized for you, go to Choose**MyPlate**.gov.				
Eat 2½ cups every day **What counts as a cup?** 1 cup of raw or cooked vegetables or vegetable juice; 2 cups of leafy salad greens	**Eat 2 cups every day** **What counts as a cup?** 1 cup of raw or cooked fruit or 100% fruit juice; ½ cup dried fruit	**Eat 6 ounces every day** **What counts as an ounce?** 1 slice of bread; ½ cup of cooked rice, cereal, or pasta; 1 ounce of ready-to-eat cereal	**Get 3 cups every day** **What counts as a cup?** 1 cup of milk, yogurt, or fortified soymilk; 1½ ounces natural or 2 ounces processed cheese	**Eat 5½ ounces every day** **What counts as an ounce?** 1 ounce of lean meat, poultry, or fish; 1 egg; 1 Tbsp peanut butter; ½ ounce nuts or seeds; ¼ cup beans or peas

USDA U.S. Department of Agriculture • Center for Nutrition Policy and Promotion
August 2011
CNPP-25
USDA is an equal opportunity provider and employer.

Cut back on sodium and empty calories from solid fats and added sugars

Look out for salt (sodium) in foods you buy. Compare sodium in foods and choose those with a lower number.

Drink water instead of sugary drinks. Eat sugary desserts less often.

Make foods that are high in solid fats—such as cakes, cookies, ice cream, pizza, cheese, sausages, and hot dogs—occasional choices, not every day foods.

Limit empty calories to less than 260 per day, based on a 2,000 calorie diet.

Be physically active your way

Pick activities you like and do each for at least 10 minutes at a time. Every bit adds up, and health benefits increase as you spend more time being active.

Children and adolescents: get 60 minutes or more a day.

Adults: get 2 hours and 30 minutes or more a week of activity that requires moderate effort, such as brisk walking.

Physical activity

Daily physical activity is important for everyone in the family. It reduces stress, increases social interaction and helps maintain healthy body weight. Children and teens are more likely to be active if their parents are active. The American Academy of Pediatrics recommends at least one hour of activity a day for all children and teenagers. You could do this with one activity that last one hour or with several activities that add up to one hour. Keep things enjoyable and interesting by keeping your body active in different ways.

People with diabetes need to be prepared for exercise.

The following is recommended:

- **Do not exercise if ketones are present.**
- Do not exercise with low blood sugar. If blood sugar is low, treat it appropriately and recheck to make sure it is safe to exercise.
- Always wear diabetes identification. This can be a wristband, necklace, dog tag or ID card.
- Have access to your blood sugar monitor.
- Have carbohydrates to treat low blood sugar. Glucose tabs, juice and Gatorade are good examples.
- Have snacks ready to go (see carbohydrate replacement for activity).
- Drink lots of water before, during and after exercise...especially if the weather is hot.
- Make sure someone around you knows you have diabetes. They should know the signs of low blood sugar and they should know how to treat low blood sugar.
- Monitor blood sugars before and after exercise.
- Consult your diabetes provider to discuss insulin changes if prolonged exercise is planned.

Important

Talk with your diabetes care team to figure out the best way to manage your blood sugar with exercise. Some people determine how much carbohydrate they have based on their blood sugar. Some like to have snacks before, during and/or after the activity. Some people have their insulin adjusted based on activity. Your team can help you with all of this!

Carbohydrate replacement for activity

When you are being more active than usual, you are using more glucose as fuel. This is why physical activity can cause low blood sugar. You may need extra snacks when you exercise. The amount of carbohydrate you will need to eat depends on how long you exercise, and how hard you exercise, as well as some other factors. Every person is a little different and every activity is a little different... so the following may be used as a guideline. You can determine what works best for you by checking blood sugar and keeping good written records.

Mild to moderate activity:
Examples of mild to moderate activity might be walking, leisurely biking or shooting hoops. Mild feels "light" or "easy." Moderate activity takes a bit more effort and you may be slightly out of breath.

Duration	Extra Carbohydrate
15 minutes	0 grams
30 minutes	0-15 grams
45 minutes	15 grams
60 minutes	15-30 grams

Vigorous activity:
Examples of vigorous activities might be running, jogging, swimming laps, soccer, basketball, tennis, biking, skiing and snowboarding. Vigorous activity is "hard" and requires a lot of effort.

Duration	Extra Carbohydrate
15 minutes	0-15 grams
30 minutes	15 grams
45 minutes	15-30 grams
60 minutes	30-45 grams

Snacks/drinks with ~ 15 grams of carbohydrate

4 ounces (½ cup) of juice	8 ounces (1 cup) sports drink
1 medium fresh fruit	1 small box of raisins
1 fruit leather	½ cup applesauce OR a fruit cup
Small granola bar (check label for 15g)	½ sandwich
6 ounce light yogurt (such as Yoplait Light)	3 graham crackers

Listed above are examples of snacks/drinks which contain 15 grams of carbohydrate and are easy to have on the go. If you need more than 15 grams for your activity, have more of a single item on the list or have a couple items. Just make sure all of the carbohydrate you have adds up to your goal amount.

Taking diabetes to school

It is the responsibility of parents to notify school personnel of their child's diagnosis of diabetes before returning to school and at the beginning of each school year. This will allow you and the school to make a diabetes management plan for your child's specific needs.

What diabetes supplies will my child need at school?

- ◯ Glucose meter
- ◯ Lancing device
- ◯ Test strips
- ◯ Lancets
- ◯ Snacks
- ◯ Juice boxes or glucose tabs
- ◯ Glucagon kit
- ◯ Sharps container
- ◯ Insulin and syringes
- ◯ Ketone strips

Place all of the supplies in a kit or tote labeled with your child's name. Plan to restock tote regularly — every couple of weeks.

Who should be notified of my child's diabetes?

The principal, school nurse, office personnel, teachers, PE teacher and bus driver all should be aware your child has diabetes. The school nurse will be responsible for training the appropriate staff about your child's specific diabetes plan, including daily schedule for blood sugar checks, insulin injections, meal plan, low blood sugar treatment and high blood sugar management. If you do not have a school nurse, you can contact the ADA Safe At School Program to help with training staff at www.diabetes.org and look for "Safe at School."

What are school orders?

School orders, provided by your child's diabetes care provider, outline specific guidelines regarding your child's diabetes. The orders will include blood sugar testing times, treatment of low blood sugar and severe low blood sugar, treatment of high blood sugar, and current insulin doses. School orders are used by the nurse to help develop a diabetes management plan during the school day. It is the parent's responsibility to obtain updated school orders each year and any time insulin doses are changed during the school year.

Resources for people with diabetes

Diabetes related organizations

Breakthrough T1D
Resources for Type 1 diabetes
Phone: 615-340-6880
Fax: 833-914-0694
Email:JFoti@BreakthroughT1D.org
OR JFoti@BT1D.org

American Diabetes Assocation
Information on all aspects of diabetes
Website: https://diabetes.org/

Diatribe: Making sense of Diabetes
Provides resource on technology and understanding diabetes
Website: https://diatribe.org/

Beyond Type 1 diabetes
Resources, education, and advocacy to support diabetes care
Website: https://beyondtype1.org/

Chris Dudley Foundation
For ages 10-24-online resources, information, support, sports clinics and camps
Website: https://www.chrisdudley.org/

Children with Diabetes
Online resource for kids and families impacted by diabetes
Website: www.childrenwithdiabetes.com

The Diabetes Link
Resources for teens and young adults
Website:https://thediabeteslink.org/

JuiceBox Podcast
Listen to a variety of podcasts on diabetes
https://www.juiceboxpodcast.com/

Type 1 Diabetes Trial net
Screening for type 1 diabetes
Who qualifies for screening?

- People between age 2-45 with parent, brother, sister or child with Type 1 diabetes
- People between age 2-20 with a grandparent, aunt/uncle, cousin, niece/nephew or half sibling with type 1

For more information, contact the Research department at Ballad Health:
JCMCResearch@balladhealth.org

Diabetes and driving

People with diabetes need to be extra responsible when driving. A low blood sugar can slow reaction time and impair judgment. Extremely low blood sugar can result in unconsciousness. You can hurt yourself and you can hurt someone else if you're not prepared to drive safely.

Before you go:

- Check blood sugar before driving.
- Carry your meter with you.
- Keep the car stocked with fast acting carbs to treat low blood sugars (4-5 glucose tabs, 6-8 ounces juice or regular soda, 5-7 LifeSavers.)
- Wear medical ID.
- Carry snacks to prevent low blood sugars (granola bars, fruit, etc.)
- Wear your seatbelt.
- Passengers need to know the symptoms of low blood sugar and how to help you if needed. Review with them so they understand.

Want to learn more about driving and diabetes?
http://www.diabetes.org/resources/know-your-rights/drivers-licenses-laws

Do not drive if blood sugar is low

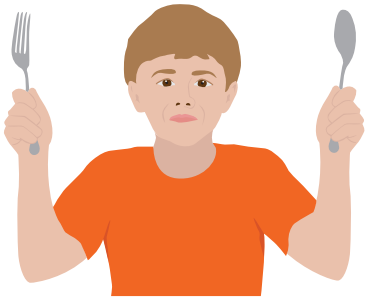
If you think you are having a low blood sugar, pull over as soon as you safely can. If blood sugar is less than 80, treat with:

- 4 round glucose tabs
- 8 ounces juice or soda

Recheck blood sugar in 15 minutes. Once you are above 80, have a 15g carbohydrate snack.

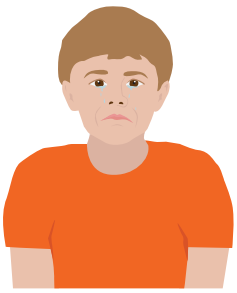
Hypoglycemia symptoms


Shaky


Hungry


Irritable


Tired/Weak


Crying


Sweaty

Traveling with diabetes

Before traveling, plan ahead to make sure you have everything needed for your vacation. Here are some things to think about before you take your next trip.

Important information:

- Contact your physician a few weeks in advance to get a travel letter. This states the need to bring diabetes supplies on the plane.
- Wear diabetes ID.
- Pack extra supplies, medication and low blood sugar treatment items. It's good to pack twice as much as you think you'll need.
- Label bag of medications and supplies and keep things in original packaging.
- Carry contact information for your physician as well as other emergency contact phone numbers. Clinic: 423.431.4946 or Niswonger Children's Hospital: toll-free 423.431.6111.
- Think about whether you'll need insulin dose adjustments (changing time zones, activities). Discuss with your provider.
- Arrive at the airport 2-3 hours prior to your flight.
- Check TSA's website for travel updates.

Screening procedures

Notify the Transportation Security Officer that you have diabetes and are carrying your supplies. Have your medical supplies ready in a separate bag when you approach the Security Officer. The TSA offers the option of requesting a visual inspection of your medical supplies rather than putting them through the X-ray. This must be requested before the screening process begins.

Diabetes-related supplies and medication allowed through the checkpoint once screened:

- Insulin and insulin dispensing products (pen, pump, syringes)
- Lancets, blood glucose meter, test strips, alcohol swabs, control solution
- Glucagon emergency kit
- Ketone test strips
- Sharps container
- Insulated bag/ice packs
- Re-usable evaporative cooler (Frio)

Pack all diabetes supplies in your carry-on luggage! Don't keep supplies in your checked bags in case your bags are misplaced!

*Note: Even if an item is generally permitted, it may be subject to additional screening. The item may or may not be allowed through the check point if it triggers an alarm during the screening process, appears to have been tampered with or poses other security concerns.

Tips for family coping

Think ahead
- Plan meals and snacks.
- Pay attention to schedules.
- Carry snack foods, treatment for low blood sugar and supplies with you everywhere.

Take an active role in health care
- Discuss a plan for regular follow-ups with your provider.
- Keep your scheduled appointments.
- Contact your provider between appointments as recommended.
- Be an advocate for your child in new ways.
- Discuss information or advice that you hear or read with your diabetes care team before making any changes.

Review details
- Post your diabetes routine and use your notebook.
- Keep track of supplies in your kit or bag. Use reminders to re-order supplies.
- Bring your written blood sugar records, meter and kit/bag to your appointments.
- Use a watch or phone alarm to remember blood sugar checks and insulin injections.
- Date insulin and test strips when you open them. Keep spares.

Team work
- Work together with family members on a diabetes system.
- Depending on age, make sure those who are caring for your child have been trained in diabetes management.
- Keep in contact with your child, spouse, school, sitters, etc. Establish routine check-ins.
- Be available for emergencies or have emergency contacts available.
- Parents need to share the load. Work together on drawing up insulin, reviewing data and discussing solutions.

Take care of yourself
- If you are a single parent, enlist support from extended family members, neighbors or friends. This is especially important when your child is newly diagnosed.
- Take care of yourself and your health.

Review the bright spots of having diabetes
- A healthier life for all family members: You'll have more chances to eat better, stay active, have more frequent medical follow ups and increased routines. This can benefit everyone.
- A more successful life: As you manage diabetes, you will become an expert in diabetes. You will also become a great problem solver. You may have a more balanced approach to life. Diabetes can lead you to discover new opportunities that you would not have otherwise discovered.
- A happier life: You will have met and accepted what some people call adversity. You will have discovered the many benefits of adapting to challenges.

Although diabetes has been added, nothing about your wonderful child has been taken away. You and your family will adjust to the new diagnosis and routines and will continue to experience lots of bright spots in all aspects of your lives.

Top ten diabetes self-management strategies

Self-management strategies for parents of children and adolescents with diabetes

1. Anticipate ups and downs. Some days will be better than others.

2. Modeling is the most effective long-term parenting strategy for behavior change in children/teens (e.g., exercise, eat right, go to the doctor, etc.).

3. Focus on what your child/teen is doing right and encourage more of it. A person's weaknesses will always be their weaknesses and are hard things to change. Having said that, a person's strengths will always be their strengths and can be built on much more easily.

4. Focus on health behaviors and not health outcomes. By virtue of having diabetes, health outcomes like blood sugars and HbA1c values will be variable and often poor. Instead, support your child/teen in doing what is asked of them by doctors. Let the doctors worry about the health outcomes such as blood sugars and HbA1c values.

5. Reinforce and reward health behaviors and avoid punishing not sticking to plan. Children/teens are already feeling punished by having a chronic health condition and more punishment for not taking care of themselves will do nothing to motivate them.

6. Remember that it is normal for children/teens to not think about how their behavior now will impact them in the future. If they could think differently, they would be adults. Scare tactics about what could happen are useless. Instead, focus on what is in it for your child/teen in the "here and now" to take care of themselves.

7. Make sure that all family members understand your plan for supporting your child/teen to improve his/her keeping to their diabetes plan.

8. Use other people in your child's/teen's life to support their keeping to the diabetes treatment plan. This may include peers, coaches, teachers, clergy and other trusted adults in your child's/teen's life.

9. The simple act of listening and understanding without judgment about your feelings around their health can be very helpful in changing behavior or improving diabetes self-care.

10. Don't let your child/teen be defined by their medical condition. You must see your child/teen as something more than their diagnosis. For example, they are children/teens with diabetes, not diabetics.

Diabetes glossary

- **A1C** - a test that measures a person's average blood glucose level over the past 2 to 3 months. Hemoglobin (HEE-mo-glo-bin) is the part of a red blood cell that carries oxygen to the cells and sometimes joins with the glucose in the bloodstream. Also called hemoglobin A1C or glycosylated (gly-KOH-sih-lay-ted) hemoglobin, the test shows the amount of glucose that sticks to the red blood cell, which is proportional to the amount of glucose in the blood.

- **Acanthosis nigricans** (uh-kan-THO-sis NIH-grih-kans) – a skin condition characterized by darkened skin patches, common in people whose body is not responding correctly to the insulin that they make in their pancreas (insulin resistance). This skin condition is also seen in people who have pre-diabetes or Type 2 diabetes.

- **Alpha cell** (AL-fa) – a type of cell in the pancreas. Alpha cells make and release a hormone called glucagon. The body sends a signal to the alpha cells to make glucagon when blood glucose falls too low. Then glucagon reaches the liver where it tells it to release glucose into the blood for energy.

- **Antibodies** (AN-ti-bod-eez) – proteins made by the body to protect itself from foreign substances such as bacteria or viruses. People get Type 1 diabetes when their bodies make antibodies that destroy the body's own insulin-making beta cells.

- **Beta cell** – a cell that makes insulin. Beta cells are located in the islets of the pancreas.

- **Blood glucose** – the main sugar found in the blood and the body's main source of energy. Also called blood sugar.

- **Blood glucose monitoring** – checking blood glucose level on a regular basis in order to manage diabetes. A blood glucose meter (or blood glucose test trips that change color when touched by a blood sample) is needed for frequent blood glucose monitoring.

- **Carbohydrate** – one of the main nutrients in food. Food that provide carbohydrates are starches, vegetables, fruits, dairy products and sugars.

- **Carbohydrate counting** – a method of meal planning for people with diabetes based on counting the number of grams of carbohydrate in food.

- **Certified diabetes educator** (CDE) – a health care professional with expertise in diabetes education who has met eligibility requirements and successfully completed a certification exam.

- **Cholesterol** (koh-LES-ter-all) – a type of fat produced by the liver and found in the blood; it is also found in some foods. Cholesterol is used by the body to make hormones and build cell walls.

- **Complications** – harmful effects of diabetes such as damage to the eyes, heart, blood vessels, nervous system, teeth and gums, feet and skin or kidneys. Studies show that keeping blood glucose, blood pressure and low-density lipoprotein cholesterol levels close to normal can help prevent or delay these problems.

- **Dawn phenomenon** (feh-Nah-meh-nun) – the early morning (4 a.m. to 8 a.m.) rise in blood glucose level.

- **Diabetes Control and Complications Trial** (DCCT) – a study by the National Institute of Diabetes and Digestive and Kidney Diseases conducted from 1983 to 1993 in people with Type 1 diabetes. The study showed that intensive therapy compared to conventional therapy significantly helped prevent or delay diabetes complications. Intensive therapy included multiple daily insulin injections or the use of an insulin pump with multiple blood glucose readings each day. Complications followed in the study included diabetic retinopathy neuropathy and nephropathy.

Diabetes glossary (continued)

- **Diabetes mellitus** (MELL-ih-tus) – a condition characterized by hyper-glycemia resulting from the body's inability to use blood glucose for energy. In Type 1 diabetes, the pancreas no longer makes insulin and therefore blood glucose cannot enter the cells to be used for energy. In Type 2 diabetes, either the pancreas does not make enough insulin or the body is unable to use insulin correctly.

- **Diabetic ketoacidosis** (DKA) (KEY-toe-ass-ih-DOH-sis) – an emergency condition in which extremely high blood glucose levels, along with a severe lack of insulin, result in the breakdown of body fat for energy and an accumulation of ketones in the blood and urine. Signs of DKA are nausea and vomiting, stomach pain, fruity breath odor and rapid breathing. Untreated DKA can lead to coma and death.

- **Diabetologist** (DY-uh-beh-TAH-luh-jist) – a doctor who specialized in treating people with diabetes.

- **Dietitian** (DY-eh-TIH-shun) – a health care professional who advises people about meal planning, weight control and diabetes management. A registered dietitian (RD) has more training than a nutritionist.

- **Dilated eye exam** (DY-lay-ted) – a test done by an eye care specialist in which the pupil (the black center) of the eye is temporarily enlarged with eye drops to allow the specialist to see the inside of the eye more easily.

- **Endocrinologist** (EN-doh-krih-NAH-luh-jist) – a doctor who treats people who have endocrine (gland and hormone) problems such as diabetes.

- **Fasting blood glucose test** – a check of a person's blood glucose level after the person has not eaten for 8 to 12 hours (usually overnight).

- **Gestational diabetes mellitus** (GDM) (jes-Tay-shun-ul MELL-ih-tus) – a type of diabetes mellitus that develops only during pregnancy and usually disappears upon delivery, but increases the risk that the mother will develop diabetes later. GDM is managed with meal planning, activity, and, in some cases, insulin.

- **Glucagon** (GLOO-kah-gahn) – a hormone produced by the alpha cells in the pancreas. It raises blood glucose. An injectable form or inhaled form a glucagon, available by prescription, may be used to treat severe hypoglycemia.

- **Glucose** – one of the simplest forms of sugar.

- **Glycogen** (GLY-koh-jen) – the form of glucose found in the liver and muscles.

- **Honeymoon phase** – some people with type 1 diabetes experience a brief remission called the "honeymoon period." During this time, the pancreas may still secrete some insulin. Over time, this secretion stops and as this happens, the child will require more insulin from injections. The honeymoon period can last weeks, months, or even up to a year or more.

- **Hyperglycemia** (HY-per-gly-SEE-mee-uh) – is excessive blood glucose. Fasting hyperglycemia is blood glucose above a desirable level after a person has fasted for at least 8 hours. Postprandial hyperglycemia is blood glucose above a desirable level 1 to 2 hours after a person has eaten.

Diabetes glossary (continued)

- **Hypertension** (HY-per-TEN-shun) – a condition present when blood flows through the blood vessels with a force greater than normal. Also called high blood pressure. Hypertension can strain the heart, damage blood vessels, and increase the risk of heart attack, stroke, kidney problems and death.

- **Hypoglycemia** (hy-po-gly-SEE-me-uh) – a condition that occurs when one's blood glucose is lower than normal, usually less than 70 mg/dL. Signs include hunger, nervousness, shakiness, perspiration, dizziness, light-headedness, sleepiness or confusion. If left untreated, hypoglycemia may lead to unconsciousness. Consuming a carbohydrate-rich food such as a glucose tablet or juice treats hypoglycemia. It may also be treated with an injection of glucagon if the person is unconscious or unable to swallow. Also called an insulin reaction.

- **Hypoglycemia unawareness** (un-uh-WARE-ness) – a state in which a person does not feel or recognize the symptoms of hypoglycemia.

- **Insulin** – a hormone that helps the body use glucose for energy. The beta cells of the pancreas make insulin. When the body cannot make enough insulin, it is taken by injection or through use of an insulin pump.

- **Insulin pen** – a device for injecting insulin that looks like a fountain pen and holds replaceable cartridges of insulin. Also available in disposable form.

- **Insulin pump** – an insulin-delivering device about the size of a deck of cards that can be worn on a belt or kept in a pocket. An insulin pump connects to narrow, flexible plastic tubing that ends with a needle inserted just under the skin. Users set the pump to give a steady trickle or basal amount of insulin continuously throughout the day. Pumps release bolus doses of insulin (several units at a time) at meals and at times when blood glucose is too high, based on programming done by the user.

- **Insulin resistance** – the body's inability to respond to and use the insulin it produces. Insulin resistance may be linked to obesity, hypertension and high levels of fat in the blood.

- **Islet cell autoantibodies** –(ICA) (EYE-let aw-toe-An-ti-bod-eez) proteins found in the blood of people newly diagnosed with Type 1 diabetes. They are also found in people who may be developing Type 1 diabetes. The presence of ICA indicates that the body's immune system has been damaging beta cells in the pancreas.

- **Islets** – groups of cells located in the pancreas that make hormones that help the body break down and use food. For example, alpha cells make glucagon and beta cells make insulin. Also called islets of Langerhans (LANG-er-hahns).

- **Ketone** – a chemical produced when there is a shortage of insulin in the blood and the body breaks down body fat for energy. High levels of ketones can lead to diabetic ketoacidosis and coma. Sometimes referred to as ketone bodies.

- **Kussmaul breathing** –(KOOS-mall) the rapid, deep, and labored breathing of people who have diabetic ketoacidosis.

- **Lipohypertrophy** –(LIP-oh-hy-PER-troh-fee) buildup of fat below the surface of the skin, causing lumps. Lipohypertrophy may be caused by repeated injections of insulin in the same spot.

- **Macrovascular disease** –(mack-roh-VASK-yoo-ler) disease of the large blood vessels, such as those found in the heart. Lipids and blood clots build up in the large blood vessels and can cause atherosclerosis, coronary heart disease, stroke and peripheral vascular disease.

- **Maturity Onset Diabetes of the Young** (MODY) – a kind of Type 2 diabetes that accounts for 1 to 5 percent of people with diabetes. Of the six forms identified, each is caused by a defect in a single gene.

Diabetes glossary (continued)

- **Metabolic syndrome** – the tendency of several conditions to occur together, including obesity, insulin resistance, diabetes or pre-diabetes, hypertension and high lipids.

- **Metformin** –(met-FOR-min) an oral medicine used to treat Type 2 diabetes. It lowers blood glucose by reducing the amount of glucose produced by the liver and helping the body respond better to the insulin made in the pancreas. Belongs to the class of medicines called biguanides. (Brand names: Glucophage, Glucophage XR; an ingredient Glucovance)

- **Mg/DL** – milligrams (MILL-ih-grams) per deciliter (DESS-ih-lee-tur), a unit of measure that shows the concentration of a substance in a specific amount of fluid. In the United States, blood glucose test results are reported as mg/dL. Medical journals and other countries use millimoles per liter (mmol/L). To convert to mg/dL from mmol/L, multiply mmol/L times 18 = 180 mg/dL.

- **Microalbuminuria** –(MY-kro-al-BYOO-min-your-EE-ah) the presence of small amounts of albumin, a protein, in the urine. Microalbuminuria is an early sign of kidney damage, or nephropathy, a common and serious complication of diabetes. The ADA recommends that people diagnosed with Type 2 diabetes be tested for microalbuminuria at the time they are diagnosed and every year thereafter; people with type 1 diabetes should be tested 5 years after diagnosis and every year thereafter. Improving blood glucose control, reducing blood pressure and modifying the diet usually manages microalbuminuria.

- **Microvascular disease** –(MY-kro-VASK-yoo-ler) disease of the smallest blood vessels, such as those found in the eyes, nerves and kidneys. The walls of the vessels become abnormally thick but weak. Then they bleed, leak protein and slow the flow of blood to the cells.

- **Nephropathy** –(neh-FROP-uh-thee) disease of the kidneys. Hyperglycemia and hypertension can damage the kidney's glomeruli. When the kidneys are damaged, protein leaks out of the kidneys into the urine. Damaged kidneys can no longer remove waste and extra fluids from the blood stream.

- **Neuropathy** –(ne-ROP-uh-thee) disease of the nervous system. The three major forms in people with diabetes are peripheral neuropathy autonomic neuropathy, and mononeuropathy. The most common form is peripheral neuropathy, which affects mainly the legs and feet.

- **Ophthalmologist** –(AHF-thal-MAH-luh-jist) a medical doctor who diagnoses and treats all eye diseases and eye disorders. Ophthalmologists can also prescribe glasses and contact lenses.

- **Pancreas** –(PAN-kree-us) an organ that makes insulin and enzymes for digestion. The pancreas is located behind the lower part of the stomach and is about the size of a hand.

- **Postprandial blood glucose** –(post-PRAN-dee-ul) the blood glucose level is taken 1 or 2 hours after eating.

- **Pre-diabetes** – a condition in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes. People with pre-diabetes are at increased risk for developing Type 2 diabetes and for heart disease and stroke. Other names for pre-diabetes are impaired glucose tolerance and impaired fasting glucose.

Diabetes glossary (continued)

- **Retinopathy** –(REH-tih-NOP-uh-thee) eye disease that is caused by damage to the small blood vessels in the retina. Loss of vision may result. Also known as diabetic retinopathy.

- **Somogyi effect**, also called **rebound hyperglycemia** –(suh-MOH-jee) when the blood glucose level swings high-following hypoglycemia. The Somogyi effect may follow an untreated hypoglycemic episode during the night and is caused by the release of stress hormones.

- **Type 1 diabetes** – a condition characterized by high blood glucose levels caused by a lack of insulin. Occurs when the body's immune system attacks the insulin-producing beta cells in the pancreas and destroys them. The pancreas then produces little or no insulin. Type 1 diabetes develops most often in young people but can appear in adults.

- **Type 2 diabetes** – a condition characterized by high blood glucose levels caused by either a lack of insulin or the body's inability to use insulin efficiently. Type 2 diabetes develops most often in middle-aged and older adults but can appear in young people.

Alcohol and diabetes

What happens in your body when you drink alcohol?

- Your body considers it a toxin and wants to get rid of it.
- Your liver starts working to break down the alcohol.
- The liver stores sugar and can usually release some if your blood sugar is getting really low. But when it's too busy processing alcohol, you have a higher risk of having severe low blood sugar.
- Your liver also will not respond to glucagon if you are low from alcohol, so carb-up while drinking and tell your friends to call 911 if you are non-responsive.
- Risk of low blood sugars can continue for 24 hours after drinking alcohol.

What's your risk?

You are at risk of severe lows if you are taking insulin or certain diabetes pills (such as glipzide, glyburide, prandin...not metformin).

What's considered a drink?

(It takes about two hours to break down one drink)

- 5-ounces of wine
- 12-ounce beer (light or regular)
- 1.5-ounce of liquor (vodka, whiskey, gin, etc.)

Top ten ways to drink safely:

1. Never drink on an empty stomach.
2. Eat a carbohydrate meal or a snack while drinking.
3. Don't drink within two hours of exercise.
4. Drink in moderation. (one drink for women; two drinks for men a day)
5. Check blood sugar frequently.
6. Do not take extra insulin to cover carbs in drinks...even sugary ones.
7. Wear your medical ID and drink with friends who know you have diabetes.
8. Check blood sugar before going to bed. Have a carb snack if you're lower. Set an alarm to wake up in the morning. Make sure your friends check on you if you have a lot to drink.
9. Hung over? Throwing up? Not eating? You still need your insulin!
10. NEVER DRINK AND DRIVE!

Drug use and diabetes

It's well known that illegal drugs can damage our health and even cause DEATH. Using illegal drugs is not a good idea for anybody. It is especially risky for those with chronic health conditions like diabetes.

Why?
Drugs change the way you think and act. It's hard enough to remember all the stuff you have to do to take care of diabetes on a normal day. Taking drugs is more dangerous for those with diabetes, yet it still happens, so we do not want to ignore the topic. **(To be clear: we recommend no illegal drug use.)**

Type of drug	How they affect diabetes	What you can do to be safer
Uppers (ecstasy, ice, crystal meth, cocaine, coke, speed, etc.)	• Missed shots from altered perception or sleeping a lot (days) while "coming down" • Risk of Diabetic Ketoacidosis (DKA) from missed shots • Risk of severe low blood sugar due to decreased appetite and increased metabolism • Not able to recognize lows	• Always take your insulin. • Don't mix uppers with other drugs or alcohol. • Have a meal first. • Always have fast-acting carbs (juice or tabs) (you may not know you're low). • While tripping/tweaking, have carb-containing fluids. • Check sugar before bed.
Hallucinogens (marijuana, pot, weed, mushrooms, LSD, acid solvents, glue, paint)	• High blood sugar from eating more than usual • Missed shots from altered perception • Risk of Diabetic Ketoacidosis (DKA) from missed shots • Tiredness can disrupt diabetes routine	• Always have fast-acting carbs, but realize you may not realize you're low. • Try not to have too much extra food if you get the munchies. • Hallucinogens affect blood sugar differently; check often.
Opiates (heroin, morphine, codeine, smack)	• Altered coordination and concentration makes it hard to know when high and low • Missed shots from altered perception • Risk of Diabetic Ketoacidosis (DKA) from missed shots • Altered eating habits make blood sugar erratic	• Always take your insulin. • Always have fast acting carbs, but realize you may not know you're low. • Eat regularly, even if you don't feel like it. • Have people around who know you have diabetes.

Free & confidential Addiction Helpline: 1.800.662.HELP (4357)
The service is open 24/7, 365 days a year.

Notes

NISWONGER Children's HOSPITAL