



# Diabetes handbook: A parent's guide





# Diabetes handbook: A parent's guide

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Our diabetes team is here to help guide you as you become comfortable learning more about your child's condition and care needs. This binder is a resource guide with educational materials that will help you through the learning process. It contains the forms, information and contacts you will need for day-to-day diabetes management at home. This guide covers topics specific to children's needs and was designed by our pediatric diabetes education team.

We're here to help.

## **Pediatric Endocrinology and Metabolism**

Pembroke Office Park  
2305 North Parham Road, Suite 1  
Richmond, Virginia 23229

Children's Pavilion  
1000 East Broad Street  
Richmond, Virginia 23219

804-828-CHOR (2467)



This information is a guide for you and your family. The purpose is to help you learn more about your child's health. Be sure to follow any instructions your health care provider gives you for your child's specific needs. If you have any questions, or if there is anything you do not understand, please ask your child's dietitian, diabetes educator and/or endocrine provider.

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# Discharge instructions

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Prior to discharge, provide your pharmacy information so that prescriptions can be sent to your pharmacy of choice. Be sure to contact your pharmacy prior to leaving the hospital to be sure your prescriptions are ready for you to pick up.

Since dosages may change daily, you will be in communication with the team on weekdays so that we may review your child's blood sugar readings and doses. You may call the emergency number on weekends. Please have the blood sugar values ready before calling.

Once you are no longer communicating daily, please send your child's daily log, including the insulin dosage, via the patient portal (MyChart: [chrichmond.org/mychart](http://chrichmond.org/mychart)) or by emailing [pedsdiabetes@vcuhealth.org](mailto:pedsdiabetes@vcuhealth.org) (most recent blood sugars only).

Prior to discharge or the day after discharge, check with your diabetes provider to make sure that your child's follow-up appointments have been scheduled. If not, call our office at (804) 828-CHOR (2467) to make your first appointments with your child's provider. These appointments will likely occur within the next one to two weeks.

Be aware that there will be a charge submitted to your insurance for each visit with our endocrine team members (dietitian, certified diabetes educator, psychologist, doctors and nurse practitioners), and a co-pay will be processed for each provider.

## Important phone numbers

### **For appointments, prescription refills and nonurgent questions:**

(804) 828-CHOR (2467)

### **For emergencies, urgent calls or until you are comfortable managing your diabetes:**

(804) 828-0951 (please ask for the on-call Pediatric Endocrinologist)

### **Emergencies and urgent issues include:**

- Vomiting, nausea, abdominal pain, severe diarrhea or if child looks sick
- Blood glucose over 500
- Unexplained or severe low blood sugar (less than 45) after treatment
- Blood glucose is greater than 350 with moderate to large ketones

For seizures, unconsciousness or semiconsciousness, dose glucagon FIRST and then call 911. Once blood sugar has stabilized, please call (804) 828-0951 to review blood sugar readings.



# Services and locations

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We offer the region's most comprehensive programs for children with diabetes and other endocrine disorders and are recognized by the American Diabetes Association for diabetes education programming. Our multidisciplinary team of experts offers medical care, clinical research trials, medical nutrition therapy, psychological support, diabetes education and the following specialized services:

- Computerized pump and meter data downloads and interpretation
- Continuous glucose monitoring systems
- Insulin pumps
- Point-of-care testing for hemoglobin A1C
- Monthly classes (Intro to Pump Therapy, Diabetes 101, Exercise and Diabetes, etc.)
- Type 1 diabetes research programs
- Type 2 diabetes clinical trials

The majority of diabetes and endocrine care is provided at our Center for Endocrinology, Diabetes and Metabolism, but we do offer some diabetes-related services at other CHoR locations. See pages 4–5 for details about the services available at each location.

## Diabetes/Endocrinology team

**Visit [chrchmond.org/diabetes](http://chrchmond.org/diabetes) to meet our team.**

## Contact information for clinic locations/services

**Phone: (804) 828-CHOR (2467) | Fax: (804) 527-4728**

**Patient portal: [chrichmond.org/mychart](http://chrichmond.org/mychart)**

You can access CHoR's patient portal at [chrichmond.org/mychart](http://chrichmond.org/mychart). My VCU Health provides fast, easy access to your health information. This free online patient portal tool, provided by VCU Medical Center, allows you to:

- Send a secure message to your CHoR provider
- Send blood sugar logs for review
- Request a prescription refill
- View and request appointments
- View medications, allergies, immunizations, health issues and selected lab results
- View and download your departure summaries
- View immunization records

Please note that as of the time of printing, the portal will not allow parents to view medical information once a child turns 13.

### **Center for Endocrinology, Diabetes and Metabolism**

Pembroke Office Park  
2305 North Parham Road, Suite 1  
Henrico, Virginia 23229

Services:

Medical care (endocrinology)  
Nutrition counseling  
Diabetes education

Parking is available immediately outside the building.

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### **Children's Pavilion – Level 3, Pod A:**

1000 East Broad Street  
Richmond, Virginia 23219

Services:

Medical care (endocrinology)  
Endocrine testing  
Lab testing (Sky Lobby level, with operating hours 8:30 a.m. – 3:45 p.m.)  
Radiology (Level 2)

Valet parking at Children's Pavilion:

Enter the Children's Pavilion at 341 N. 10th Street at the valet entrance. Take the ramp down to the valet stand. Take the parking elevators up to the Sky Lobby. *Available Monday through Friday, 6 a.m. to 7 p.m.*



Self-park at Children’s Pavilion – free with validation. See page 7 for more information/map. Enter the Pavilion on 10th Street at the drop-off and self-park entrance. Pull through the breezeway and take the ramp up to park in the garage. Take the parking elevators to the Sky Lobby. *Available Monday through Friday, 6 a.m. to 7 p.m.*

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### **Children’s Pavilion – Pulmonary Pod, Level 4, Pod E:**

1000 East Broad Street  
Richmond, Virginia 23219

Services:

Cystic fibrosis related diabetes clinic

See page 7 for more information/map.

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### **Healthy Lifestyles Center**

Pembroke Office Park  
2303 North Parham Road, Suite 1  
Henrico, Virginia 23229  
(conveniently located next to our Center for Endocrinology, Diabetes and Metabolism)

Services:

Type 2 diabetes prevention  
Healthy lifestyle management services  
Psychology (services available Tuesdays, Wednesdays and Thursdays)

See page 6 for more information/map.

## **Support groups**

Check with the diabetes team for the latest information on diabetes support groups in your area.

### **Notes:**

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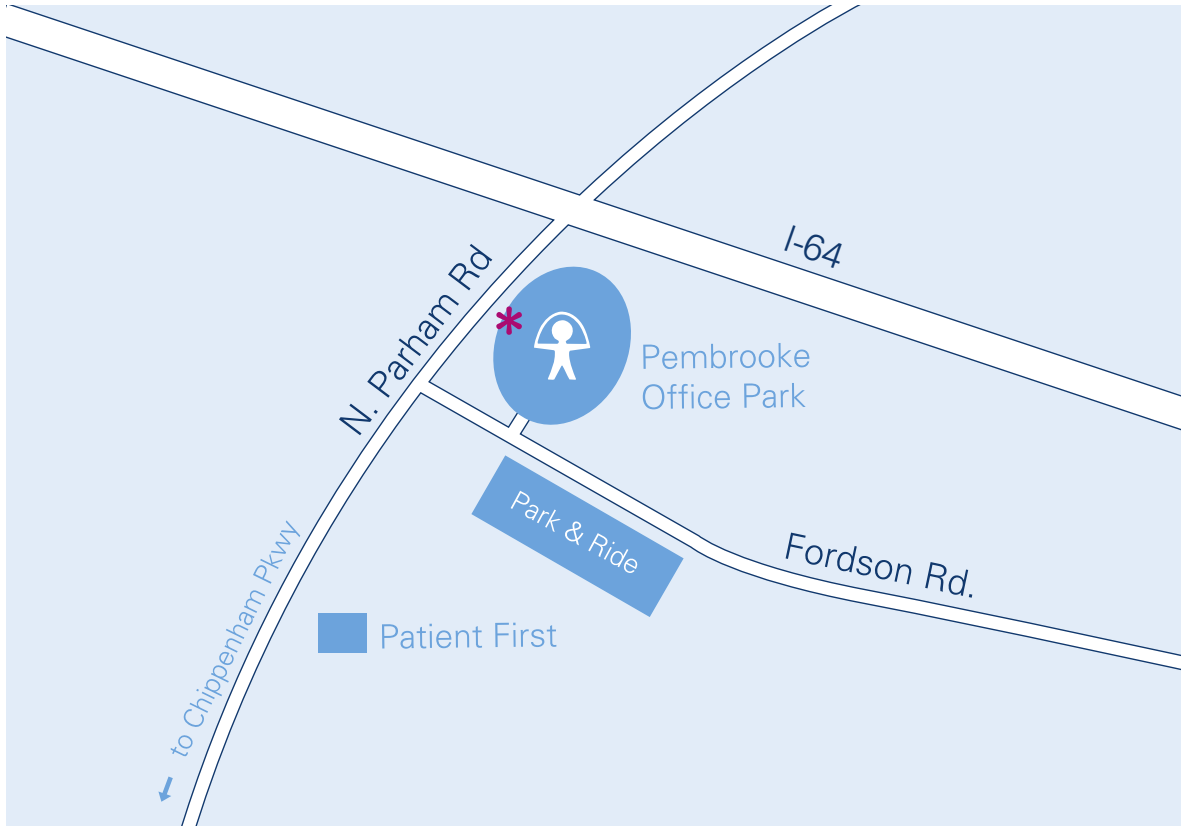
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## Pembroke Office Park

### Center for Endocrinology, Diabetes and Metabolism

2305 North Parham Road, Suite 1  
Henrico, Virginia 23229

### Healthy Lifestyles Center

2303 North Parham Road, Suite 1  
Henrico, Virginia 23229

#### From Chippenham Parkway (VA-150N)

- Chippenham Parkway becomes North Parham Road
- Turn right on Fordson Road
- Take first left into Pembroke Office Park
- Take immediate left
- Center is ahead on the right

#### From Interstate 64 East

- Take Exit 181 for Parham Road
- Turn right on North Parham Road
- Turn left on Fordson Road
- Take first left into Pembroke Office Park
- Take immediate left
- Center is ahead on the right

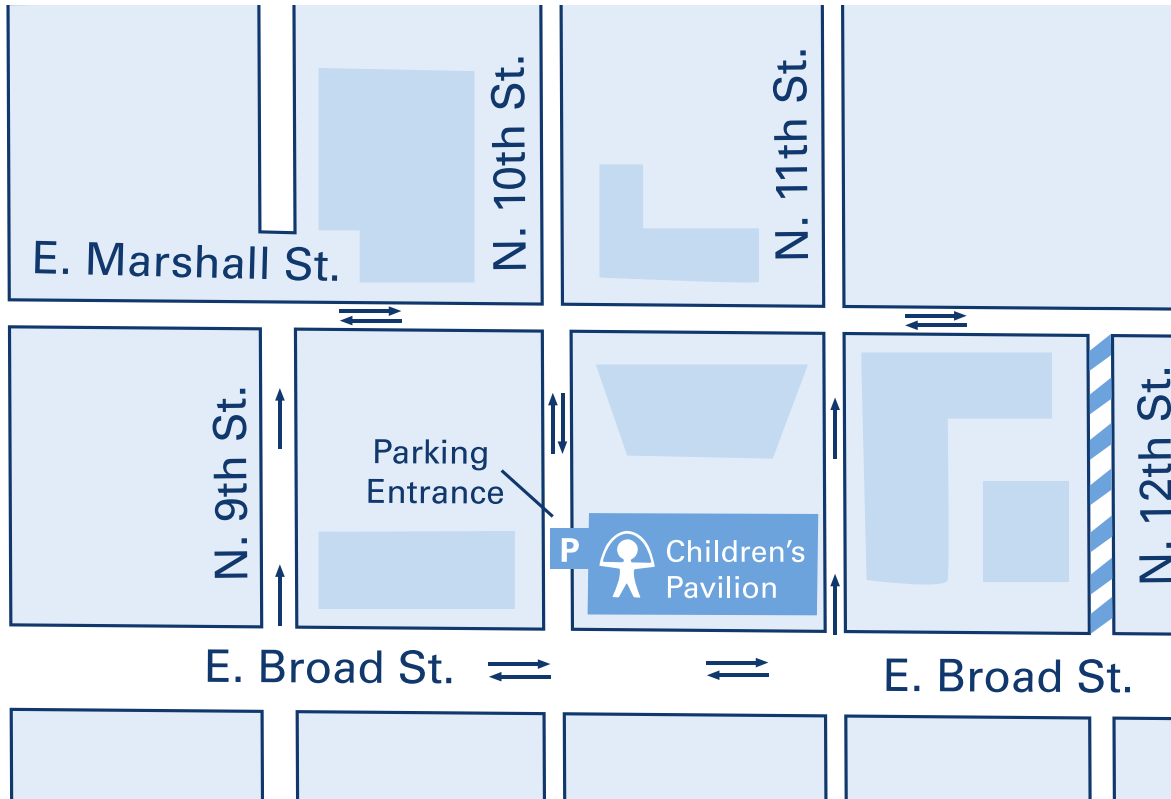
#### From Interstate 64 West

- Take Exit 181A for South Parham Road
- Turn left on Fordson Road
- Take first left into Pembroke Office Park
- Take immediate left
- Center is ahead on the right

**Note:** The Center for Endocrinology, Diabetes and Metabolism and the Healthy Lifestyles Center are conveniently located next to each other in the Pembroke Office Park.

\*Park at front of building on Parham Rd. side





## Children's Pavilion

1000 East Broad Street Richmond, Virginia 23219

### From Interstate 64 West

- Take Exit 190 for 5th Street/Downtown/Coliseum
- Turn left onto East Marshall Street
- Turn right onto 10th Street
- Enter the Children's Pavilion on 10th Street

### From Interstate 64 East

- Follow I-64 East and merge with I-95 South
- Take I-95 South to Exit 74C for West Broad Street
- Turn right onto 10th Street
- Enter the Children's Pavilion on 10th Street

### From Interstate 95 North

- Take Exit 74C for West Broad Street
- Turn right onto 10th Street
- Enter the Children's Pavilion on 10th Street

### From Interstate 95 South

- Take Exit 74C for West Broad Street
- Turn right onto 10th Street
- Enter the Children's Pavilion on 10th Street

### From U.S. Route 60

- Follow U.S. Route 60 East, cross over the Manchester Bridge and merge onto 9th Street
- Turn right onto Broad Street
- Turn left onto 10th Street
- Enter the Children's Pavilion on 10th Street



# Diabetes terms

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*Here's a quick reference guide to several of the terms used throughout this guide. These definitions are adapted from the "Common Terms" section of the American Diabetes Association website, [diabetes.org](http://diabetes.org).*

**A1C:** a test that measures a person's average blood glucose level over the past two to three months. Hemoglobin 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, the test shows the amount of glucose that sticks to the red blood cells, which is proportional to the amount of glucose in the blood.

**Acanthosis nigricans:** a skin condition characterized by darkened skin patches, which may appear in a person whose body is not responding correctly to the insulin made in the pancreas (insulin resistance). This skin condition is also seen in people who have pre-diabetes or Type 2 diabetes.

**Basal rate:** a steady trickle of low levels of fast-acting insulin, such as what is used in insulin pumps. Basal insulin, or long-acting insulin, provides a steady dose of insulin for 20–24 hours.

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

**Blood glucose level:** the amount of glucose in a given amount of blood. It is noted in milligrams per deciliter, or mg/dL.

**Blood glucose meter (glucometer):** a small, portable machine used by people with diabetes to check their blood glucose levels. After pricking the skin with a lancet, one places a drop of blood on a test strip in the machine. The meter (or monitor) displays the blood glucose level as a number on the meter's digital display.

**Blood glucose monitoring:** checking blood glucose levels on a regular basis in order to manage diabetes. A blood glucose meter and blood glucose test strips are needed for frequent blood glucose monitoring.

**Blood sugar:** see "blood glucose" for definition.

**Bolus:** an extra amount of insulin taken to cover an expected rise in blood glucose, often related to a meal or snack.

**Carbohydrate:** one of the three main nutrients in food. Foods that contain carbohydrates include starches, vegetables, fruits and dairy products.

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

**Certified diabetes care and education specialist (CDCES):** a health care professional with expertise in diabetes education who has met eligibility requirements and successfully completed a certification exam.

**Diabetic ketoacidosis (DKA):** 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.

**Registered dietitian (RD):** a health care professional who advises people about meal planning, weight control and diabetes management.

**Endocrinologist:** see "pediatric endocrinologist" for definition.

**Fat:** one of the three main nutrients in food. Foods that contain fats include butter, oil, fish, meat, nuts and some dairy products. Fat is used as a fuel source and is the primary way energy is stored in the body.

**Glucagon:** a hormone produced by the alpha cells in the pancreas. It raises blood glucose. An injectable or nasal form of glucagon, available by prescription, may be used to treat severe hypoglycemia (low blood sugar).

**Glucose:** one of the simplest forms of sugar. This is the sugar our bodies use as their main source of energy.

**Glucose tablets:** chewable tablets made of pure glucose used for treating hypoglycemia (low blood sugar).

**Gram:** a unit of weight in the metric system. An ounce equals 28 grams. In some meal plans for people with diabetes, the suggested amounts of food are given in grams.

**Hemoglobin A1C:** see "A1C" listing for definition.

**Hormone:** a chemical produced in one part of the body and released into the blood to trigger or regulate particular functions of the body. For example, insulin is a hormone made in the pancreas that tells other cells when to use glucose for energy. Synthetic hormones, made for use as medicines, can be the same or different from those made in the body.

**Hyperglycemia (high blood sugar):** excessive blood glucose. Fasting hyperglycemia is blood glucose above a desirable level after a person has fasted for at least eight hours. Postprandial hyperglycemia is blood glucose above a desirable level one to two hours after a person has eaten. Signs of either form of hyperglycemia include abdominal pain, nausea or vomiting (which may be due to elevated ketones), being unusually tired or sleepy, complaints of a headache or blurred vision, dry skin, extreme thirst, headache, hunger, increased urination, irritability and loss of appetite.

**Hypoglycemia (low blood sugar):** a condition that occurs when one's blood glucose is lower than normal, usually less than 70 mg/dL or a level determined by the endocrine provider. Signs include shaking, sweating, anxiety/anxiousness, dizziness, fast heartbeat, headache, hunger, irritability, impaired vision and weakness/fatigue. If left untreated, hypoglycemia may lead to unconsciousness. Hypoglycemia is treated by consuming a carbohydrate-rich food such as a glucose tablet or juice. It may also be treated with an injection of glucagon if the person is unconscious or unable to swallow. Also called an insulin reaction.



**Injection:** inserting liquid medication or nutrients into the body with a syringe or pen needle.

**Injection site rotation:** changing the places on the body where insulin is injected. Rotation prevents the formation of lipohypertrophy.

**Injection sites:** places on the body where insulin is usually injected. See pages 19–21.

**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 adjustment:** a change in the amount of insulin a person with diabetes takes based on factors such as meal planning, activity and blood glucose levels.

**Insulin pen:** a device for injecting insulin that may look like a fountain pen. Holds replaceable cartridges of insulin or may be disposable.

**Insulin pump:** an insulin-delivering device about the size of a deck of cards that can be worn on a belt, kept in a pocket or adhered directly to the skin. An insulin pump connects to narrow, flexible plastic tubing that ends with a needle inserted just under the skin. A user sets the pump to give a steady trickle (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 reaction:** when the level of glucose in the blood is too low (at or below 70 mg/dL). Also known as hypoglycemia.

**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.


**Lancet:** a spring-loaded device used to prick the skin with a small needle to obtain a drop of blood for blood glucose monitoring.

**Lipohypertrophy:** building up of fat below the surface of the skin, resulting in lumps or small dents in the skin surface. Lipohypertrophy may be caused by repeated injections of insulin in the same spot.

**mg/dL:** milligrams per deciliter, 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 by 18. Example: 10 mmol/L x 18 = 180 mg/dL.

**Pediatric endocrinologist:** a doctor who treats children who have endocrine gland problems such as diabetes.

**Pen needles:** short steel needles that screw onto the end of insulin pens for administration of insulin into body tissue.



**Protein:** one of the three main nutrients in food. Foods that provide protein include meat, poultry, fish, cheese, milk, dairy products, eggs and beans (legumes). Proteins are also used in the body for cell structure, hormones such as insulin and other functions.

**Sharps container:** a container for disposal of used needles and syringes, made of hard plastic so that needles cannot poke through.

**Syringe:** a device used to inject medications or other liquids into body tissues. The syringe for insulin has a hollow plastic tube with a plunger inside and a needle on the end.

**Type 1 diabetes:** a condition characterized by high blood glucose levels caused by a total 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.

**Unit of insulin:** the basic measure of insulin. U-100 insulin means 100 units of insulin per milliliter (mL) or cubic centimeter (cc) of solution. Most insulin made today in the United States is U-100.



# Managing care

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## Appointments, prescriptions, reporting blood sugar and more

### Appointments

After the initial diagnosis, your child should be seen within one to two weeks, at one month and then at least every three months as needed for follow-up. Make your initial follow-up appointments with your child's provider before leaving the hospital to ensure appointment availability with your schedule.

Appointments are generally scheduled three months in advance. Please make future appointments as you are leaving your present appointment. Forms for recording blood sugar data will be provided by your team or you're welcome to use your own format.

If you arrive more than 20 minutes after your scheduled appointment time, you may be asked to reschedule or wait until the end of clinic hours to be seen. This assures that the clinic flows smoothly.

### What to bring to appointments

Bring at least two weeks of blood sugar logs in a logbook, along with your blood glucose meter or a downloaded copy of readings and insulin dose, to each appointment. Forms for recording blood sugar can be provided if you would prefer.

Keep a notebook with any and all questions you have. This helps ensure that you will have all your questions ready to discuss when you come in.

Bring an updated list of your child's medications and which pharmacy you are currently using.

If you are seeing the dietitian, please bring a three-day food record with you.

### Prescription refills

Please request prescription refills through the patient portal (MyChart: [chrichmond.org/mychart](http://chrichmond.org/mychart)). Alternatively, you can call (804) 828-CHOR (2467) and follow prompts for prescription refills. If you are leaving a message, be sure to include your pharmacy's name, address and phone number and the medication and dosage. Please allow three business days for refills. This allows us time to review your chart, which is necessary to ensure accurate refills. Please do NOT text prescription refill requests to your health care team members.

Our Diabetes Educators offer call and text communication **specifically for education related questions and blood sugar reviews during business hours (M–F 8–4 p.m)**. All other requests related to making or rescheduling appointments, prescription refills or urgent needs will not be addressed by the diabetes educator. Instead, you should use the appropriate routes to communicate these needs which include calling us at 804-828-2467 or sending your doctor a message via MyChart. All urgent requests and concerns should go through our on-call provider at 804-828-0951.



## Reporting of blood sugar

For blood sugar review, please send at least seven days of blood sugar readings, including current insulin doses, through MyChart: [chrichmond.org/mychart](http://chrichmond.org/mychart). Alternatively, you can email the same information to: [pedsdiabetes@vcuhealth.org](mailto:pedsdiabetes@vcuhealth.org). You may also download your meter/pump/sensor, using the software program for your device, but be sure to let us know prior to your appointment so that we can have your child's readings printed before the appointment. Always include your name, your child's name and date of birth, and a daytime phone number where you can be reached.

Allow 48–72 hours for us to review and call you back. Please follow up to ensure that the logs were received if you have not heard from our office by that time.

For urgent blood sugar review, page the on-call provider at (804) 828-0951 and request the on-call Pediatric Endocrinologist.

## Insurance

Inform our office of all insurance changes. A change in your insurance may change your brand of insulin, blood glucose meter, etc. Be sure to ask your new insurance company if there is a specific pharmacy you must use for local and/or mail order prescriptions and notify our office of any changes. Please send the new insurance information (and any pharmacy changes) through MyChart: [chrichmond.org/mychart](http://chrichmond.org/mychart). Alternatively, we can be reached at (804) 828-CHOR (2467).

## Preauthorizations

Allow two weeks for preauthorizations of medications. These preauthorizations need to be reviewed by your insurance company and generally cannot be completed more quickly. Please note that any time insurance changes, the preauthorizations will have to be done again with your new insurance company.

## Lab and X-ray results

Please call our office one week after labs or X-rays are performed if you have not heard from us.

## FMLA (Family Medical Leave Act) forms

Fill out these forms completely (per your human resources department) and *allow 10 business days for research and completion*.

## School forms

Schools require an updated Diabetes Medical Management Plan (also called School Form) annually prior to starting a new school year. This form contains up-to-date medication orders and is usually kept by the school nurse. Most schools will accept this plan on the standard form we provide. You will need to request a new form from us prior to a new school year, and this request should take place during your child's appointment. You can also request this form by telephone or **email**, but if you do so, allow 10 business days for us to process your request.

**Note:** In order to complete your child's form, we will need current breakfast and/or lunch insulin orders or pump settings for carbohydrate ratios and glucose correction. We also need the fax number of your child's school so we can send the form directly to the school. (This will save time, get the form to the school faster and avoid you or another family member having to pick up the form from our office.)

## Request for medical records

To request medical records, call (804) 828-4423. Patients over 18 will need to call personally.

## Blood sugar goals and A1C list

Below is a chart that outlines general goals for blood sugar and hemoglobin A1C percent. Please note that your child's endocrine provider may modify target blood sugar and A1C goals as deemed appropriate.

Age	Blood Sugar Before Meals	Blood Sugar at Bedtime/Overnight	Hemoglobin A1C%	Rationale
All ages from diagnosis of diabetes until 19 years old	90–130*	90–150*	<7.5%*	<p>*A lower goal (&lt;7.5%) is reasonable if it can be achieved without excessive low blood sugar (hypoglycemia).</p> <p>*Increased risk of low blood sugar is seen in very young children due to unpredictable food intake and physical activity.</p>

The use of a continuous glucose monitor system (CGMS) and/or an insulin pump may be helpful to prevent low blood sugar (hypoglycemia).

### Hemoglobin A1C correlation table

A1C%	Average Blood Sugar Value
6	126
7	154
8	183
9	212
10	240
11	269
12	298
13	328
14	357

Hemoglobin A1C measures how often blood sugars have been high over the past three months. When your blood sugars are high, they attach to your hemoglobin molecules that are part of the red blood cells, which have a life cycle of about two to three months.

\*Per ADA recommendations: Diabetes Care, [Volume 47](#), Supplement 1, January 2024.





# Medications



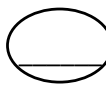




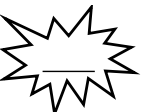
## My insulin dose calculation sheet

For use with fast-acting insulin. My fast-acting insulin is: Humalog/Novolog/Apidra/Admelog/Fiasp

Carb Ratio: 1: \_\_\_\_\_, 1 unit for every \_\_\_\_\_ grams of carbs

Correction Factor: 1: \_\_\_\_\_, 1 unit for every \_\_\_\_\_ mg/dl above the target blood sugar

Target: \_\_\_\_\_ mg/dl, the blood sugar that you will correct back down to \_\_\_\_\_ mg/dl

<b>Meal or snack time:</b>		
<u>Blood glucose correction</u>		
<b>If answer is "Yes" to both questions, do this step. If "No", skip this step.</b>		
<ul style="list-style-type: none"><li>• Is my blood sugar over my target?</li><li>• Has it been 3 or more hours since my last dose of fast-acting insulin?</li></ul>		
<b>Steps:</b>		
Blood sugar target	1. _____ - _____ = 	
Correction factor	2.  ÷ _____ = 	
<u>Carb coverage</u>		
<b>If answer is "Yes", do this step. If "No", skip this step.</b>		
<ul style="list-style-type: none"><li>• Am I eating?</li></ul>		
<b>Step:</b>		
Carbs	Carb ratio	
_____ ÷ _____	=	
<u>Add your doses</u>		
<b>Step:</b>		
Correction dose	Carb dose	Total dose
	+ 	= 
<u>Round the dose you give</u>		
	→	_____

# My Insulin Dose Calculation Sheet

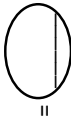
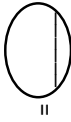
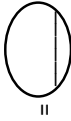
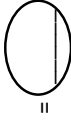




















For use with fast-acting insulin. My fast-acting insulin is: Humalog/Novolog/Apidra/Admelog/Fiasp

Carb Ratio: 1: \_\_\_\_\_, 1 unit for every \_\_\_\_\_ grams of carbs

Correction Factor: 1: \_\_\_\_\_, 1 unit for every \_\_\_\_\_ mg/dl above the target blood sugar

Target: \_\_\_\_\_ mg/dl, the blood sugar that you will correct back down to \_\_\_\_\_ mg/dl

Whole Unit Rounding	Half Unit Rounding
.00-.49	Down to .00
.50-.99	Up to .50
	Down to .50
	Up to .00

Meal or snack time:	Meal or snack time:	Meal or snack time:	Meal or snack time:
<p><u>Blood glucose correction</u></p> <p><b>If answer is "Yes" to both questions, do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Is my blood sugar over my target?</li> <li>Has it been 3 or more hours since my last dose of fast-acting insulin?</li> </ul> <p><b>Steps:</b></p> <p>Blood sugar target</p> <p>1. _____ - _____ = _____</p> <p>Correction factor</p> <p>2.  = _____</p>	<p><u>Blood glucose correction</u></p> <p><b>If answer is "Yes" to both questions, do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Is my blood sugar over my target?</li> <li>Has it been 3 or more hours since my last dose of fast-acting insulin?</li> </ul> <p><b>Steps:</b></p> <p>Blood sugar target</p> <p>1. _____ - _____ = _____</p> <p>Correction factor</p> <p>2.  = _____</p>	<p><u>Blood glucose correction</u></p> <p><b>If answer is "Yes" to both questions, do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Is my blood sugar over my target?</li> <li>Has it been 3 or more hours since my last dose of fast-acting insulin?</li> </ul> <p><b>Steps:</b></p> <p>Blood sugar target</p> <p>1. _____ - _____ = _____</p> <p>Correction factor</p> <p>2.  = _____</p>	<p><u>Blood glucose correction</u></p> <p><b>If answer is "Yes" to both questions, do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Is my blood sugar over my target?</li> <li>Has it been 3 or more hours since my last dose of fast-acting insulin?</li> </ul> <p><b>Steps:</b></p> <p>Blood sugar target</p> <p>1. _____ - _____ = _____</p> <p>Correction factor</p> <p>2.  = _____</p>
<p><u>Carb coverage</u></p> <p><b>If answer is "Yes", do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Am I eating?</li> </ul> <p><b>Step:</b></p> <p>Carbs      Carb ratio</p> <p>_____ ÷ _____ = _____</p>	<p><u>Carb coverage</u></p> <p><b>If answer is "Yes", do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Am I eating?</li> </ul> <p><b>Step:</b></p> <p>Carbs      Carb ratio</p> <p>_____ ÷ _____ = _____</p>	<p><u>Carb coverage</u></p> <p><b>If answer is "Yes", do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Am I eating?</li> </ul> <p><b>Step:</b></p> <p>Carbs      Carb ratio</p> <p>_____ ÷ _____ = _____</p>	<p><u>Carb coverage</u></p> <p><b>If answer is "Yes", do this step. If "No", skip this step.</b></p> <ul style="list-style-type: none"> <li>Am I eating?</li> </ul> <p><b>Step:</b></p> <p>Carbs      Carb ratio</p> <p>_____ ÷ _____ = _____</p>
<p><u>Add your doses</u></p> <p><b>Step:</b></p> <p>Correction dose      Carb dose      Total dose</p> <p> + _____ = _____</p> <p> + _____ = _____</p> <p> = _____</p>	<p><u>Add your doses</u></p> <p><b>Step:</b></p> <p>Correction dose      Carb dose      Total dose</p> <p> + _____ = _____</p> <p> + _____ = _____</p> <p> = _____</p>	<p><u>Add your doses</u></p> <p><b>Step:</b></p> <p>Correction dose      Carb dose      Total dose</p> <p> + _____ = _____</p> <p> + _____ = _____</p> <p> = _____</p>	<p><u>Add your doses</u></p> <p><b>Step:</b></p> <p>Correction dose      Carb dose      Total dose</p> <p> + _____ = _____</p> <p> + _____ = _____</p> <p> = _____</p>
<p>Round the dose you give</p> <p>            _____</p>	<p>Round the dose you give</p> <p>            _____</p>	<p>Round the dose you give</p> <p>            _____</p>	<p>Round the dose you give</p> <p>            _____</p>

# Half unit rounding scale

Total calulated dose	Give
0.00 - 0.24	0.0
0.25 - 0.74	0.5
0.75 - 1.24	1.0
1.25 - 1.74	1.5
1.75 - 2.24	2.0
2.25 - 2.74	2.5
2.75 - 3.24	3.0
3.25 - 3.74	3.5
3.75 - 4.24	4.0
4.25 - 4.74	4.5
4.75 - 5.24	5.0
5.25 - 5.74	5.5
5.75 - 6.24	6.0
6.25 - 6.74	6.5
6.75 - 7.24	7.0
7.25 - 7.74	7.5
7.75 - 8.24	8.0

**Notes:**

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## Pen needle injection guide

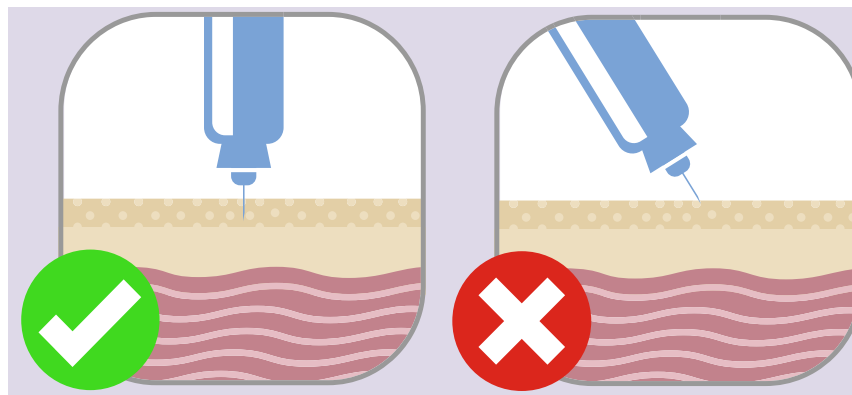
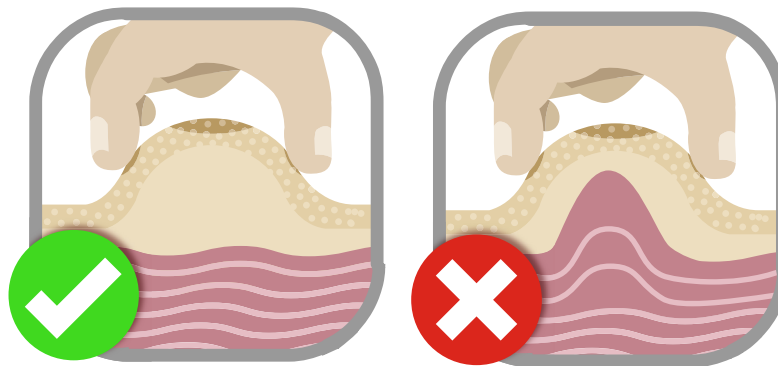
Using proper injection techniques from the start helps maintain healthier injection sites for your child. Here are recommendations for how to safely use a pen needle.

### Giving an injection using a 4mm or "Nano" pen needle

Always use a new and sterile needle for each injection. A 4mm needle is the shortest needle size available for pen needles, and this is the size typically used for pediatric patients. When using a 4mm (or 5mm) pen needle, you do NOT need to use the pinch-up technique before inserting the needle. Needle sizes greater than 5mm require the pinch-up technique described below to ensure that medication is injected correctly.

### Pinch-up technique for a 5mm or longer needle

Use this pinch-up technique for pen needles that are greater than 5mm. Grasp the skin around the injection site firmly to elevate the subcutaneous tissue (innermost layer of skin containing fat tissue) and form a 1" fat fold. Be sure to pinch skin only and not the muscle underneath. It may be helpful to pinch a larger chunk of skin for children who are very thin, as this helps ensure that you are pinching up some fat tissue.



### Injections

Inject the pen needle straight into the skin. Do not inject the needle at an angle. Be sure the whole needle goes into the skin. Slowly count to five (or to the amount of time specified in the manufacturer's instructions) as you hold the needle in the skin.

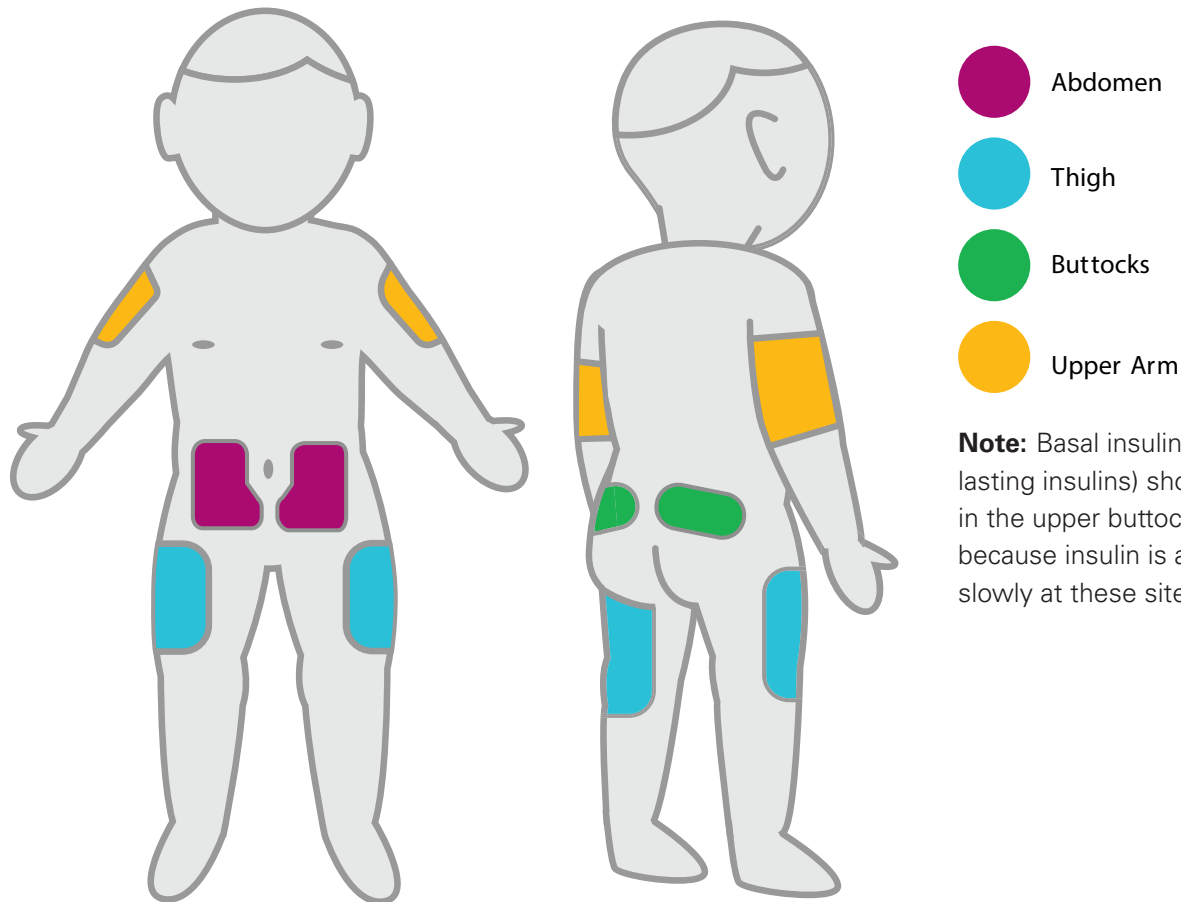
### Discard safely

Remove the needle and discard immediately after use. See the Safe Needle Disposal section for information about how to safely dispose of needles and syringes. Leaving a pen needle on an insulin pen may affect the accuracy of future doses, and may also allow germs to contaminate it.

## Recommended injection sites

### Areas of the body

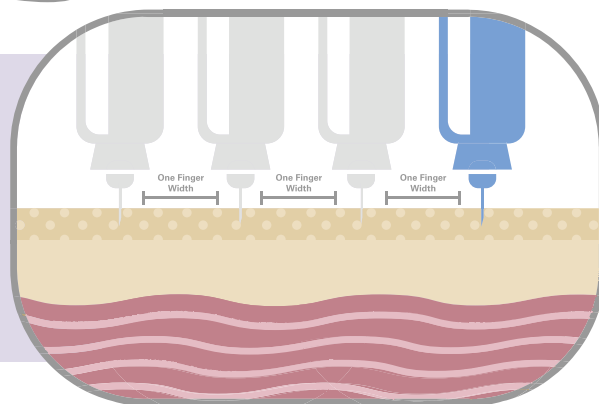
The areas of the body typically used for injection sites are pictured on the diagram below. **Be sure to select a different injection site each time an injection is given.** This will help the injection sites recover and will help prevent lipohypertrophy (lumps that develop under the skin).



**Note:** Basal insulins (i.e., long-lasting insulins) should be injected in the upper buttocks and thighs because insulin is absorbed more slowly at these sites.

### Use new place for each injection

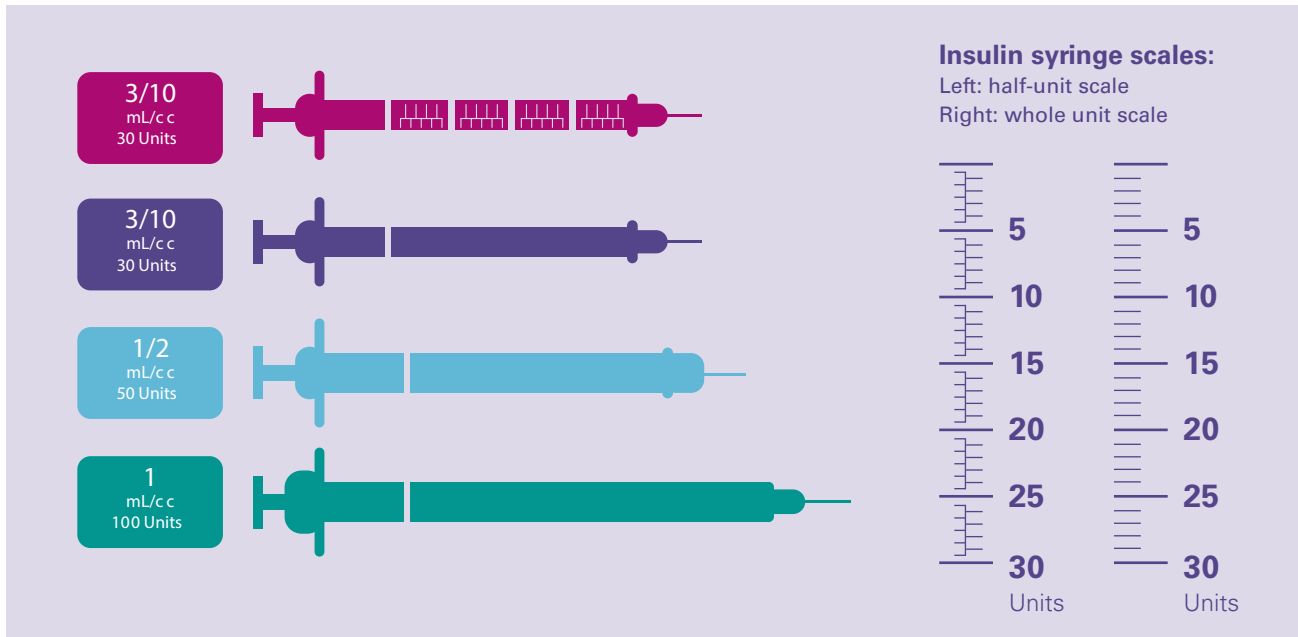
Once a new injection site has been selected, find a place for the injection that is **at least one finger width away from where the last injection was given in that site.** Using a different place for each injection will also help injection sites recover and prevent lipohypertrophy.



# Syringe injection guide

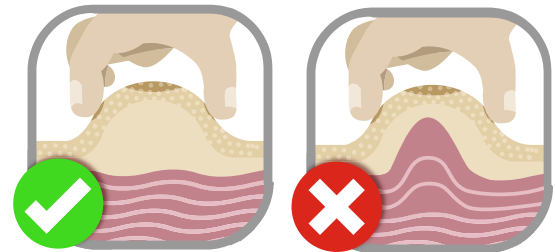
## Syringe selection

Use a new and sterile syringe for each injection. A 6mm syringe is the shortest available and is the needle size typically used by pediatric patients. The syringe's capacity does not affect/change needle size. The length of the needle relates to the size of the person receiving the injection.



## Pinch-up technique

No matter the length of the needle on the syringe, you will need to use the pinch-up technique. Grasp the skin around the injection site firmly to elevate the subcutaneous tissue (innermost layer of skin containing fat tissue) and form a 1" fat fold. Be sure to pinch skin only and not the muscle underneath. It may be helpful to pinch a larger chunk of skin for children who are very thin, as this helps ensure that you are pinching up some fat tissue.



## Injections

Slowly count to five (or to the amount of time specified in the manufacturer's instructions) as you hold the needle in the skin.

## Safe disposal

Remove the needle and discard immediately after use. See the Safe Needle Disposal section for information about how to safely dispose of needles and syringes.

## Safe sharps disposal

Household-generated “sharps” include hypodermic needles, syringes and lancets that are typically used in the home for insulin injection or for administering medications. Safe management and disposal of household-generated sharps reduces pollution to the environment and prevents injury and disease transmission from needle sticks.

## Disposal options available to Virginia residents

Virginia state regulators do not provide written recommendations to syringe users for disposing of home-generated sharps. However, individuals who use sharps at home are responsible for ensuring that their used sharps are stored and disposed of in a way that does not cause a health hazard. To safely dispose of used sharps in the state of Virginia, you may use one of the options listed below:

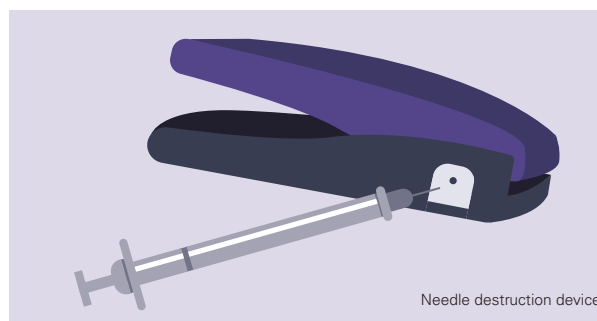
### Mail-back programs

Mail-back disposal programs allow home sharps users to mail used sharps to licensed disposal facilities using a sharps disposal container. Such programs charge a fee for this service. Check with your health care provider or pharmacist, or search the yellow pages or Internet using the key words “sharps mail-back” for information about mail-back programs in your area.

### Needle destruction devices

Devices or containers with mechanisms that bend, break or cut needles are called sharps needle destruction devices. These can be helpful at home or when traveling.

A needle cutter that automatically stores the cut needles is also useful while away from home when a disposal container is not available. After the needle has been clipped, the remains of the syringe can be placed in either a household container or a sharps container. When the needle clipper is full, it can also be placed in a household or sharps container for disposal.



### Household container (legal, but less safe)

In Virginia, it is currently legal to put used sharps into an empty laundry detergent bottle, bleach bottle or other non-see-through sturdy plastic container with a screw-top lid and dispose of it in the regular household garbage (never with recycling). However, this disposal method is highly discouraged because of the injury and health risks it places on garbage hauler and processing facility workers. It is best to use one of the options described above (mail-back or destruction) for safe management and disposal of used sharps. If you are planning to use the household container disposal method, here are tips for the safest way to do so:

- Label container “Do Not Recycle.”
- Put sharps in point first.
- Dispose of containers when they are 1/2 to 3/4 full.
- Store sharps in closed container with the cap screwed on.



**Note:** Although placing household-generated sharps in the regular trash may be allowable under state law, some cities and counties do not allow this disposal method. Please check with your local authority to determine if this practice is acceptable in your community. You should contact your county or city waste manager, public health official, sanitation department or environmental health department for specific regulations on household medical waste.

Also, some states do have public disposal sites, but as of January 2017, we are not aware of any community-sponsored sharps disposal drop-off programs in the state of Virginia. If you do have a medical facility that accepts sharps from the community for disposal in your area, either purchase a sharps disposal container from a pharmacy or ask your pharmacy to provide you with a sharps disposal container. (These containers are typically readily available if you receive your medication through the mail.) If public disposal sites are not available in your area, DO NOT use a sharps disposal container. Instead, use one of the other disposal methods outlined on the previous page.

Go to [safeneedledisposal.org](https://safeneedledisposal.org) to search for options near your home.

## How to safely store and dispose of used sharps

- Never place loose sharps in the garbage. Be sure they are in an appropriate container with a closed lid.
- Do not store used sharps in glass bottles, soda bottles, milk jugs, aluminum cans or coffee cans. Use an appropriate container with a closed lid, as described in the household container section on the previous page.
- If you are bringing used sharps to a clinic or hospital collection site or using a mail-back program, follow their requirements, which may include use of a prepurchased sharps container.
- Always keep storage containers for used sharps out of the reach of children.
- Never leave needles or syringes on streets, in parks or anywhere else where they could injure someone.

## How to safely dispose of sharps containers

**Do not place sharps disposal containers with a BIOHAZARD label on the outside of the container in the household garbage.** These containers are typically not permitted in the regular household garbage. (In this case, it's the container that is not permitted – not the actual sharps.) Sharps containers with a biohazard label are usually treated as medical waste. To find out if your city or county trash disposal program allows sharps containers in the household trash, contact your local program for specific regulations on household medical waste.



**For more information, visit the Virginia Department of Environmental Quality's website at <https://www.deq.virginia.gov> or call (804) 698-4000 or (800) 592-5482.**

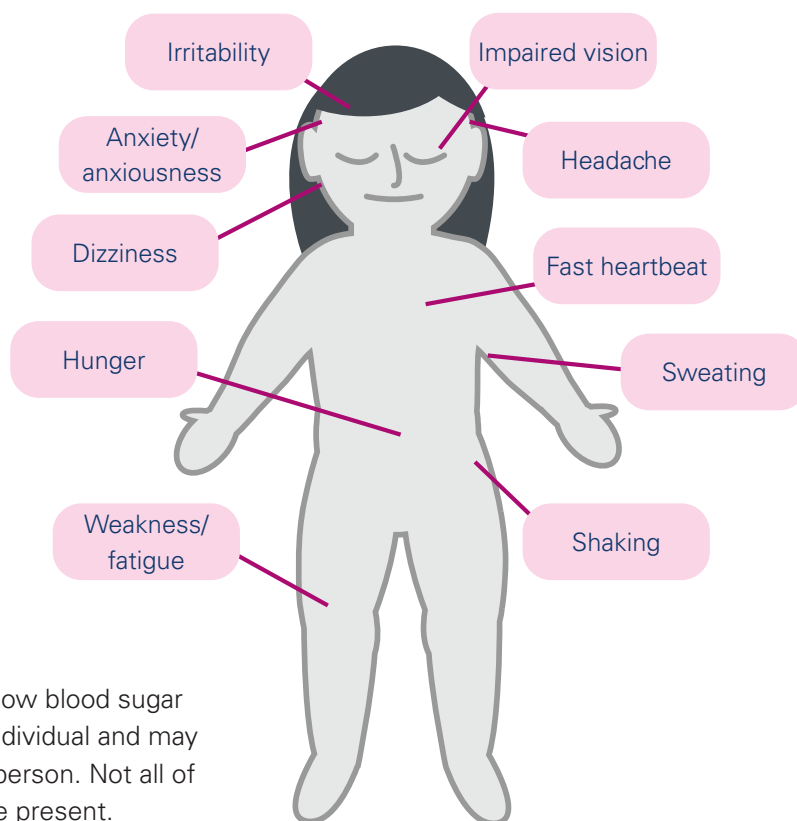
# Low blood sugar (Hypoglycemia)

Hypoglycemia, also known as insulin reaction, is defined as low blood sugar, or blood sugar values below 70 mg/dL (or a level determined by the endocrine provider). Because the brain and other vital organs need sugar to function, hypoglycemia is an immediate problem. The body's first response to low blood sugar is to put out adrenalin, a hormone that is produced in the center of the adrenal glands.

The early signs and symptoms of low blood sugar are actually caused by the effects of adrenalin on the body, not by the low blood sugar itself. Once adrenalin gets into the system, it stays there for 20 to 30 minutes in order to correct the problem. It increases the blood sugar level by stimulating the liver to release stored sugar. Therefore, it is important not to overtreat an insulin reaction, even though your child may still be feeling the symptoms of the release of adrenalin. Because adrenalin is released in response to any stress, it is important to check the blood sugar before treating the low blood sugar symptoms.

## Signs and symptoms of low blood sugar

The onset of low blood sugar is often sudden, and it may quickly progress to insulin shock. Symptoms include:



**Note:** Symptoms of low blood sugar (hypoglycemia) are individual and may vary from person to person. Not all of the symptoms will be present.

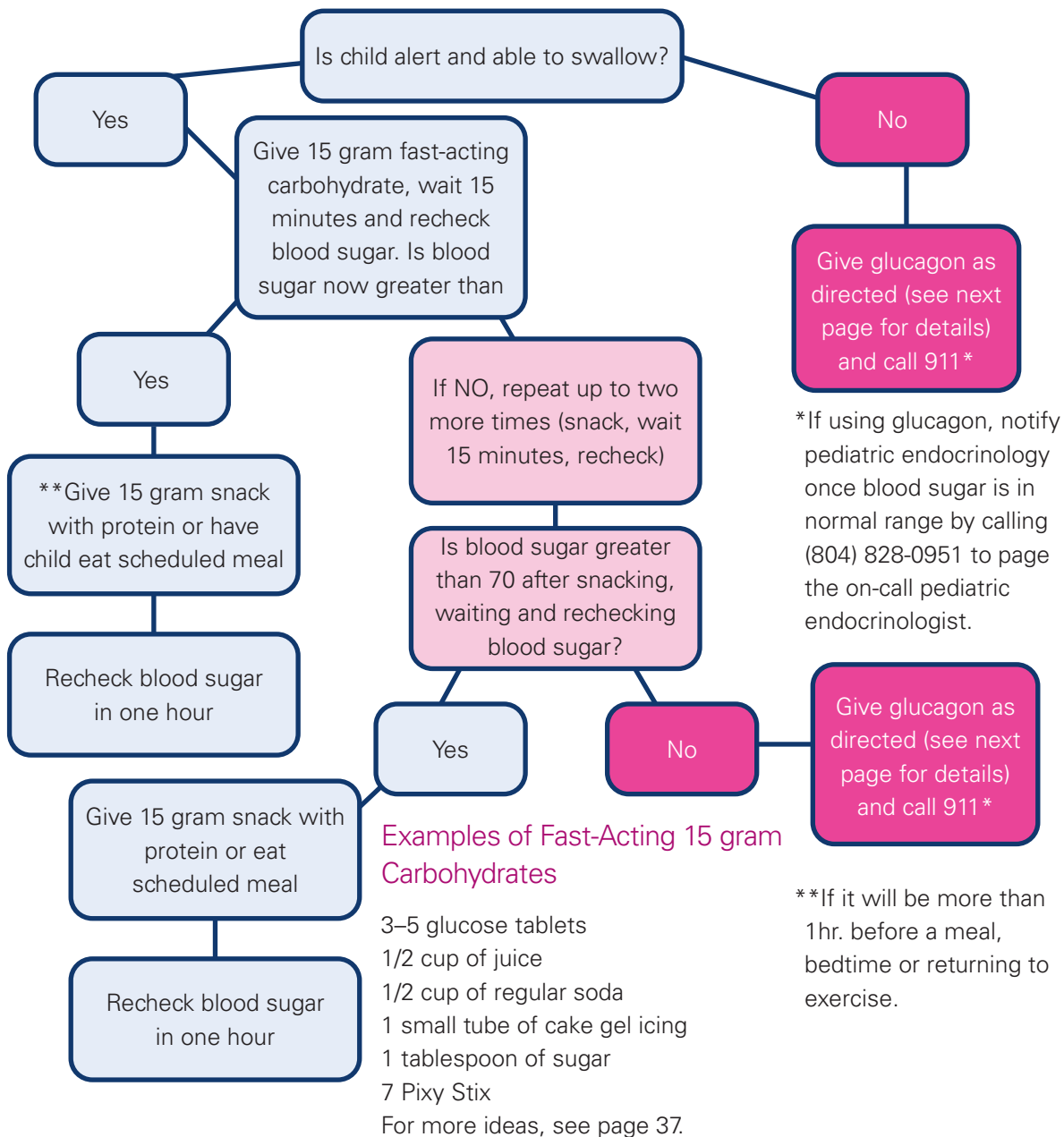
# Causes of low blood sugar

The causes of low blood sugar include:

- Taking too much insulin for the body's needs
- Skipping or delaying a meal or snack, or eating less than usual
- Drinking alcohol
- Making an error in drawing up medication
- Increased exercise

If blood sugar is less than 70 mg/dL, or less than the specific number determined by your child's doctor based on the child's age, follow these steps:

# How to provide treatment for low blood sugar



## Glucagon and how to administer a dose

Glucagon is a hormone that is produced in the alpha cells of the pancreas. It has the opposite effect of insulin and raises the blood sugar. Glucagon increases the blood glucose level by releasing stored sugar from the liver into the bloodstream. Glucagon is used to treat an insulin reaction when the person with diabetes is semiconscious, unconscious, experiencing a seizure or unable to swallow, or if the individual's blood sugar continues to fall after multiple hypoglycemia treatments (three or more). Here's what you need to know about administering and storing glucagon emergency medicine.

### Here are the instructions for the injectable glucagon and the nasal glucagon:

#### Instructions for administering a dose of injectable glucagon

1. Open the pouch. Do not open before needed.
2. Choose the injection site. Options include abdomen (at least 2 inches from the naval), outer thigh or upper arm.
3. Remove any clothing that is in the way of the injection.
4. Pull off the needle cap.
5. Pinch up the skin at the injection site.
6. Insert the needle and push the plunger all the way down to give the full dose.
7. Remove the syringe from under the skin by lifting straight up.
8. Roll the patient on his or her side and call 9-1-1.

#### Instructions for administering a dose of nasal glucagon

1. Remove the plastic wrapping. Do not open before needed.
2. Open the container and remove the device.
3. Insert the tip of the device into the nasal cavity, with your pointer and middle finger on either side of the tip, and your thumb at the bottom of the device. You will see a green ring at the bottom of the device.
4. Push on the bottom button until you see the green ring disappear.
5. Roll the patient on his or her side and call 9-1-1.

Please note that glucagon can cause headache and/or sleepiness. This is not unusual. Continue to monitor blood sugars for the next few hours.

### Storage

Glucagon does not need to be refrigerated. Keep the kits in a place where you and other family members will know where they are and will be able to get to them quickly. Glucagon emergency medicine should be always kept at home/with the child, and an additional kit at should be kept at school.

### Reminders for glucagon storage and use

- There is no danger of overdose with glucagon.
- Periodically check the expiration date on the box.
- You need a prescription for glucagon emergency medicine. If you need a refill or if it expires, send a message through MyChart or call the office for another prescription.
- Refer to the hypoglycemia protocol (located on pages 24–25) for prevention of low blood sugars.



## Tips for prevention of low blood sugar

- Check blood sugar routinely.
- Plan meals and snacks on a regular schedule if possible, based on your child's insulin dosing.
- Be sure your child does not skip meals and snacks or go longer than four to five waking hours without eating.
- Be careful when measuring doses. Always draw up the exact amount of insulin or exact bolus if on a pump.
- Be sure to check that you are giving your child the right type of insulin at the right time (fast-acting vs. long-acting).
- Plan for extra food or reduction of insulin before your child exercises or is extremely active. Consult your diabetes team for advice on this (see page 44–45).
- Increase your child's bedtime snack on extremely active days to avoid low blood sugar during the night and perform an overnight blood glucose check.

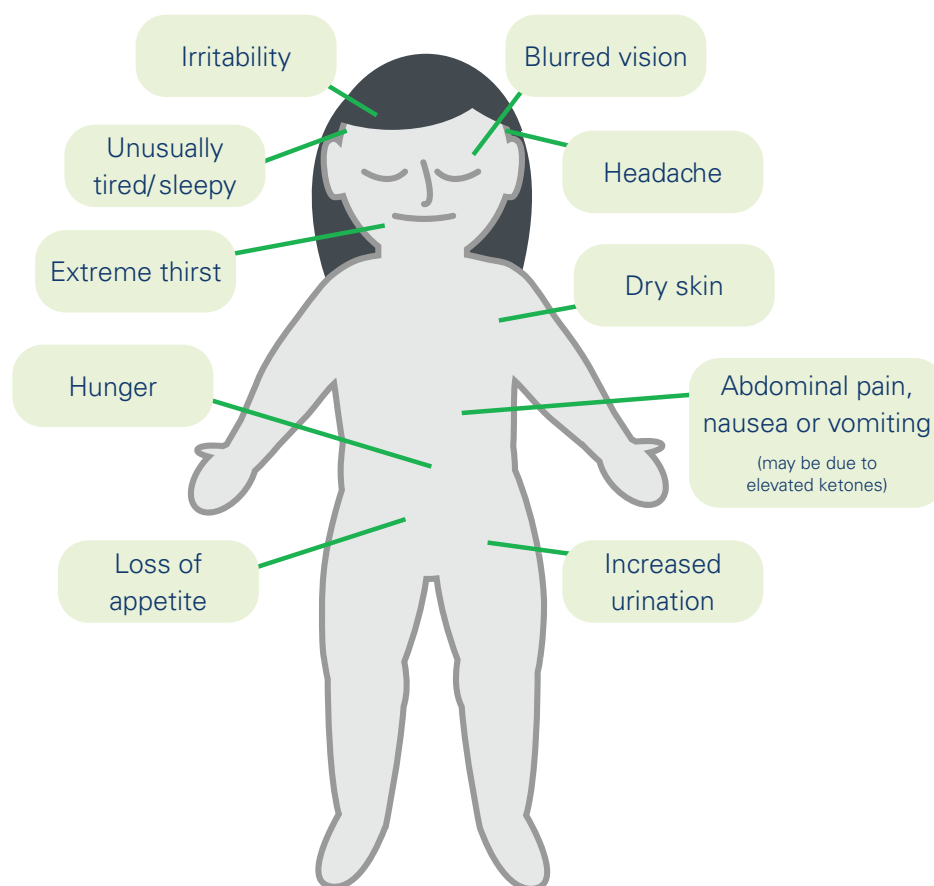
# High blood sugar (Hyperglycemia)

Hyperglycemia, also known as high blood sugar, is defined as a blood sugar level greater than 350 mg/dL or the value determined by your child's provider. High blood sugar is a result of insulin deficiency and can result in ketone production.

Ketones are produced when the body starts using fat for fuel instead of sugar. This occurs when an individual does not have enough insulin to move sugar from the bloodstream into the cells (which is why we always treat ketones with insulin). Diabetic ketoacidosis, or DKA, is the buildup of ketones and acid in the body. It is a very serious medical condition that can be life-threatening.

## Signs and symptoms of high blood sugar

Here are some usual signs of high blood sugar (hyperglycemia):



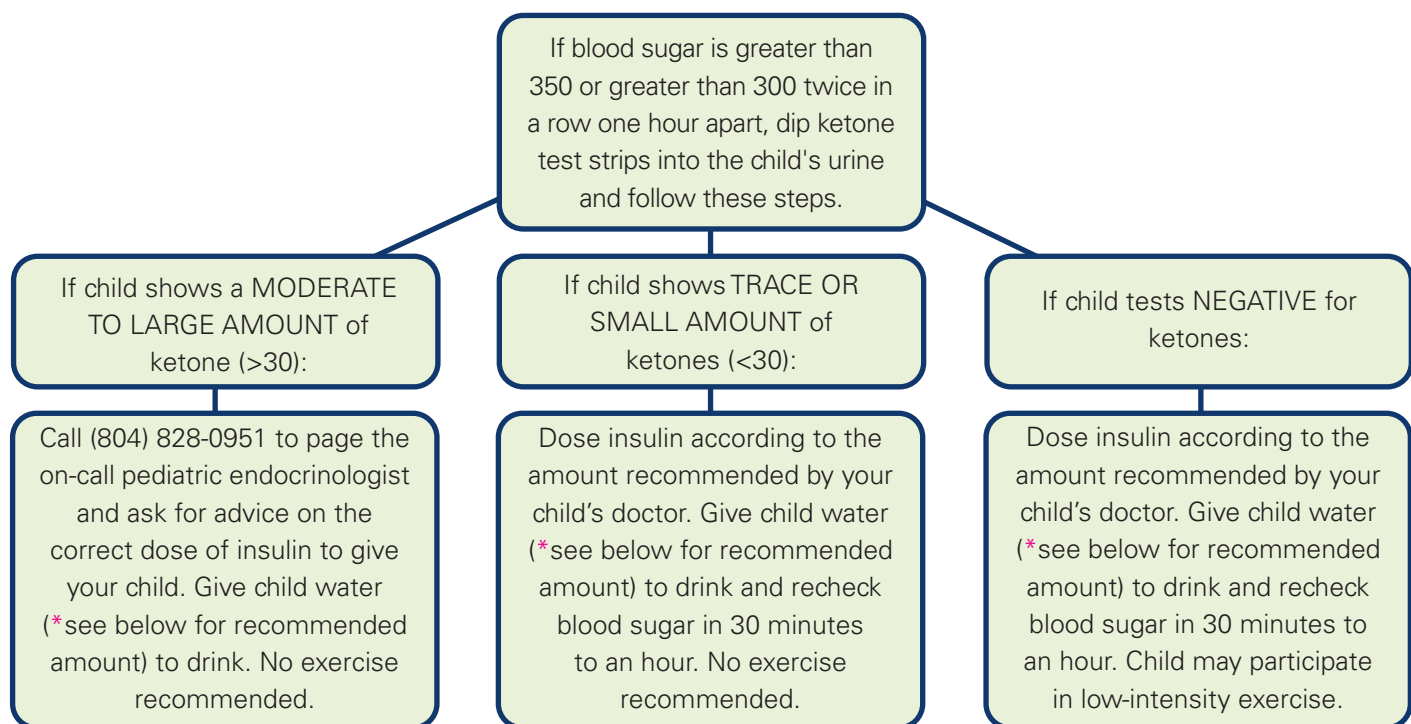
## Causes of high blood sugar

High blood sugar levels in children who have diabetes can be caused by a number of things, such as:

- Not taking enough insulin
- Eating too much too soon in relation to the next blood glucose check
- Not getting enough exercise
- Stress from an illness or emotional situation
- Menstrual cycles
- An infusion site or pump failure
- Rebounding from low blood sugar (Rebounding occurs when hormones that regulate blood sugar are released after long periods of hypoglycemia [low blood sugar], causing insulin resistance for several hours, which allows blood sugar to remain high and prevents another bout of low blood sugar. It is not uncommon for the body to rebound from low blood sugar levels that occur during the night with high blood sugar in the morning. Overtreating low blood sugar with carbohydrates can also cause rebounding.)

\*\*Keep in mind that sometimes blood sugar levels will go up for no apparent reason.

## How to provide treatment for high blood sugar



**\*The minimum amount of water recommended is 1 ounce per child's year of age, up to 16 ounces.**

**For example:**

2-year-old child = minimum of 2 ounces of water  
 8-year-old child = minimum of 8 ounces of water

**Here are the parameters for blood ketone testing:**

Less than 0.6 = negative/trace  
 0.6-0.9 = trace/small  
 1.0-1.4 = small/moderate  
 1.5-2.9 = moderate/large  
 3+ = large

## Tips for prevention of high blood sugar

- Check blood sugar routinely.
- Plan meals and snacks on a regular schedule if possible, based on your child's insulin dosing.
- Avoid extra meals and snacks.
- Be careful when measuring doses. Always draw up the exact amount of insulin or exact bolus if on a pump.
- Be sure to check that you are giving your child the right type of insulin at the right time (fast-acting vs. long-acting).
- Plan for less food or increase insulin when your child is less active. Consult your diabetes team for advice on this.







**Notes:**

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# What to do when your child is sick

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All children experience routine childhood colds or flu. While these illnesses usually aren't serious, they can make diabetes management more difficult. Below are guidelines for what to do on these sick days.

- Check your child's blood sugar and urine ketones every two to four hours or as instructed by your provider. If sugars have been high, please be sure to test at least once during the night, around 2–3 a.m.
- If your child is not nauseated and is able to eat a regular diet, encourage them to drink plenty of sugar-free fluids. This will help prevent dehydration and flush ketones out of the body. A minimum of 1 ounce/child's year of age up to 16 ounces each hour of sugar-free beverages is recommended when your child's blood sugar is over 180.
- If your child is not eating well and has blood sugar below 180, give drinks with sugar in them (regular sodas or ice pops, fruit juices, sugared tea, etc.).

- Try to have your child follow regular eating habits. If you are unable to do this, give your child small amounts of sugar-containing foods every hour. A child should eat 15 grams of carbohydrates per hour. Here are some suggested items to try and the amount of each that equals 15 grams of carbohydrates:
  - Regular Gatorade/Propel/electrolyte beverage: 1 cup
  - Chicken noodle soup: 1 cup
  - Saltines: 6 crackers
  - Regular gelatin: ½ cup
  - Toast: 1 slice
  - Ice cream/frozen yogurt: ½ cup
  - Frozen fruit juice bar, 100% juice: 3-ounce bar
  - Regular soda: ½ cup
- If there is nausea or vomiting, give only clear liquids (Gatorade, Propel, apple juice, regular soda or Jell-O).
- A child may feel more comfortable eating small amounts frequently instead of the customary three meals and snacks.

**Call your on-call provider immediately if you notice the following:**

- Signs of dehydration, such as:
  - Sunken eyes
  - Dry, cracked lips
  - Dry mouth
  - Skin that remains pinched up after being pinched
- Vomiting
- Any change in alertness
- Rapid or shallow breathing
- Blood sugar over 350mg/dL and moderate to large ketones in the urine
- Breath that smells of overly ripe fruit
- Abdominal pain

**The phone number to reach us for these urgent concerns is (804) 828-0951. Do NOT omit long-acting insulin doses. ALWAYS give long-acting insulin doses even if your child is unable or unwilling to eat.**



## Frequently asked questions

### **Why is more insulin needed when a child is sick?**

When you are sick, the body needs more fuel to fight off the illness and makes hormones that increase the release of sugar from the liver and the breakdown of fat. This causes high blood sugar and high ketone levels.

### **Does my child still need insulin if blood sugar is normal or if they are throwing up?**

Your child still needs insulin even if their blood sugar is normal or they are throwing up. Never skip a dose of long-acting insulin. Remember, the body needs insulin to provide fuel for the body's cells (it lets the sugar into the cell). If the body does not have insulin, it uses fat for energy instead of sugar. When the body uses fat for fuel, you get ketones. Elevated ketones can make an individual very sick and may require emergency medical care or hospitalization.

### **What supplies should I have on hand if my child is sick?**

- Fluids that contain sugar, such as regular soda
- Sugar-free fluids, such as water, diet soda or other sugar-free beverages
- Ketone test strips (make sure test strips are not out of date)
- Extra test strips to check blood sugar levels
- Glucagon Emergency Kit
- Thermometer

### **Can I get a school excuse note when my child is sick?**

A note can only be provided if our office has been notified and the provider has recommended that your child stay home from school.

## Troubleshooting elevated blood sugars when a child is sick

- Change out your insulin vial or pen. Start with a fresh vial/pen (from the pharmacy or your refrigerator) to ensure that the insulin you are using has not gone bad.
- Use a new injection site. Avoid any areas with lipohypertrophy (lump, bumpy spots) or overused areas.
- NEVER skip a dose of long-acting insulin.
- Always keep a spare vial/pen of each type of insulin.



**Notes:**

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# Planning your child's meals

A child's diet plays a huge role in the daily management of diabetes. In this section, you'll find recommendations from our team for planning meals and snacks, tips for calculating a child's carbohydrate intake and suggestions for low-carb snacks.



## Meal and snack planning

- Your child should eat three meals a day unless directed otherwise by your health care team.
- Be sure your child does not skip meals. The idea is to spread carbohydrates out throughout the day.
- Try to plan meals and snacks about the same time every day if your child is on a set insulin dose.
- Your child should eat a variety of foods, spread starches, milk and fruits evenly between meals and snacks, and eat meals within 15 minutes of taking fast-acting insulin.
- A child who takes insulin should not go more than four to five waking hours without eating a meal or a snack.
- If your child's blood sugar drops low at the same time each day, have them eat a snack just before this time AND reach out to your child's provider to discuss changes in your child's insulin dose.



You will want to get familiar with the portions below by measuring foods with measuring cups or a scale. This will help you to better estimate portions when you are out to eat. **Unless otherwise noted, the amount of each item listed below contains an average of 15 grams of carbohydrates.**

## Quick reference guide: 15 grams of carbs

### Bread/starch

1 slice bread  
 1/2 English muffin  
 1 small dinner roll  
 2 4-inch pancakes  
 1 4-inch waffle  
 1 cereal bar  
 3/4 cup unsweetened cereal  
 1/2 cup cooked cereal  
 1/3 cup rice or stuffing  
 1/3–1/2 cup pasta or noodles  
 1/2 hot dog or hamburger bun  
 1 6-inch tortilla (corn or flour)  
 2 taco shells

### Dairy

1 cup milk (12 grams carbs)  
 1/2 cup chocolate milk  
 1 cup light yogurt  
 1/2 cup pudding  
 1/2 cup sugar-free pudding  
 1/2 cup ice cream  
 1/2 cup frozen yogurt  
 1 Fudgsicle

### Starchy vegetable

1/2 cup corn  
 1/2 cup potatoes  
 1 small baked potato  
 1/2 cup of french fries  
 1/2 cup peas  
 1 cup winter squash  
 1 small corn on the cob  
 1/3 cup beans  
 1/2 cup lima beans

### Fruit

1 small fresh fruit  
 1/2 cup unsweetened applesauce  
 1/2 cup canned fruit in light syrup  
 or in its own juice  
 12–15 grapes (size varies)  
 1/4 cup raisins or dried fruit  
 1/2 cup 100% fruit juice  
 1 fruit juice bar  
 1/2 large banana

### Sweets/snacks

2" size brownie or piece of cake  
 1 miniature candy bar  
 1–2 small cookie(s)  
 1 pouch fruit snacks  
 6 animal crackers  
 3 graham cracker squares  
 1 Tbsp sugar or honey  
 1 cup sports drink (Gatorade)  
 1 Tbsp regular syrup  
 2 Tbsp "light" syrup  
 1 Tbsp jam/jelly  
 1-oz. bag chips  
 3 cups popcorn

### Combination foods

1 slice thin-crust pizza  
 1 corn dog  
 1/2 cup chili  
 2" square of lasagna  
 1 cup soup  
 6 chicken nuggets

**The following have minimal carbohydrates and little impact on blood sugar:**

- **Meat (red meat, poultry, fish and shellfish), cheese, eggs, nuts and seeds**
- **Non-starchy vegetables (1/2 cup cooked or 1 cup raw contains about 5 grams of carbohydrates)**
- **Fats such as margarine, butter and oils**

## Healthy tips for meal and snack planning

Maintaining a healthy diet is important. Here are tips for planning healthy meals and some things to monitor closely in your child's diet:

- Choose lean proteins (mostly chicken, turkey and fish).
- Choose low-fat dairy (skim or 1% milk, part-skim or 2% cheese, etc.).
- Include plant proteins, which have little fat and contain high fiber (beans, lentils, tofu, nuts, seeds, etc.).
- Watch your child's sodium intake and try to ensure that they consume less than 1,500 milligrams of sodium per day.
- Choose and prepare foods low in added sugars. (Added sugars include corn syrup, high-fructose corn syrup, sugar, etc.).
- Limit saturated and trans fat intake, such as butter, shortening, lard, fried foods, whole milk/cheese, high-fat meats, etc.
- Choose whole grains in place of white flour when possible.
- Sweets should be eaten only in place of another food that contains an equal amount of carbohydrates (for example: one bread, fruit, milk or starchy vegetable). Sweets should not be added on as an extra choice, and your child should not eat sweets every day.

For a sweet taste that is less likely to affect your child's blood sugar:

- Choose diet soft drinks or drink mixes that are sugar-free.
- Use sugar substitutes in place of regular sugar.
- Remember, not all sugar-free foods are carbohydrate free.





# Counting and calculating carbohydrates

In the beginning, consistency in carbohydrate intake is key! While your child is on a fixed dose of insulin, they need to eat about the same amount of carbohydrates at meals until you learn advanced carbohydrate counting. Talk to your doctor or dietitian if your child is not able to eat or wants to eat more than the target provided to you. The insulin dose may need to be adjusted. Here is a chart that can help you with carbohydrate counting and daily planning, followed by information on reading food labels and calculating carbohydrates.

## Carbohydrate intake chart: targets and menu ideas

<b>Breakfast:</b> _____ grams carbohydrate	<b>Lunch:</b> _____ grams carbohydrate	<b>Dinner:</b> _____ grams carbohydrate
<b>Snack Time:</b> _____ grams carbohydrate	<b>Snack Time:</b> _____ grams carbohydrate	<b>Snack Time:</b> _____ grams carbohydrate

## Reading food labels

To count carbohydrates, look at three things: serving size, number of servings per container and grams of total carbohydrate per serving. The total carbohydrate tells how many grams of carbohydrate are in one serving. Be careful when reading the label. There can be more than one serving in the package, so if more than one serving is eaten, you will need to multiply the grams of carbohydrate accordingly.

### Now let's practice using a sample food label:

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving size</b>	<b>2/3 cup (55g)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>230</b>
<b>% Daily Value*</b>	
<b>Total Fat</b> 8g	<b>10%</b>
Saturated Fat 1g	<b>5%</b>
Trans Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>13%</b>
Dietary Fiber 4g	<b>14%</b>
Total Sugars 12g	
Includes 10g Added Sugars	<b>20%</b>
<b>Protein</b> 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

There are 8 servings in this container.

The serving size for this food is 2/3 cup. The amount in parentheses is the weight of the serving.

The total carbohydrate tells how many grams of carbohydrate are in 1 serving.

Total sugars is already included in the total carbohydrate amount. Now you can see how many added sugars there are in a serving.

- The serving size listed is 2/3 cup or 55 grams (by weight).
- The number of servings per container is 8.
- The total carbohydrate per serving is 37 grams.
- Dietary fiber is part of the total carbohydrate per serving.
- Total sugars include natural and added sugars.
- To find out how many natural sugars the portion has, subtract added sugars from total sugars.

Remember, when you are learning to count carbohydrates, measure the exact serving size to help train your eye to see what portion sizes look like. If the serving size is half a cup, measure out half a cup. Keep doing this until you get a good idea of the weights and volumes of different foods. Measuring foods at home can also make you feel more comfortable with estimating portion sizes in restaurants.

# Healthy snack ideas

## Healthy snack ideas for kids with diabetes

Try these options when you're looking for low-carb or no-carb snacks for your child.

**Note:** Serving size will vary based on prescribed snack size. Talk to your child's doctor, dietitian or certified diabetes educator if you do not know how many carbohydrates your child should eat at meals or for snacks.

### Popcorn, crackers and more

- Popcorn (plain or light – consider seasoning with a butter spray or spices)
- Whole-grain goldfish crackers
- Trail mix (nuts, cereal and dried fruit mixture)
- Seven-layer dip with baked tortilla chips (possible ingredients: low fat/fat-free sour cream, beans, salsa, low-fat cheese, guacamole, olives, banana peppers, etc.)
- Protein bars (Note: Read the label, because some are high in carbs.)

### Peanut butter and nut butter

- Rice cakes with peanut butter
- Saltines/graham crackers with peanut butter or other nut butters
- Peanut butter toast with or without sugar-free jelly (Try cinnamon bread or a whole grain waffle for a twist.)

### Nuts and seeds

- Peanuts, almonds, pistachios, pecans, walnuts, cashews, soy nuts
- Sunflower seeds, pumpkin seeds

### Featuring fruit

- A parfait made with light yogurt or Greek yogurt and fruit
- Fruit with peanut butter or light yogurt dip
- Any flavor of fruit and nut bread (e.g., banana nut bread, small muffins)
- Fruit kabobs (Alternate cubes of low-fat cheese with fruit on pretzel sticks.)
- Fruit and nut balls (Combine chopped fruit and nuts. Bind together with peanut butter.)

### Veggie favorites

- Veggie sticks with hummus, salsa or guacamole
- 1/2 small baked potato with low-fat cheese and salsa
- Ants on a log (celery, peanut butter or light cream cheese, raisins) or celery sticks with peanut butter or light cream cheese
- Steamed edamame (soybeans) with low-sodium soy sauce
- Dill pickles
- Kale chips
- Side salad (possible toppings: veggies, sliced nuts or seeds, avocado, hard-boiled egg, vinaigrette dressing, etc.)
- Broccoli salad
- Coleslaw (use unsweetened coleslaw dressing)

## Meat and seafood

- Turkey, beef or deer jerky (These items should be eaten less often.)
- Tuna, chicken or egg salad on crackers
- Pigs in a blanket (Consider reduced-fat crescent rolls with mini hot dogs, or 1-inch slices of a cooked turkey/chicken hot dog split down the middle.)
- Hard-boiled egg
- Turkey meatballs with marinara sauce
- Grilled chicken strips
- Shrimp with cocktail sauce

## Sandwiches and roll-ups

- 1/2 pita pocket sandwich or small tortilla roll-up (made with lean deli meat, low-fat cheese, veggies, etc.)
- 1/2 grilled cheese or lean deli meat sandwich
- Deli meat (turkey, ham, etc.) and cheese roll-up
- Mini bean and cheese burrito
- Tuna, chicken or egg salad made with light mayo or plain Greek yogurt (Note: You can use leaf lettuce as a wrap.)

## Eggs and breakfast-themed snacks

- Eggs (hard-boiled, deviled or as an omelet with veggies and low-fat shredded cheese)
- Egg sandwich on wheat bread (Use egg substitute/egg whites if high cholesterol is an issue.)
- Nonsweetened cereal with low-fat or skim milk
- Quiche

## Cheese, cottage cheese and yogurt

- Part-skim string cheese, sliced cheese or cheese cubes
- Cheese toast or cheese quesadilla (can also add chicken, vegetables, salsa, etc.)
- Mini pizza on English muffin with sauce and cheese (can top with turkey pepperoni or veggies)
- Low-fat cheese and crackers
- Baked tortilla chips and cheese (or try “Chili Con Queso” recipe in Recipe Ideas for Healthy Snacks handout in the Resources and Forms section)
- Low-fat cottage cheese with or without fruit
- Toasted English muffin half topped with cottage cheese, applesauce and cinnamon (Microwave if desired to heat through.)
- Greek yogurt

## Soups

- Meat
- Beans/lentils or noodles (count as carbohydrate)
- Vegetables with broth base (some vegetables may count as carbohydrate)
- Chili with beans (beans count as carbohydrate)

## Sweet treats

- Sugar-free pudding (You can make your own with skim/1% milk and sugar-free pudding mix. Try making a treat out of it by layering pudding with sugar-free whipped topping to make a parfait.)
- Sugar-free ice pops, gelatin

For more ideas, see the Recipe Ideas for Healthy Snacks handout in the Resources and Forms section.





# Exercise

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Children who have diabetes especially benefit from exercise because physical activity can help to lower blood glucose levels and prevent complications. All children with diabetes can participate fully in physical education classes and team sports, but in order to maintain blood glucose levels in target ranges, adjustments may need to be made to insulin and food intake. It's also important to check blood glucose levels more frequently during times when your child is active to prevent low blood sugars.

## Important things to know about exercise and diabetes

- Children should NOT exercise if they have moderate or high ketones.
- Exercise can cause low blood sugars in some people, while in other people it may cause highs due to release of hormones such as adrenaline.
- The effects of exercise on blood sugar can last up to 24 hours as sugar stores are put back into the muscles.
- Blood sugars should be checked before, during and after the activity as needed.
- All children should aim for 60 minutes of daily activity at least five days per week.

## Suggestions for exercising safely

- Check blood sugar before exercise (30 minutes to one hour to see trend).
- Check during exercise (every hour at least) and also after exercise (every few hours for the next 24–36 hours depending on your pattern). After exercise, the body is trying to replace sugar storage in the muscle and liver. Lows most often occur four to six hours after exercise and can last up to 36 hours.
- Check ketones prior to exercise if blood sugar is over 350 mg/dL. Do not let your child exercise if blood sugar is over 350 and they have any ketones. Check for ketones if the blood sugar is over 350mg/dL or greater than 300 twice in a row, at least one hour apart.
- Be sure your child stays hydrated and drinks plenty of water or other sugar-free drinks before, during and after exercise.
- Be sure your child wears a diabetes ID bracelet during exercise and always carries a fast-acting sugar to treat lows if they occur.
- The length of time your child exercises will determine how much of a snack is needed. A good rule of thumb is 15 grams of carbohydrate for every 30 minutes of moderate activity. Protein is important if the activity will last longer than this. Use the guide on the next page for additional information about the amount of extra food that may be needed.
- Have extra snacks on hand. Snacking after exercise may help to prevent lows if your child tends to experience delayed low blood sugar (hypoglycemia).
- A child's insulin may need to be adjusted before exercise. Talk to your child's doctor or diabetes educator to discuss options for adjusting medication.
- If your child is on a sports team, be sure the coach understands diabetes and the symptoms/treatment of low blood sugar (hypoglycemia). Also, be sure the coach understands that your child may need a break for a snack or sports drink to control blood sugar.

Remember, everyone reacts differently to exercise. The only way to learn how your child reacts is to check blood sugars more frequently before, during and after exercise.

## General guidelines for extra food to cover exercise

Expected Length of Exercise	Blood Sugar (mg/dL) Before Exercise	Amount of Extra Carbohydrates Needed Due to Exercise	Example of Food/Drinks <small>Note: These suggested portions will provide the amount of extra carbohydrates recommended for the blood sugar numbers listed in this chart.</small>
15-30 minutes	Less than 80	15-20 grams	1/2 cup juice or 1 cup Gatorade
	80-150	15 grams	1/2 cup juice or 1 cup Gatorade
	Greater than 150	None	None
30 minutes-2 hours	Less than 80	25-30 grams (include source of protein/fat)	1/2 cup juice or 1 cup Gatorade and 15 gram snack
	80-150	25-30 grams (include source of protein/fat)	1/2 cup juice or 1 cup Gatorade plus fresh fruit
	Greater than 150	15 grams (include source of protein/fat)	1/2 sandwich or 4 peanut butter/cheese crackers
2-4 hours <small>*May need to reduce insulin dose</small>	Less than 80	30-40 grams initially, then 15 grams every hour (include source of protein/fat initially)	1/2 cup to 1 cup Gatorade plus whole sandwich, then 1 cup Gatorade or 1/2 cup juice every hour
	80-150	20-30 grams initially, then 15 grams every hour (include source of protein/fat initially)	Fruit, whole sandwich, then 1 cup Gatorade or 1/2 cup juice every hour
	Greater than 150	15-20 grams initially, then 15 grams every hour (include source of protein/fat initially)	Whole sandwich then 1 cup Gatorade every hour

**Note:** This table is for moderate exercise (walking, bicycling leisurely, shooting a basketball or mowing a lawn). If more intense exercise (jogging, bicycle race, basketball game, etc.) is to be done for the same amount of time, then more food may need to be added.

**Note:** Above are examples. Modifications can be made using same carb amount.

# Diabetes management at school



Starting your child back to school after they've been diagnosed with diabetes can be stressful. Careful planning and preparation can help ease the transition for all involved. In order to make this process as smooth as possible, here's a list of the items needed for school:

- Copy of the Diabetes Medical Management Plan (also called School Form)
- Blood glucose testing equipment and supplies (blood glucose meter, test strips, lancets)
- Ketone strips
- Insulin and insulin delivery system (pens, vials, pen needles, syringes, etc.)
- Pump supplies, if applicable
- Extra batteries for meter, pump, etc., if applicable
- Glucagon Emergency Kit
- Fast-acting carbohydrate (glucose tablets, juice box, regular soda, cake icing gel, etc.)
- Peanut butter, cheese crackers or appropriate snack

Please note that parents are responsible for providing the school with the supplies needed above so the child can receive the best care possible. Please be sure that your child's supplies are always stocked. We encourage you to meet with your school nurse, your child's teacher and other necessary personnel to discuss your child's needs before your child returns to school. Pack these same supplies in your child's diabetes "go bag".



## School forms\*

Schools require an updated Diabetes Medical Management Plan (also called School Form) annually prior to starting a new school year. This form contains up-to-date medication orders and is usually kept by the school nurse. Most schools will accept this plan on the standard form we provide. You will need to request a new form from us prior to a new school year, and this request should take place during your child's appointment. You can also request this form by telephone or fax, but if you do so, please allow five business days for us to process your request.

**Note:** In order to complete your child's form, we will need current breakfast and/or lunch insulin orders or pump settings for carbohydrate ratios and glucose correction. We also need the fax number of your child's school so we can send the form directly to the school. (This will save time, get the form to the school faster and avoid you or another family member having to pick up the form from our office.)

## Field trips

It can be helpful to know your child's rights. Here are some relevant details about school field trips:

- A student may not be excluded from field trips and other school-sponsored activities due to having diabetes. The same care provided at school should travel with them on field trips.
- The written documents that need to be consulted when preparing a student with diabetes for a field trip are:
  1. Diabetes Medical Management Plan (DMMP)
  2. Individualized Health Plan (IHP)
  3. Section 504 Plan
  4. Individualized Education Program (IEP)

**Note:** Not every student will have all of these forms.

\*It is important to make provisions for field trips in one of the above documents. This will help ensure a smooth and safe transition from classroom to off-site learning environment. The provisions should specify who will assist the student on the field trip with diabetes care. Well in advance, a field trip schedule should be provided to the parent and school nurse.

## Field trip checklist

A **Field Trip Supply Checklist** can be found in the Resources and Forms section of this handbook. The checklist has a list of suggestions for what school personnel should bring on field trips. It may be helpful for you to share this with your child's teacher or other school personnel at the start of the school year and/or before an upcoming field trip.

## Additional resource for school

Juvenile Diabetes Research Foundation (JDRF) has a "School Toolkit" and other resources available for download. The American Diabetes Association (ADA) has many resources available for download, as well.

# Resources and forms

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# School and field trip supply checklist

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Child's name: \_\_\_\_\_

Emergency contact name and phone number:

\_\_\_\_\_  
\_\_\_\_\_

Copy of the Diabetes Medical Management Plan *(also called School Form)*

Blood glucose testing equipment and supplies *(blood glucose meter, test strips, lancets)*

Ketone strips

Insulin and insulin delivery system *(pens, vials, pen needles, syringes, etc.)*

Pump supplies, if applicable

Extra batteries for meter, pump, etc., if applicable

Glucagon Emergency Kit

Fast-acting carbohydrate *(glucose tablets, juice box, regular soda, cake icing gel, etc.)*

Additional supplies and insulin in case of delay in returning to school **(field trip only)**

Peanut butter, cheese crackers or appropriate snack

Cell phone to call for help if needed **(field trip only)**

Emergency contact information



# Reporting of blood sugar

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- For blood sugar review, please send 7+ days of glucose data through MyChart or email: [pedsdiabetes@vcuhealth.org](mailto:pedsdiabetes@vcuhealth.org). Please include current insulin doses as well.
- If you're emailing, instead of sending via MyChart, please include your name, your child's name and date of birth, and a daytime phone number where you can be reached. If you're sending data via myChart, please include your preferred phone number, too.
- **Allow 48–72 hours** for us to review and call you back. Please follow up to ensure that the logs were received if you have not heard from our office by then.
- For urgent blood sugar review, please page the on-call provider at (804)-828-0951.

## Contact information

**Phone: 804-828-CHOR (2467)**

**Fax: 804-527-4728**

**[pedsdiabetes@vcuhealth.org](mailto:pedsdiabetes@vcuhealth.org)**

**Patient portal: [chrichmond.org/mychart](http://chrichmond.org/mychart)**

## Important phone numbers

**For appointments, prescription refills and nonurgent questions:**

**804-828-CHOR (2467)**

**For emergencies and urgent calls: 804-828-0951**



# Helpful resources

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\*Please note, this information may change over time.

## Websites

### Diabetes and carb counting

#### **American Diabetes Association**

Diabetes nutrition information, My Food Advisor meal planning guide, recipes, tips, carb info and more  
[diabetes.org/food-and-fitness](https://diabetes.org/food-and-fitness)

#### **Behavioral Diabetes Institute**

Tools to face psychological demands of diabetes  
[behavioraldiabetesinstitute.org](https://behavioraldiabetesinstitute.org)

#### **Calorie King**

Helpful tools for carb counting  
[calorieking.com](https://calorieking.com)

#### **Children with Diabetes**

Advice for parents and kids on all topics related to diabetes  
[childrenwithdiabetes.com](https://childrenwithdiabetes.com)

#### **dLife**

[dlife.com](https://dlife.com)

#### **Juvenile Diabetes Research Foundation**

[jdrf.org](https://jdrf.org)

#### **SELFNutrition Data**

Carb counting and recipe calculating tools helpful for diabetes management  
[nutritiondata.self.com](https://nutritiondata.self.com)

#### **Spark Recipes**

Healthy recipes and a recipe nutrition calculator  
[recipes.sparkpeople.com/recipe-calculator.asp](https://recipes.sparkpeople.com/recipe-calculator.asp)

#### **TuDiabetes**

Diabetes management social networking  
[tudiabetes.com](https://tudiabetes.com)

### Adjusting to life with diabetes

#### **College Diabetes Network**

Online resource for teens transitioning to college  
[collegediabetesnetwork.org](https://collegediabetesnetwork.org)

## 1 Sweet Life

Diabetes management for parents and kids (Facebook page)  
parents.1sweetlife.org

### Parenting Diabetic Kids

Diabetes management for parents  
parentingdiabetickids.com

## Pumps and monitors

### Children with Diabetes

Information about insulin pump therapy: [childrenwithdiabetes.com/pumps](http://childrenwithdiabetes.com/pumps)  
Links to makers of pumps and pump supplies: [childrenwithdiabetes.com/pumps/links.htm](http://childrenwithdiabetes.com/pumps/links.htm)  
Note: Childrenwithdiabetes.com is an online community for kids/families/adults with diabetes.

### Insulin Pumpers

Support and information about insulin pumps and other innovations in diabetes care  
[insulin-pumpers.org/pkids.shtml](http://insulin-pumpers.org/pkids.shtml)

### Kids R Pumping

Site features stories and experiences from kids/parents with pumps  
[kidsrpumping.com](http://kidsrpumping.com)

### Medtronic Diabetes Products

[medtronicdiabetes.com](http://medtronicdiabetes.com)

### Omnipod Insulin Management System

[myomnipod.com](http://myomnipod.com)

### t:slim Insulin Pumps

[tandemdiabetes.com](http://tandemdiabetes.com)

## Glucometers

**ACCU-CHEK meters:** [accu-chek.com](http://accu-chek.com)

**Contour NEXT meter:** [contournext.com](http://contournext.com)

**Freestyle meters including Precision meters:** [myfreestyle.com](http://myfreestyle.com)

**One Touch meters:** [onetouch.com](http://onetouch.com)

**True Metrix meters:** [trividiahealth.com](http://trividiahealth.com)

## Pump accessories

**Diabetes Mall:** [diabetesnet.com/dmall/index.php/pump-accessories-c-45](http://diabetesnet.com/dmall/index.php/pump-accessories-c-45)

**Funky Pumpers:** [funkypumpers.com](http://funkypumpers.com)

**GrifGrips:** [grifgrips.com](http://grifgrips.com)

**Grandma's Hands:** [grandmashands.ca](http://grandmashands.ca)

**Pump Peelz:** [pumppeelz.com](http://pumppeelz.com)

**Radrr:** [radrr.com](http://radrr.com)

**SPI Belt:** [spibelt.com/t1d](http://spibelt.com/t1d)

**Tally Gear:** [tallygear.com](http://tallygear.com)

**Unique Accessories Inc.:** [uniaccs.com](http://uniaccs.com)

## Medic alert jewelry

**LIFETAG “Fashionable jewelry that can save your life”:** [LIFETAG.com](http://LIFETAG.com)

**Lauren’s Hope Medical ID Jewelry:** [laurenshope.com](http://laurenshope.com)

**Nicole Johnson LIFETAG Jewelry:**

[lifetag.com/store/p/2757-LIFETAG-Miss-America-1999-All-Sterling-Medical-ID-Bracelet.aspx](http://lifetag.com/store/p/2757-LIFETAG-Miss-America-1999-All-Sterling-Medical-ID-Bracelet.aspx)

**N-StyleID Unique ID jewelry:** [n-styleid.com](http://n-styleid.com)

**Road ID:** [roadid.com](http://roadid.com)

## Healthy nutrition information

### **Academy of Nutrition and Dietetics (formerly American Dietetic Association)**

Food and health tips from nutrition professionals

[eatright.org](http://eatright.org)

### **Choose My Plate**

USDA healthy eating website featuring nutrition guidelines, interactive online tools, recipes, etc.

[choosemyplate.gov](http://choosemyplate.gov)

### **KidsHealth.org**

Diabetes center: [kidshealth.org/en/parents/center/diabetes-center.html?ref=search](http://kidshealth.org/en/parents/center/diabetes-center.html?ref=search)

Nutrition and Fitness center: [kidshealth.org/en/parents/center/fitness-nutrition-center.html?ref=search](http://kidshealth.org/en/parents/center/fitness-nutrition-center.html?ref=search)

## Recipes

### **Fruits and Veggies—More Matters**

Healthy initiative focused on increasing fruit and vegetable consumption for better health

[fruitsandveggiesmorematters.org](http://fruitsandveggiesmorematters.org)

### **Meal Makeover Moms**

Healthy meals with kid appeal

[mealmakeovermoms.com](http://mealmakeovermoms.com)

### **Recipe Finder**

USDA recipes—Information is also available in Spanish

[whatscooking.fns.usda.gov](http://whatscooking.fns.usda.gov)

### **Simply Gluten-Free**

Gluten-free recipes; website also has dairy-free and nut-free recipes

[simplygluten-free.com/gluten-free-recipes](http://simplygluten-free.com/gluten-free-recipes)

### **Lilly Diabetes**

[t1everydaymagic.com](http://t1everydaymagic.com)

### **Super Healthy Kids**

Healthy recipes for meals and occasions

[superhealthykids.com](http://superhealthykids.com)

## Keeping a healthy heart

### American Heart Association

Healthy Eating: <https://www.heart.org/en/healthy-living/healthy-eating>

### Therapeutic lifestyle changes

Guide to Lowering Your Cholesterol with Therapeutic Lifestyle Changes (NIH publication)  
[nhlbi.nih.gov/files/docs/public/heart/cho\\_l\\_tlc.pdf](http://nhlbi.nih.gov/files/docs/public/heart/cho_l_tlc.pdf)

## Exercise

### JDRF PEAK

[jdrf.org/t1d-resources/living-with-t1d/exercise/](http://jdrf.org/t1d-resources/living-with-t1d/exercise/)

## Phone apps

Search iTunes or your Apple or Android platform for the apps listed below.

**Blue Loop** mobile companion to MyCareConnect  
[blueloop.mycareconnect.com](http://blueloop.mycareconnect.com)

**Calorie Counter and Diet Tracker** by MyNetDiary  
Food and exercise diary for iPad

**Calorie Counter** by Fat Secret

**Calorie Counter and Diet Tracker** by MyFitnessPal

**Calorie King Calorie Counter**

**Diabetes Nutrition** by Fooducate

**Food Facts—Nutrition Information Guide** [fastfoodnutrition.org](http://fastfoodnutrition.org)

**Glooko Remote Patient Monitoring** [glooko.com](http://glooko.com)

**Glucose Buddy** An electronic logbook for diabetes management. Tracks blood sugar, insulin and carbs. Data can be synced to an online account: [glucosebuddy.com](http://glucosebuddy.com)

**Lenny the Lion Carb Counting app** for iPad and iPhone/iPod Touch. [lenny-diabetes.com](http://lenny-diabetes.com)

**Medtronic:** [diabetes.shop](http://diabetes.shop) for ordering supplies

**MySugr** – app for logging glucose, carbs, bolus calculator, data tracker

**Nutrients**—app to find nutrition facts for foods and recipes (\$4.99 cost)

**One Drop** – app for logging glucose, meds, food, activity

**Pilot**

**WaveSense Diabetes Manager** Does the same job as Glucose Buddy and GoMeals™ but has excellent graphing and charting





## Books/articles

Look for additional titles in Juvenile Diabetes Resource Foundation Publications and American Diabetes Association Library.

### Diabetes management

**Diabetes Burnout** by William Polonsky

**487 Tips for Kids with Diabetes** by Spike Nasmyth and Bo Nasmyth Loy

### Using pump and monitors

**Pumping Insulin: Everything You Need for Success with an Insulin Pump**

by John Walsh, PA, and Ruth Roberts, MA (updated in 2024)

**Smart Pumping: A Practical Approach to the Insulin Pump**

by Howard Wolpert (updated in 2002 – currently outdated, but some good information)

**Understanding Insulin Pumps and Continuous Glucose Monitors**

by H. Peter Chase, MD, and Laurel Messer, RN, MPH, CDE

Updated 2017. Still available online through the Barbara Davis Center for Diabetes: [ucdenver.edu/academics/colleges/medicalschool/centers/BarbaraDavis/OnlineBooks/Pages/UnderstandingInsulinPumps.aspx](http://ucdenver.edu/academics/colleges/medicalschool/centers/BarbaraDavis/OnlineBooks/Pages/UnderstandingInsulinPumps.aspx)



# Recipe ideas for healthy snacks

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## Freezer pops

Puree 6 ounces of fruit (berries, etc.), 1/4 cup no-sugar-added jelly/fruit spread, 1 tablespoon honey and 2 cups plain yogurt. Once combined, pour into individual popsicle molds and freeze.

## Banana split

Half a banana and cut into 1 inch slices, scoop 1/2 cup of frozen vanilla yogurt on top of banana slices, then drizzle with sugar-free chocolate syrup and/or sugar-free whipped cream.

## Baked apple

Core an apple and fill the hole with 1 teaspoon each of margarine, cinnamon and Splenda brown sugar. Bake at 350 degrees for 1 hour.

## Rolled oat treats

In a saucepan, combine 1/4 cup peanut butter, 2 tablespoons Splenda brown sugar, 2 tablespoons powdered skim milk, 2 tablespoons water and 1/4 teaspoon cinnamon. Stir constantly until the mixture is hot. Remove from heat and stir in 1 cup of rolled oats until well combined. Shape into 1-inch balls and let set for at least 10 minutes.

## Frozen yogurt bites

Place a vanilla wafer in the bottom of approximately 12 to 15 mini-muffin cups. Meanwhile, in a medium bowl, mix together 1/2 cup low-fat vanilla yogurt, 1/2 cup reduced-fat cream cheese (softened), 1 teaspoon lemon juice and 1 teaspoon honey. Once mixed, spoon 1 heaping tablespoon onto each vanilla wafer in the muffin tin. Top the mixture with sliced fruit (strawberries, kiwi, blueberries, raspberries, etc.). Cover the pan with plastic wrap and place into freezer for about 1 hour or until firm. Note: 1 yogurt bite = 7 grams of carbohydrates.

## Trail mix balls

Mix together 1 cup peanut butter and 1 cup honey until smooth. Gradually add in 3 cups of old-fashioned oats and 1/2 cup ground flaxseed. Add 1 cup of chocolate chips and 1 cup of chopped nuts of your choice. Roll into golf ball-size balls. Refrigerate overnight. Note: 1 ball = 16 grams of carbohydrates.

## Chili con queso

Combine 4 ounces of reduced-fat Velveeta cheese, 1/3 cup chunky salsa, a 16-ounce can of reduced-fat refried beans and 1/4 cup drained, chopped green chilies in a microwave safe dish. Cook in microwave for 2 minutes. Stir, then continue to microwave until dip is warm throughout. Serve with baked tortilla chips.



# Contact us

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Appointments: 804-828-CHOR (2467)  
[pedsdiabetes@vcuhealth.org](mailto:pedsdiabetes@vcuhealth.org)  
Patient portal: [chrichmond.org/mychart](http://chrichmond.org/mychart)

