Diabetes Basics for kids * teens * parents * families

Things you need to know and do in the first few days after a diagnosis
This book is for beginners...

When you first learn you have diabetes, it’s easy to feel confused and scared. But although diabetes is a challenge, it’s not a disaster. You’re still you, even with diabetes. You can still be healthy, active, and strong. You just need to work a bit harder to take care of yourself. This book can help you get a good start.

This book is just the beginning...

There’s a lot to learn about life with diabetes. This book probably won’t tell you everything you want to know. It will give you the basics—the main things you need to know and do right now, in the first few days after your diagnosis. As you go over these pages with your medical team, make notes in the margins and in the MyPlan pages. Draw pictures. Ask questions. And if your medical team’s instructions differ from what you read here, always follow your team’s instructions.
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“Your child has diabetes.” Right now, you’re probably still adjusting to the news. It can be an upsetting and confusing time for you, your child, and the whole family. But if you’re struggling a bit right now, take heart. Many other parents have weathered this time, and you will too. The messages below may help.

The messages on these two pages come from other parents and caregivers of children with diabetes.

It’s not your fault.

You didn’t give your child diabetes—and there’s nothing you could have done to prevent it. Try not to blame yourself. And don’t feel guilty about having to give injections or do fingersticks as part of diabetes care. It’s natural to want to take away your child’s hurt and it’s no fun when your child resists. But now that your child has diabetes, injections and fingersticks are part of life. So remember: you aren’t hurting your child, you are caring for her.

You’re right: diabetes is difficult, and it can be scary. But you’ll learn.

Well-meaning friends or family may say you’re lucky that your child’s disease has been diagnosed and can be treated. But you probably don’t feel very lucky right now. You may feel overwhelmed by all that you have to learn. You may feel frightened by what can happen if your child’s blood glucose gets too high or too low.

These feelings are normal and appropriate. Diabetes is serious—and you must take it seriously. At the same time, realize that with time and practice, you can learn the skills needed for proper diabetes care. The worry you may feel today will ease as you adjust to your “new normal.”
Others are ready to help. Let them.

Parents of children with chronic medical conditions can become isolated and depressed. Try not to let this happen to you. Reach out to others who can understand what you’re going through. The last page of this book lists some resources to help you connect with and learn from others affected by diabetes. You’ll find that you’re not alone in facing this challenge. Others are eager to help you and your child.

Your health is important, too. So are your relationships.

Right now you’re focused on your child’s health and daily care. But remember, your health is important too. To avoid caregiver burnout, take care of yourself physically, mentally, and emotionally. Maintain your regular interests and hobbies. Arrange get-togethers with friends. These activities aren’t selfish—they’re important. You’ll be a better caregiver if you take the time to nurture yourself.

Success factors for daily life with diabetes

- **Be consistent.** Set clear expectations and routines for daily diabetes care. Don’t let your child’s bargaining, tantrums, or pleading (“Can’t we skip the blood sugar check, just this once?”) change what you do. Once your child learns that the routine is non-negotiable, he’ll stop fighting it.

- **Communicate.** Everyone who cares for your child should be told about his diabetes and how to recognize and treat blood glucose lows (see pages 27 to 29 and pages 51 to 54). With your spouse, partner, or “ex,” work out a consistent, unified approach to daily diabetes care. Attend your child’s doctor appointments together, if you can. Open communication and a shared approach to parenting are important.

- **Take breaks.** Diabetes can put extra stress on daily life. So find healthy ways to take a break from the grind. Plan family outings. Keep up with “date nights” or special nights out with friends. For longer breaks, check into diabetes camps—or train others to handle diabetes care so you can get a way for a night, a weekend, or a few days.

- **Be patient.** It’s not easy to absorb medical information while you comfort your child and cope with your own feelings about the diagnosis. Also, diabetes is complicated. It takes time to understand what it is and what it means for daily care. So be patient. Take notes. Ask questions. Little by little, you’ll master the skills and information you need.

All about “you”

In other sections of this book, the “you” in the text means “you, the child or teen with diabetes.” But it can also mean you, the parent. After all, in many families, parents handle most—or all—of the daily diabetes care. So please read the information, tips, and instructions on the following pages. They’re for you, the parent, as well.
Understanding Diabetes

Diabetes is a life-long disease that can’t be cured. But it can be managed. It’s easier to do this if you understand what’s going on in your body. This section explains the basics.

What is diabetes?
Diabetes is a metabolic disorder. This means it’s a disease that affects how your body uses food for energy and growth.

Without diabetes... from food to fuel

Here’s how things work in a person without diabetes:

- When you eat, your body breaks food down into glucose. Glucose is a type of sugar that is your body’s main source of energy.

- Glucose from food goes into your bloodstream. Your blood glucose (the amount of sugar in your blood) begins to rise.

- As your blood glucose rises, your pancreas responds by releasing a hormone called insulin.

- Insulin allows glucose to cross out of your bloodstream and go into your body’s cells—it’s like a key that “unlocks” the cells. Once glucose gets in your cells, it’s used for energy.

- Your liver also plays a role in the metabolic process. It stores glucose from your bloodstream and releases it when your cells need fuel (as, for example, when you haven’t eaten for a while). When you have eaten, however, insulin blocks this release of glucose from your liver.
### Signs and symptoms of diabetes

- Increased thirst
- Increased hunger
- Increased urination (peeing)
- Weakness and fatigue
- Weight loss
- Blurry vision
- Fast, deep breathing
- Slow or confused thinking

**With diabetes... starving cells and high blood glucose**

When you have diabetes, your body still breaks down the food you eat into glucose. The problem is that your body doesn’t have the right amount of insulin. The reasons for this depend on the type of diabetes you have, type 1 or type 2 (see the next page). But with both types of diabetes, the end result is the same:

- **Your cells are starved for energy.** Without an insulin “key” to help move glucose into your cells, you feel weak, hungry, thirsty—just plain awful. You’ll also have **ketones** in your blood and urine (pee). Ketones are a sign that your body is breaking down fat and protein to get energy, since it’s not able to use glucose normally. High levels of ketones are harmful to your body.

- **Your blood glucose is too high.** Unused glucose from the food you eat builds up in your bloodstream. If you don’t have enough insulin (as with type 1 diabetes) your liver will release even more glucose as well. If your blood glucose gets high enough, glucose will “spill” into your urine. Over time, high levels of blood glucose can damage your nerves and blood vessels. But learning and practicing the skills in this booklet can help you avoid this damage. Also, your doctor will do tests over the years to monitor any changes and make sure you get the right care at the right time to stay healthy.
What are the types of diabetes?

By now, you may have already been told that you have type 1 or type 2 diabetes. Since the two types can behave differently and have different treatments, it’s important to know which one you have and what it means.

<table>
<thead>
<tr>
<th>What is it?</th>
<th>Type 1</th>
<th>Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you have type 1 diabetes, your pancreas has stopped—or nearly stopped—making insulin. Without an insulin “key” you have no way to “unlock” your cells to allow glucose from your bloodstream to enter. You also have no way to block the release of glucose from your liver into your bloodstream. Your blood glucose gets too high.</td>
<td>If you have type 2 diabetes, your body’s cells have become resistant to insulin. So even though you have an insulin “key”—it’s as if the cell “lock” is broken so that glucose can’t easily get in. Glucose stays in your bloodstream and blood glucose gets too high. Over time, some people with type 2 also develop trouble making enough insulin (insulin deficiency). This is the same problem that people with type 1 have.</td>
<td></td>
</tr>
</tbody>
</table>

| Who gets it? | Type 1 diabetes happens most often in young people. That’s why it used to be called “juvenile diabetes” or “juvenile-onset diabetes.” The truth is, you can develop type 1 at any age. | Type 2 diabetes is more likely to develop when you’re an adult, which is why it used to be called “adult-onset diabetes.” But kids can—and do—develop type 2 diabetes. Most people with diabetes have type 2. |

| How is it treated? | Because their bodies don’t make the insulin they need, kids with type 1 diabetes need to have injections (shots) of insulin every day. (So far, pill forms of insulin haven’t worked.) | Treatment for type 2 diabetes varies, and it can change over time. Some people can control it with diet and exercise alone. Others must take pills to help their bodies process glucose. Some people with type 2 need insulin shots, just like those with type 1. |

What causes type 1 diabetes?

Type 1 diabetes—the type that’s more common in young people—is the result of an autoimmune process. An **autoimmune process** is like a case of mistaken identity. Your body’s immune system, which is responsible for protecting your body from invading illness, attacks your own healthy tissue by mistake. With type 1, the autoimmune process attacks the pancreas, damaging it so it can’t produce enough insulin.

Losing your “**keys**”…

The pancreas is an organ about the size of a child’s fist. It’s located behind your stomach.

In type 1 diabetes, the body’s immune system attacks the **beta cells** of the pancreas. These are the cells that make insulin.
What starts the autoimmune process in the first place? Scientists still aren’t sure. Right now, studies focus on two factors that seem to play a role in determining who gets type 1 diabetes:

- **Genetics.** People with diabetes are more likely to have inherited certain genes that make them vulnerable to the disease.

- **Environment.** Something sets off, or “triggers,” the autoimmune process in a person with a genetic tendency toward diabetes. The trigger could be a virus, a chemical, stress, or something else the person encounters in daily life.

It’s important to know that lifestyle choices—what you eat, how much you exercise, and so on—seem to have nothing to do with the development of type 1 diabetes.

How does type 1 develop?

Although it might seem like your diabetes happened suddenly, it has probably been developing gradually over the last few months or years. The graph below shows how scientists view the onset of type 1.

Can we prevent type 1?

Unfortunately, since we don’t fully understand how genetic and environmental factors work together to cause type 1 diabetes, we can’t prevent the disease.
Understanding Diabetes  Quick Quiz

True or false?

true  false   Diabetes is a life-long disease that can’t be cured.
true  false   Your body needs insulin to help move glucose into your cells.
true  false   Untreated diabetes causes high blood glucose.
true  false   Type 1 diabetes is caused by an autoimmune process that attacks the pancreas.
true  false   High levels of ketones are good for your body.
true  false   Diabetes comes on suddenly—but if you have a “honeymoon” phase where you need less insulin, you’re probably on your way to recovery.

Circle the correct answer:

What do your cells use for fuel?
A. Insulin
B. Glucose
C. Ketones
D. Immunities

What hormone acts like a key to unlock your cells and move glucose from your bloodstream?
A. Thyroid
B. Glucose
C. Ketones
D. Insulin

Which organ in your body normally produces insulin?
A. Liver
B. Stomach
C. Pancreas
D. Kidneys

Which factors seem to play a role in the development of type 1 diabetes? (Circle all that apply.)
A. Eating habits, particularly how much sugar you eat
B. Environmental triggers such as a virus
C. Body weight
D. Genetics (inherited genes)

As a treatment for diabetes, how is insulin usually taken?
A. As a pill
B. In a patch
C. As a liquid that you swallow
D. In an injection (shot)

Answers: true; true; true; true; false; false; B; D; C; B and D.
Monitoring Blood Glucose

Monitoring your blood glucose is an important part of your daily care. This section helps you get started with monitoring.

Normal blood glucose regulation

Blood glucose levels naturally vary. They rise after a meal, then go down as the body uses up the glucose provided by the food. Here’s how it normally works:

- As your blood glucose starts to rise after a meal, the pancreas responds by releasing insulin. The insulin moves the glucose out of the bloodstream and into the cells to be used for energy. This prevents blood glucose from getting too high.

- When your blood glucose gets low—as can happen when you don’t eat for a while—the liver responds by releasing extra glucose into your bloodstream.

With insulin helping glucose get into the cells, and the liver preventing blood glucose from dropping too low, blood glucose levels can stay within a healthy range.
Blood glucose regulation with diabetes: your target range

If your pancreas isn’t producing any insulin, you have to rely on insulin shots to help you maintain healthy blood glucose levels. You’ll still have ups and downs throughout the day, but they should stay within your target range.

Blood glucose is measured in milligrams per deciliter, or mg/dL. Find your target range for blood glucose levels below:

**Babies and young children**
(younger than age 6)
Target range: 100 to 200 mg/dL

**School-age children**
(ages 6 to 12 years)
Target range: 80 to 150 mg/dL

**Adolescents**
(ages 13 to 19 years)
Target range: 70 to 150 mg/dL
Checking your blood glucose

Now that you have diabetes, you need to check your blood glucose regularly, every day. This is the only way you can know how much insulin or food to take at different times.

**How do I check my blood glucose?**

To check your blood glucose, you need to prick your finger to get a tiny sample of blood, then use a small machine called a glucose meter to read the sample and display your blood glucose level.

There are many different meter models to choose from. Your doctor or diabetes educator will help you get a meter and show you how to use it. It may take some practice. Follow the directions that come with your meter.

**How often do I check my blood glucose?**

Your doctor or diabetes educator will tell you when and how often to check. You may need to check more often now, right after your diagnosis, than you will once you’ve been treated for a few weeks. Here are some common times to check:

- Before every main meal: breakfast, lunch, and dinner
- At bedtime
- In the middle of the night (for the first few days or so, as your doctor suggests)

Your doctor may ask you to check at other times as well, for example before snacks or after meals. Write down your blood glucose level each time you check. Use the log book that comes with your blood glucose meter.

**MyPlan is hands-on…**

Use the MyPlan pages 42 and 43 to write down:

- **WHEN** to check your blood glucose
- **YOUR TARGET RANGE** for daytime and bedtime

**AND REMEMBER** to record your blood glucose level each time, using the log that comes with your meter.
Monitoring Blood Glucose  Quick Quiz

True or false?

true  false  People with diabetes need to check their blood glucose levels to make sure they stay in a safe, target range.
true  false  It’s normal for blood glucose levels to go up and down throughout the day.
true  false  Normally, blood glucose drops after a meal.
true  false  The liver releases stored glucose to prevent blood glucose from dropping too low.

Circle the correct answer:

What device allows you to check your blood glucose at home?
A. Thermometer
B. Syringe
C. Glucose meter
D. Insulin pen

Based on your age, what is the target range for your blood glucose levels?
A. 100 to 200 mg/dL
B. 80 to 150 mg/dL
C. 70 to 150 mg/dL
D. 200 to 300 mg/dL

What are some common times for a person to check blood glucose?
A. Before every main meal: breakfast, lunch, and dinner
B. At bedtime
C. In the middle of the night
D. All of the above

Quick Quiz answers: true; true; false; true; C; correct answer varies; D.
Taking Insulin

If your own pancreas isn’t producing the insulin you need, you’ll have to take insulin. For most people, this means several shots (injections) every day. This section tells you what you need to know to get started with this important part of your care.

When do I take insulin—
and how much do I take?

Your insulin regimen (plan) depends on your age, weight, and other factors. Your doctor will tell you what type of insulin to take, when to take it, and how much to take. Keep in mind that it may take some time for you and your doctor to find the regimen that works best for you.

As you learn to take your insulin, it’s helpful to know that one of your doctor’s goals is to prescribe insulin in a way that closely resembles normal insulin production in the body (shown below). This means that:

• You need a small amount of insulin in your body at all times. This is called basal insulin.

• You need more insulin with a meal. This extra surge of insulin is called a bolus amount.

The next page explains how doctors prescribe different types of insulin to mimic the normal (non-diabetes) pattern above.

MyPlan is hands-on…

Use the MyPlan pages 42 and 43 to write down the details of your insulin regimen:

• TIME to take insulin
• TYPE of insulin to take
• HOW much to take (dose)
• WHEN AND WHY to adjust the normal dose

ALWAYS follow your doctor’s dosing instructions—and call your doctor, diabetes educator, or pharmacist if you have questions.
What are the types of insulin?

There are three general types of insulin. The table below describes them. You’ll see key differences in how they work to make sure that both your basal and bolus insulin needs are met.

<table>
<thead>
<tr>
<th>Insulin types and their action in the body*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insulin type, brands</strong></td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>Long-acting</strong></td>
</tr>
<tr>
<td>• glargine (Lantus)</td>
</tr>
<tr>
<td>• detemir (Levemir)</td>
</tr>
<tr>
<td><strong>Short-acting (also called “rapid-acting”)</strong></td>
</tr>
<tr>
<td>• aspart (NovoLog)</td>
</tr>
<tr>
<td>• glulisine (Apidra)</td>
</tr>
<tr>
<td>• lispro (Humalog)</td>
</tr>
<tr>
<td><strong>Intermediate-acting</strong></td>
</tr>
<tr>
<td>• NPH (Novolin N, Humulin N)</td>
</tr>
</tbody>
</table>

*Keep in mind that the action of any insulin can vary from person to person. It also depends on dose, site of the injection, temperature, and physical activity.

For most patients with type 1, doctors prescribe a regimen that combines different types of insulin. The most common regimen uses both long-acting and short-acting insulin. The graphs below show how this regimen mimics normal insulin production.

What is a correction dose?

If your blood glucose is too high, you may need to add extra short-acting insulin to “correct” your high blood glucose. **Correction doses** are usually given as needed at meal times and bedtime, and shouldn’t be given more often than every 3 to 4 hours. Your doctor may give you this information as part of your insulin regimen.

MyPlan is hands-on...

Use the MyPlan page 42 to write down:

• YOUR CORRECTION DOSE of insulin
All about injections

Giving an injection—to yourself or to someone else—might be scary at first. You may worry about doing it wrong or worry that it will hurt. This section can help. It gives you the information, steps, and tips you need to learn this new skill. With practice, patience, and the help of your healthcare providers, you’ll soon feel more comfortable.

Insulin syringes

To inject your insulin, you’ll use disposable (throw away) syringes. The syringe needles are short, thin, and very sharp. This helps the needles go in easily—and makes the shots less painful.

There are several different brands of insulin syringes. There are syringes with different needle lengths and different widths (gauges). Your doctor or diabetes educator will give you some syringes to take home. Eventually, you’ll need to buy more. See page 38 of this book for information on buying syringes. For now, as you first learn to take insulin, you only need to keep the following in mind:

- **LOOK** at the lines and numbers on the barrel of the syringe. These show the amount of medication inside. You need to look carefully to make sure you’re getting the right amount (dose) of insulin for each injection.

- **DON’T** re-use your insulin syringes. This helps ensure that the syringe is sterile (clean) and that the needle is very sharp every time.

- **DO** throw them away in a heavy container that the needles won’t poke through—like an empty coffee can or a plastic bleach container.

See page 38 for more information on syringes.
How to draw up insulin

“Drawing up insulin” means putting the insulin in the syringe for an injection. To get the right dose and to reduce the pain of the injection, follow these steps carefully.

1. Get everything you need: insulin bottle, syringe, alcohol wipe, and your daily record log to write down the dose. (A log book is included with your blood glucose meter.)

2. Wash your hands with soap and water.

3. Write down the dose of insulin in your daily record.

4. Check the insulin. First, make sure you’ve got the right bottle (the right type of insulin). Second, check the insulin for any discoloration, cloudiness, or sediment (stuff sitting on the bottom or floating around inside). If you see any of these, throw the insulin away and use new insulin.

5. Wipe the top of the bottle with an alcohol wipe.

6. Pull back the plunger on the syringe to draw in enough air to equal your insulin dose (use the lines and numbers on the barrel of the syringe), then push the needle into the bottle and inject the air into the bottle. (This prevents the vacuum inside the bottle from sucking the insulin back out of the syringe.)

7. With the needle in the bottle, turn the bottle and syringe upside down. First draw up insulin past your correct dose. Then, slowly push on the plunger to the line of your correct dose of insulin.

8. Before withdrawing the needle from the bottle, check for air bubbles. If you notice any, tap the syringe so that the bubbles float to the top. Pull the plunger past your dose again and slowly push in the plunger until all bubbles are gone. Repeat as needed to get rid of air bubbles, then withdraw the needle from the bottle.

9. If the insulin has been stored in the refrigerator, warm the syringe by holding it in your closed hand for a minute or so. Injections hurt less if the insulin is warm.

10. Inject the insulin, following the instructions on the facing page.
How to give an injection

You need to inject insulin just below the skin, into the fat layer—not into a muscle or a blood vessel. This makes sure that the insulin works in the right way in your body. Here are the basic steps for injecting insulin:

1. **Choose the place on your body where you will inject the insulin.** This area is called the injection site. See page 21 for information on injection sites.

2. **Make sure the area is clean.** If it isn’t, wash it with soap and water. As a general rule, don’t use alcohol to clean the site. This dries and toughens the skin. Of course, if you’re camping or someplace where you can’t wash, it’s okay to use an alcohol swab.

3. **Lift up (pinch) about an inch of the skin and fat tissue with your thumb and fingers.**

4. **Holding the syringe like a pencil, touch the needle to the skin, then push it into the skin.** Push it straight in, not at an angle—and make sure the needle is in all the way. You might feel a sting.

5. **Once the needle is in the skin, let go of the pinch of skin.**

6. **Push the plunger of the syringe down slowly and steadily, all the way.**

7. **When the plunger is all the way down, count to 5 slowly before removing the needle.** This helps prevent insulin from leaking out of the site.

8. **Press your finger over the site for a few seconds.** This helps stop any bleeding that can happen when you pull out the needle.
How to use an insulin pen

In addition to a syringe, your healthcare providers may have you use an insulin pen. Insulin pens can be more convenient to use. But you have to use them correctly to make sure you’re getting the right amount of insulin. Here are the steps to follow.

1. Check the pen before you use it.
   - Make sure the dosage dial turns easily.
   - Look at the amount of insulin in the cartridge—is there enough for your dose?
   - Check the insulin for any discoloration, cloudiness, or sediment (stuff sitting on the bottom or floating around inside). If you see any of these, throw the pen or cartridge away and use another.

2. Attach a new needle to the pen. Using a new needle every time helps make sure you get the right amount of insulin. (A re-used needle can clog, and leaving the needle in the pen between injections can cause leaking and air bubbles.)

3. Prime the pen—this is important!
   - Dial up 2 to 4 units of insulin, remove the needle cover, and point the pen upward.
   - Tap the cartridge until any bubbles rise to the top.
   - Prime the pen by pressing the injection button down all the way. If you don’t see a stream of insulin, repeat until insulin does come out of the needle.

4. Inject the insulin following steps 1 through 5 on the previous page: choose your injection site, clean the site, pinch up some skin, insert the needle straight into the fatty tissue, and let go of the pinch of skin.

5. Press the injection button down all the way, counting to 5 slowly before removing the needle. For larger doses of insulin, you may need to count to 10 before removing the needle. In general, it takes a bit longer for insulin to come out of a pen than out of syringe. If there’s insulin dripping from the needle when you pull it out, that’s a clue that you need to leave it in longer next time.
Injection sites

There’s no single “best place” on your body for an injection. There are a few suitable areas on your body, and each has room for several sites. Since you’ll be getting several shots each day, you’ll need to switch between areas and sites to keep scar tissue from building up.

The picture below shows the suitable areas (abdomen, back of the upper arms, thighs, and buttocks) and the possible sites on each.

About absorption: How quickly insulin is absorbed (goes to work in your body) partly depends on what you do right after the injection.

- If you exercise the part of your body where you’ve just received an injection—for example, you play tennis right after an injection in your serving arm—you’ll speed up the absorption rate.

- Similarly, if you go in a hot tub or take a warm bath or shower right after an injection, you’ll also speed absorption.

Be aware of this as you prepare to inject your insulin. Faster absorption may put you at risk for hypoglycemia. Most of the time, it’s best to avoid both of these situations.
**Taking Insulin  Quick Quiz**

**True or false?**

- true    false  Insulin raises your blood glucose.
- true    false  People with type 1 diabetes may not need insulin injections.
- true    false  You need some insulin in your body at all times.
- true    false  It’s important to inject insulin directly into a muscle.

**Circle the correct answer:**

What is the term describing the use of insulin to cover your mealtime needs?

A. Basal  
B. Glucose  
C. Bolus  
D. Hormonal  

What is the term for the extra short-acting insulin you take if your blood glucose is too high?

A. Correction dose  
B. Low dose  
C. Basal dose  
D. Long-acting dose  

Where are some appropriate sites to inject insulin into your fatty tissues? (Circle all that apply.)

A. Abdomen  
B. Thighs  
C. Buttocks  
D. Back of the upper arms  

Whether you’re using a syringe or a pen, which is an important step BEFORE you inject insulin?

A. Count to 15  
B. Check the type and amount (dose) of insulin in the pen or syringe  
C. Press on the injection site  
D. Exercise the area you’re injecting  

Before removing the insulin needle from the injection site, you should count to _____.

A. 60  
B. 30  
C. 20  
D. 5

**Answers:** false; false; true; false; C; A; all are correct; B; D.
Eating Well, Being Active

Diabetes won’t necessarily change how you eat, play, or exercise. But you might need to pay a bit more attention to these activities, since food and physical activity affect your blood glucose. This section tells you what you need to know to eat well and stay active with diabetes.

The basics of eating well with diabetes

In years past, diabetes treatment meant strict control over your daily diet. But that’s no longer the case. Thanks to newer insulin types, you and other kids with diabetes can be flexible in your eating habits. You can eat as much or as little as you need to satisfy your hunger. For you, meal planning is more about these basic principles:

- **Eat a variety of foods.** This is the best way to make sure you’re getting the energy, vitamins, and minerals you need to grow, play, work, and stay healthy.

- **Allow yourself treats once in a while—but don’t overdo it.** There are no “bad foods” or “good foods” in your meal plan. But just like everybody else, you need to make healthy choices.

- **Try to stick to a schedule.** Have your meals and snacks at about the same time every day, and don’t “graze” in between.

- **Pay attention to carbohydrates (carbs) in your meals and snacks.** Food is made up of three main nutrients: fat, protein, and carbohydrate. Of these, carbs have the biggest effect on your blood glucose. For this reason, you need to match your insulin intake to your carbohydrate intake (“cover” your carbs). You can do this by carefully measuring your insulin doses and counting carbs in your meals and snacks.

How do you count carbs? For now, just look up the carbohydrate amount of foods in a guidebook or on the nutrition label. At first you may need to measure your portion sizes as well. Your doctor or diabetes educator can help you with this. It may seem like a hassle, but be patient—it will get much easier as you go.

Beyond the basics...

In the weeks to come, you may meet with a registered dietitian (R.D.). An R.D. can answer your questions, teach you more about diabetes nutrition, and work out a meal plan for you.
The Diabetes Food Guide Pyramid: eating well at-a-glance

This pyramid chart can help you follow the principles described on the previous page. **It’s a picture of what it means to eat a variety of foods, fit in a few treats, and pay attention to carbohydrates.** You’ll see that:

- There are no “good” or “bad” foods in your meal plan. Variety is the key to healthy eating.
- The foods at the bottom of the pyramid—grains, vegetables, and fruits—should be most plentiful in your daily diet. Foods at the very top, such as sweets, should be occasional treats.
- The food groups that are shaded to either side of the pyramid have the most effect on blood glucose. These are the carbs that you are most likely to need to “cover” with insulin.

---

**sweets**
- carbohydrate

**fats**

**milk and yogurt**
- carbohydrate

**protein**
- meat, eggs, cheese

**vegetables**

**starches**
- carbohydrate

**fruit**
- carbohydrate

**starchy vegetables:** corn, peas, potatoes

**free foods . . .**
- foods less than 20 calories, or less than 5 grams of carbohydrates

**snacky foods**
- carbohydrate

**bread, cereal, rice, pasta**
Carb-counting tools

In the coming weeks and months, you’ll learn more about counting carbohydrates and about other principles of eating well with diabetes. Here are a few of the Intermountain tools available to you and your healthcare team:

- **Living Well, Eating Well with Diabetes**
  A complete guide for kids and families facing diabetes—available from your healthcare team or from Primary Children’s Medical Center by calling 801.662.5303

- **Carb Counselor: advice and tools for counting carbs**
  A pocket-size booklet available from your healthcare team or online at www.intermountainhealthcare.org/diabetes

- **Food Finder**
  A foldout poster showing diabetes food groups and sample portions available from your healthcare team or online at www.intermountainhealthcare.org/diabetes

- **Meal Plan**
  A tool to help you and your healthcare team devise a meal plan that fits your needs and food preferences. Available from your team or online at www.intermountainhealthcare.org/diabetes

- **Let’s Talk About...Food choices for good health**
  A handout available from your healthcare team or online at www.intermountainhealthcare.org/diabetes

For more resources, check out the organizations listed on page 55.

Physical activity

Physical activity is good for everyone. So, like everyone else, you should aim for at least 30 minutes of play or exercise every day. Just keep in mind that physical activity makes your cells burn more glucose than if you were just sitting around. To prevent a blood glucose low, you may need to cut down your insulin or increase your carbohydrate during or after exercise. Follow these tips for healthy exercise:

- Check your blood glucose before you exercise to know if you should eat a snack first
- Keep some carbohydrate snacks on hand to treat low blood glucose
- Drink plenty of water during exercise or hard play
- Keep track of how exercise affects your blood glucose, and discuss it with your doctor or diabetes educator at your next visit

Some active people — especially those on sports teams or in dance groups, for example — may need to adjust their care on the days they practice, compete, or perform. Talk to your diabetes team, and fill out the sports day instructions on page 45 if you need to.
See how well you've absorbed the big ideas about food and fitness with diabetes.

Eating Well, Being Active Quick Quiz

True or false?

true  false  People with diabetes can’t eat sugar.
true  false  People with diabetes must limit exercise.
true  false  What you eat and how hard you play or exercise can affect your blood glucose.

Circle the correct answer:

Which food nutrient affects blood glucose the most?
A. Fat
B. Protein
C. Vitamins
D. Carbohydrate

Why do you need to learn to count carbs (carbohydrates) in your food?
A. To know how much insulin to take
B. To get enough vitamins
C. To choose the right type of insulin to take with meals
D. To improve your math skills

Which of these should you combine with exercise or active playtime?
A. Keep track of how physical activity affects your blood glucose, and talk it over with your doctor or diabetes educator at your next visit
B. Keep some carbohydrate snacks on hand to treat blood glucose lows
C. Drink plenty of water
D. All of the above

Quick Quiz answers: false; false; true; D; A; D.
Treating and Preventing LOW Blood Glucose (Hypoglycemia)

Low blood glucose (hypoglycemia) is when your blood glucose level drops below your target range. It can be dangerous. Without treatment, you can pass out, have seizures—even die. This section tells you what you need to know to treat and prevent low blood glucose.

What causes low blood glucose?
There are several reasons why your blood glucose might drop too low:

- Too much insulin
- Skipped or late meal
- Insulin injected into an arm or leg that’s exercised right afterward (for example, you inject into your throwing arm right before playing baseball)
- Too little food
- Playing or exercising for a longer time than usual

What does it feel like (or look like)?
Low blood glucose can cause these symptoms:

- Shakiness
- Dizziness
- Hunger
- Weakness, sleepiness
- Moodiness, irritability
- Confusion
- Headache
- Sweatiness
- Fast heartbeat

Watch for lows...

It's especially important to watch for low blood glucose during the first few weeks of treatment. You and your doctor are still learning how your body responds to treatment—and your response may change. Check your blood glucose as often as your doctor suggests, or any time you have symptoms.
What if my child can’t eat or drink—or has passed out or is having seizures?

Give a glucagon injection, and consider calling 911. Severely low blood glucose is dangerous—so give glucagon immediately, without waiting to test blood glucose.

What can I do to treat low blood glucose?

If you think your blood glucose is low, do this right away:

1. **Test** blood glucose if you can. This helps make sure that the symptoms are coming from low blood glucose, not something else.

2. **Treat** with the “15 – 15” rule if your blood glucose is below target, or you have symptoms of low blood glucose:
   - **TAKE** 15 grams of quick-sugar carbohydrate. See the list at the bottom of the page for some examples. (NOTE: if the person can’t eat, drink, or respond—or if the person has passed out or is having seizures, it probably means that blood glucose is severely low. Follow the glucagon instructions on pages 53 and 54 of the MyPlan section at the end of this book.)
   - **WAIT** 15 minutes after taking a quick sugar source, then re-check blood glucose. If blood glucose is still low, eat another 15 grams of quick-sugar carbohydrate until your blood glucose starts to rise.

3. **When blood glucose is back up in your target range, rest** for 15 to 20 more minutes before returning to normal activity. If your next meal is more than an hour away, **have a snack** of peanut butter, cheese, crackers, a meat sandwich, or a glass of milk.

MyPlan is hands-on...

Use MyPlan pages 53 and 54:

- **READ** the glucagon instructions
- **PRACTICE** giving an injection
- **SHARE** the instruction sheet and extra glucagon kit(s) with teachers or other caregivers for use in an emergency

Low before mealtime?

If you have low blood glucose right before mealtime, take the 15 grams of quick sugar as you would at other times, then eat your meal as planned.

Quick-sugar sources

The following quick-sugar sources each contain about 15 grams of carbohydrate:

- ½ cup fruit juice or punch (NOT sugar-free)
- 3 to 4 glucose tablets, or 1 tube glucose gel
- 1 tablespoon brown sugar, honey, or corn syrup
- 1 fruit roll-up
- ½ cup regular soft drink (not diet)
- 8 Lifesavers candies (not sugar-free)
- 2 tablespoons raisins
- 3 to 5 pieces hard candy
- 11 jellybeans

NOTE: If these foods aren’t available, any carbohydrate source will work. However, candy bars, cookies, and other higher-fat options are poor sources of quick energy—the fat slows down digestion of carbohydrates. High-fiber foods (such as many fresh fruits) also slow digestion.
Preventing nighttime lows

Low blood glucose can happen at any time of day. But it may be more likely to happen during sleep, when you go for several hours without eating. It’s also more of a risk early in your treatment, as your body adjusts to your new insulin regimen. Here are a few steps you can take to help prevent low blood glucose during the night.

- **Check blood glucose at bedtime.** You need to make sure that your blood glucose is high enough to sustain you through the hours you’re asleep. Most children and teens should aim for a bedtime blood glucose of over 100 mg/dL. If you hit this bedtime target, you can go to sleep as usual.

- **If bedtime blood glucose is less than 100 mg/dL...**
  - **Have a nighttime snack.** (If a snack is already part of your daily schedule, add some carbohydrate to the snack.) Choose a snack from the list below—the items in this list have a bit of fat or protein along with the carbohydrate, and will sustain you longer than a quick-sugar source will.
  - **Re-check your blood glucose in 1 to 2 hours.** You can go to sleep after the snack—you’ll just need to wake up to re-check.

---

Nighttime snacks

These snacks contain about 15 grams of carbohydrate plus some fat, protein, fiber, or other nutrients.

- 8 ounces (1 cup) milk
- 1 container light yogurt
- 1 small piece of fruit and cheese
- ½ cup ice cream
- 4 ounces (½ cup) chocolate milk
- 3 graham cracker squares
- 7 Saltine crackers with peanut butter
- 6 Ritz crackers
- 1 slice of bread

---

Take exercise into account.

Your muscles must replenish the store of glucose they’ve used during exercise, and they do this by drawing glucose from the bloodstream. This process can take hours—which is why you can have hypoglycemia up to 12 hours after exercise, even though blood glucose was normal (or even high) right after exercise.
Low blood glucose can be dangerous. How well do you understand what you can do to treat and prevent it?

**Treating and Preventing LOW Blood Glucose (Hypoglycemia)**

**Quick Quiz**

**True or false?**

- True    False   Very low blood glucose is healthy.
- True    False   Eating too many carbohydrates can cause low blood glucose.
- True    False   Low blood glucose can make you feel weak and dizzy.

**Circle the correct answer:**

What can cause low blood glucose? (Circle all that apply.)

- A. Skipped or late meal
- B. Testing blood glucose often
- C. Particularly hard exercise or play
- D. Too much insulin

What is a symptom of low blood glucose? (Circle all that apply.)

- A. Headache
- B. Moodiness or irritability
- C. Weakness
- D. Dizziness

What should you do if your blood glucose is too low?

- A. Take additional insulin
- B. Exercise vigorously
- C. Eat a carbohydrate snack
- D. Take a nap

What emergency medication should you inject to treat very low blood glucose when the person can’t swallow or respond?

- A. Lantus
- B. Blood thinner
- C. Insulin
- D. Glucagon

What things should you do at bedtime to prevent a nighttime low?

- A. Check your blood glucose
- B. Consider the day’s exercise and other physical activity
- C. Adjust the bedtime snack if blood glucose is low
- D. All of the above
Treating and Preventing HIGH Blood Glucose (Hyperglycemia)

High blood glucose (hyperglycemia) is when your blood glucose level goes above your target range. It tends to come on slower than low blood glucose, but without treatment, you can get quite sick. This section tells you what you need to know to treat and prevent high blood glucose.

What causes high blood glucose?
There are several reasons why your blood glucose might go too high:
- Skipped insulin dose
- Too little insulin
- Eating more carbs than your insulin dose can cover
- Illness, infection, or fever
- Emotional stress
- Less physical activity than usual

What does it feel like (or look like)?
High blood glucose can cause these symptoms:

- Frequent urination (peeing)
- Extreme thirst
- Moodiness, irritability
- Drowsiness
- Extreme hunger
- Nausea
- Blurry vision

Watch for highs...
During the first 2 weeks after your diagnosis, you’ll talk to your doctor or diabetes educator regularly to report your blood glucose readings and make insulin adjustments. If your blood glucose is high, report this to your doctor at your next scheduled phone call or visit. (If your glucose is over 300 mg/dL, follow the instructions on the following pages.)
What can I do to treat high blood glucose?

If you think your blood glucose is high, do this right away:

1. **Check** blood glucose. This helps make sure that the symptoms are coming from high blood glucose, not something else.

   **If your blood glucose is high, take your correction dose of insulin.** Follow your doctor’s instructions for taking this dose. Correction doses are usually given as needed at mealtimes and bedtime, and not more frequently than every 3 to 4 hours.

2. **If your blood glucose is over 300 mg/dL at least twice in a row (checking at your regular times), also check for ketones in your urine.** Use the ketone test strips (such as Keto-Diastix and Chemstrip uK) from the pharmacy. Follow the instructions exactly—collect urine in the sample cup, dip the strip in the urine, and wait 60 seconds before matching the strip to the color chart to see if you have ketones.

3. **If ketones are present:**
   - **and if you are NOT vomiting (throwing up)…**
     - Take your correction dose if you haven’t already done so.
     - Drink plenty of water.
     - Re-check your urine for ketones every 2 to 4 hours until they are negative.
   - **and if you ARE vomiting (throwing up)…**
     - Call your doctor or diabetes educator for advice.
     - Take your correction dose if you haven’t already done so.
     - Drink plenty of water.
     - Re-check your urine for ketones every 2 to 4 hours until they are negative.

4. **Report** your high blood glucose reading to your doctor at the next scheduled phone call or visit.

---

**Urine ketones or blood ketones?**

You can check for ketones in either your urine or your blood. However, during the first two weeks after diagnosis, you’ll likely check urine ketones.

**MyPlan is hands-on…**

Use **MyPlan** page 42:
- **RECORD** your correction dose of insulin
What about DKA (diabetic ketoacidosis)?

If you have high blood glucose, ketones, and dehydration, you can have a serious condition called diabetic ketoacidosis (DKA). You might be able to treat very mild DKA at home with the instructions for treating high blood glucose (see page 32). However, with more severe DKA you might have to go to the hospital or clinic for intravenous fluids and insulin. DKA can become a medical emergency.

Besides high blood glucose and ketones, DKA can come with these symptoms:

- Chills, fever
- Deep, labored breathing—called “Kussmaul respirations”
- Sweet, fruity-smelling breath
- Dehydration (dry mouth, dry eyes, little or no urination, dark circles under the eyes)
- Tenderness or pain in your stomach area
- Confusion, slowness, or drowsiness

Call your doctor or diabetes educator if you have vomiting or the symptoms above along with blood glucose over 300 mg/dL and ketones. Your doctor can decide whether you should treat it at home—or whether you need to go to a hospital.

Remember...

- Prevent hyperglycemia and DKA by following your diabetes treatment plan, including insulin and regular blood glucose checks.
- Treat high blood glucose by taking your correction dose of insulin and following other instructions in this book or from your doctor.
- Communicate with your doctor about recurring high blood glucose, or about a very high reading with sickness or symptoms. You may need advice to keep a bad situation from getting worse.

MyPlan is hands-on...

Use MyPlan page 42:
- RECORD the phone numbers of your diabetes team—the medical professionals you can call for advice about diabetes care
Treating and Preventing HIGH Blood Glucose (Hyperglycemia)  

**Quick Quiz**

**True or false?**

- true  false  Untreated high blood glucose can develop into diabetic ketoacidosis (DKA).
- true  false  Exercise usually causes high blood glucose.
- true  false  High blood glucose can make you feel thirsty and hungry.

**Circle the correct answer:**

What can cause high blood glucose? (Circle all that apply.)

- A. Skipped or late meal
- B. Testing blood glucose often
- C. Skipped insulin dose
- D. Insulin injected into a limb used in exercise

What is a symptom of high blood glucose? (Circle all that apply.)

- A. Hunger
- B. Frequent urination (peeing)
- C. Thirst
- D. Nausea

What should you do if your blood glucose is too high?

- A. Take additional insulin (correction dose)
- B. Take glucagon
- C. Eat a carbohydrate snack
- D. Take a nap

When do you need to test for ketones?

- A. Right before meals
- B. Right after meals
- C. Every time you check your blood glucose
- D. When your blood glucose reading is over 300 mg/dL two times in a row, or when you’re sick

What should you do if you have high blood glucose and ketones—and you’re vomiting (throwing up)?

- A. Take a correction dose of insulin
- B. Drink a lot of water
- C. Call your doctor or diabetes educator right away
- D. All of the above

---

**Answers:** true; false; true; C; all answers are correct; A; D; D.
Taking Care of Yourself at SCHOOL

Most kids spend a lot of time in school or daycare. This section tells you what you need to know and do to get the support you need at school.

What you need to know: school responsibilities

School districts and staff must provide an individualized plan to accommodate a student’s special healthcare needs. Two federal laws apply:

- **The Education for All Handicapped Act of 1975** entitles all physically, developmentally, emotionally, and other health-impaired children to free, appropriate public education. Any school that receives federal funding or facility considered open to the public must reasonably accommodate the special needs of children with diabetes.

- **Section 504** is a civil rights law that makes it illegal for any agency or organization that receives federal funds to discriminate in any way against qualified people with disabilities.

Staff at most schools are aware of their obligation to support your daily diabetes care—including helping with monitoring and medication. Still, they’ll rely on you and your family to communicate your needs, teach how to meet them, and provide the tools to do so.

What you need to do: prepare the school staff

- **Make sure your doctor completes and signs the Medical Authorization Form (page 47) before you leave the hospital or clinic.** This form allows you to carry and receive your medication at school. Note that different school districts have different forms that you may also need to complete in the coming weeks.

- **Contact your school or district nurse.** (The school secretary can help you contact the nurse.) Discuss diabetes with the school nurse. The nurse can give you any additional forms and make sure that you have the support you need for your daily diabetes care.

- **Make an appointment with your teacher, coach, and school counselor** to discuss diabetes care at school and after school. Give each a packet that includes:
  - Copies of pages 47 to 54 in the MyPlan section: Medical Authorization Form, Teacher information about diabetes, Instructions for low blood glucose, Glucagon sheet
  - Glucose gel or tablets
  - Glucagon kit (see page 40)

MyPlan is hands-on…

Use the MyPlan pages 47 to 54:

- **MAKE COPIES** of these pages to share with your teacher, coach, counselor, and school or district nurse. Along with supplies to treat low blood glucose (glucose gel or tablets, glucagon kit), these sheets will help you get the support you need for your diabetes care.
Taking Care of Yourself on a SICK DAY

You have to take extra care of yourself on a day when you have a cold, another illness, an injury, or extra stress. Your doctors or diabetes educators may call such a day a “sick day”—and they’ll likely have some special instructions for you. This section gives you the basics for self-care on a sick day.

How does a sick day affect my diabetes?

Illness, injury, and stress affect people in different ways at different times. Still, it’s generally true that on a sick day, your blood glucose is likely to be high. This is the case even when you’re not eating much or are vomiting. That’s why you may need to increase your insulin until you’re feeling better. Follow the guidelines below.

What should I do on a sick day?

For the first sick day after your diabetes diagnosis, call your doctor or diabetes educator for advice. When you call, have this information handy:

- Current blood glucose level
- Current ketones (urine or blood)
- Current illness, injury, or problem

Your providers can talk you through the basics of sick-day care. It usually includes ketone testing, checking blood glucose more frequently, drinking plenty of fluids, and adjusting insulin as necessary.

Guidelines for sick-day care appear in the MyPlan section that begins on page 45. They’re here for your future reference—remember to call your doctor or diabetes educator for the first sick day.
Handling Insulin and Diabetes Supplies

Having diabetes means getting used to new supplies and new medication. This section gives you some tips for managing these tools.

Supplies list

You may receive some of the things you need (like insulin and a glucose meter) at the time you’re diagnosed. But you’ll need to get more diabetes supplies sooner or later. You can find most of these needed items at a pharmacy (drug store) or a diabetes supply store:

- **Insulin** (you’ll likely have 2 different kinds, so you’ll have 2 prescriptions to refill)
- **Syringes**
- **Pen needles** (if you’re using an insulin pen)
- **Lancets**
- **Strips for your blood glucose meter**
- **Alcohol wipes**
- **Glucagon kit**
- **Glucose gel or tablets**
- **Glucose test strips for your glucose meter**
- **Urine ketone test strips**
Syringes

You’ll need to buy syringes for everyday use. You’ll also need to throw out the used syringes in a safe way.

Choosing a syringe

Insulin syringes come in several sizes. When buying syringes, keep these things in mind:

- **Needle gauge:** The gauge of the needle means its width, or thickness. Insulin syringes range from 28 gauge to 31 gauge, and the larger the number the smaller the gauge. (An Ultrafine II brand needle is the smallest, and the Ultrafine is the next size up.) Smaller, thinner children may do well with the smaller gauge needle. Some older and larger children may prefer the larger needle.

- **Needle length.** Common needle lengths are 12.7mm (½”) and 8mm (5/16”). The 8 mm needle is called “short” and is the length that most people prefer.

- **Barrel size:** The barrel size determines how much insulin the syringe can hold. Buy a barrel size that best matches your standard insulin dosage. For example, a 3/10 cc syringe is best for 30 units or less, ½ cc syringe is best for 30 to 50 units, and a 1cc syringe is best for injections of 50 to 100 units. To make sure you have the size you need, always check the box before you leave the pharmacy. When you draw up insulin, look closely at the markings on the barrel, especially whenever you change syringe sizes. The markings will be different, and you need to make sure you’re drawing up the right dose.

- **Use each syringe just once.** This helps ensure that the syringe is sterile (clean).

- **Throw away used needles.** There are a couple of ways to do this:
  - **Use a needle clipper to snip the needle off the syringe.** The clipper safely stores the used needle, and you can throw away the rest of the syringe in the trash.
  - **Throw away the whole syringe** in a heavy container that the needles won’t poke through—like an empty coffee can or a plastic bleach container. Or, if local or state law requires it, use a special disposal container and keep it separate from the rest of your household garbage.
Insulin

To make sure your insulin is working in the right way, you need to store and handle the bottles of medication properly.

Insulin storage and handling

Insulin loses its potency (effectiveness) if it’s not stored and handled correctly. Here are DOs and DON'Ts for storing and handling the bottles:

<table>
<thead>
<tr>
<th>DO: Store insulin bottles you’re not using in your refrigerator. (You can keep the bottle you’re currently using at room temperature for up to 28 days.)</th>
<th>DON'T: Leave bottles on windowsills or heaters, or let sunlight shine directly on the bottle. Don’t let insulin get colder than 36°F or warmer than 86°F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO: Throw away an insulin bottle that has been open or unrefrigerated for more than 28 days, even if there’s still some left in the bottle.</td>
<td>DON'T: Shake an insulin bottle vigorously.</td>
</tr>
<tr>
<td>DO: Check the expiration dates on your insulin bottles, and throw away any that are past the date.</td>
<td>DON'T: Use expired insulin or insulin that shows any of the signs listed at right.</td>
</tr>
<tr>
<td>DO: Consider marking your current insulin bottles so that you can see at a glance which type of insulin — long-acting or short-acting — you’re holding. You can mark your insulin by, for example, using a marker to drawing a ring on the label, putting a rubber band around the bottle, or putting a sticker on the bottle.</td>
<td></td>
</tr>
</tbody>
</table>

Insulin prescription labels

When you start filling your prescriptions at your regular pharmacy, you might notice that the prescription label looks different from the label on the insulin you were given at the hospital or clinic. The picture below may help you learn your way around the prescription (Rx) label:

Call with questions

If you have any questions about your prescription, call your pharmacist. The telephone number for the pharmacy is on every prescription label.
Glucagon kit

Glucagon is emergency medication used to treat very low blood glucose (hypoglycemia). It’s packaged in kits, in two brands: the Glucagon Emergency Kit and the GlucaGen HypoKit. The kits include instructions and unmixed glucagon medication. Here are some tips for storing the kit:

- **Always have a glucagon kit on hand.** In fact, you may want to get several kits—one for home, one for school, one for grandma’s house, and so on. If you’re camping or traveling, take a kit with you.

- **Keep the glucagon kit at room temperature, out of direct sunlight and away from moisture.**

- **Note the expiration date** on the glucagon kit, and ask for a refill before the kit expires.

- **Once you have your new (refill) glucagon kit, use the expired kit to practice** mixing and drawing up glucagon. It’s a good idea for family members and caretakers to practice this skill so they’ll be ready in an emergency. Practice by injecting an orange. (Throw the orange away afterward.)

Expiration dates and refill information

Your insulin bottles, glucagon kit, and ketone test strips all have expiration dates. To make sure you have the medication you need when you need it, follow these tips:

- Check expiration dates on all your supplies at least once a year. To help you remember, pick a holiday or birthday to do this on. Throw out expired supplies.

- Refill your prescriptions BEFORE you run out of medication and before it expires. Try to replace refill orders at the pharmacy at least two days before you need the medication.

- If you run out of insulin completely, contact your doctor. Never skip a dose—your pharmacy can always arrange to get you the medication you need.
MyPlan: Tools for Daily Diabetes Care at Home and School

This section contains tools to help you care for yourself at home and school. Look them over carefully. Share them with family, teachers, and other caregivers. Use them to help you know what to do—and when to call your doctor or diabetes educator for advice.

The tools in this section can help you and your family adjust to life with diabetes. Although it might seem a bit overwhelming at first, know that you can learn these new skills—and you don’t have to go it alone. Your doctor or diabetes educator can help you. You can also get help from the people and organizations listed on page 55.

The MyPlan section includes:

- My target range ......................................................... 42
- My monitoring .......................................................... 42
- My insulin regimen .................................................. 42
- My supplies ............................................................. 42
- My day looks like .................................................... 43
- My daily record log .................................................. 44
- Sports day instructions .............................................. 45
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- Medication Authorization Form ................................. 47
- Let’s Talk About... Teacher information about diabetes 49
- Let’s Talk About...How to treat low blood glucose .... 51
- Glucagon instructions ............................................... 53
**My target range**
My blood glucose should be between ____ and ____ mg/dL.
At bedtime, my blood glucose should be at least ____ mg/dL.

**My monitoring**
I need to monitor my blood glucose at these times every day:

**Example:**

- 7 AM/PM *(when I wake up)*
- AM/PM _____________________________
- AM/PM _____________________________
- AM/PM _____________________________
- AM/PM _____________________________

**My insulin regimen**

**Everyday doses:** Circle the type and brand for each insulin you take every day, then fill in your dose(s).

<table>
<thead>
<tr>
<th>Insulin type, brands</th>
<th>Time(s) I take it</th>
<th>Dose</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long-acting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- glargine (Lantus)</td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td>Take long-acting insulin at about the same time every day.</td>
</tr>
<tr>
<td>- detemir (Levemir)</td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td>If you’re more than 6 hours late taking your long-acting insulin, take only half of the usual dose. Use your short-acting insulin with the correction dose if you need to cover for any high blood glucose. The next day, go back to your usual dose—but watch out for low blood glucose for the first few hours.</td>
</tr>
<tr>
<td></td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td>Other: _____________________________</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Short-acting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- aspart (NovoLog)</td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td></td>
</tr>
<tr>
<td>- glulisine (Apidra)</td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td></td>
</tr>
<tr>
<td>- lispro (Humalog)</td>
<td>_____ AM/PM</td>
<td>_____ units</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>_____ units for every _____ grams of carbohydrate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Correction dose:** Your correction dose is the amount of extra insulin you must take to bring high blood glucose down to your target range. Fill in your correction dose on the lines below.

For every _____ points above _____ mg/dL, take _____ units of short-acting insulin (NovoLog, Apidra, or Humalog). Take this correction dose as needed every ________________ hours.

**Examples:** _____ to _____ = _____ units to correct  _____ to _____ = _____ units to correct

**My supplies**
Write down the supplies you use for injections and other diabetes care:

my syringe size: ____________ gauge: _____ length: _____ barrel size: ____________
other (type of meter strips, lancets, etc.): ____________________________________________________________________________
My day looks like…

You can use a timeline to show times for blood glucose checks, insulin injections, meals, and snacks. As an example, Franklin's timeline appears below.

I’m Franklin.

I wrote down when I need to do stuff. It helps me remember what to do—and when—every day.

<table>
<thead>
<tr>
<th></th>
<th>AM snack</th>
<th>PM snack</th>
<th>Bedtime snack</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breakfast</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>time:</td>
<td>7 am</td>
<td>11:30 am</td>
<td>3:30 pm</td>
<td>6 pm</td>
</tr>
<tr>
<td>blood glucose check:</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>insulin injection:</td>
<td>Novolog</td>
<td>Novolog</td>
<td>Novolog</td>
<td>Novolog</td>
</tr>
<tr>
<td>blood glucose target:</td>
<td>target range is between: 80 and 150 mg/dL</td>
<td></td>
<td></td>
<td>at bedtime: 100 mg/dL or higher</td>
</tr>
</tbody>
</table>

Now draw your timeline.

<table>
<thead>
<tr>
<th></th>
<th>AM snack</th>
<th>PM snack</th>
<th>Bedtime snack</th>
<th>Bedtime</th>
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<td><strong>Breakfast</strong></td>
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<td>time:</td>
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</tr>
<tr>
<td>insulin injection:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>blood glucose target:</td>
<td>target range is between:</td>
<td></td>
<td></td>
<td>at bedtime:</td>
</tr>
</tbody>
</table>
My daily record log

Use the log book that comes with your meter to record your blood glucose readings, insulin doses, and other information. **Keep this record faithfully, for at least 2 weeks after your diagnosis**—you’ll need this information as you work with your doctor or diabetes educator to assess your treatment. After these first few weeks, your doctor may say it’s okay to stop keeping this paper record.

Below are some log book examples. Your doctor or diabetes educator will show you how to fill out your own book.

---

**Tips for tracking**

- **Be consistent:** make it a habit to record each blood glucose reading and each insulin dose.

- **Be complete:** most logs have a place to write notes. Use that space to write down changes in your routine, how you feel, whether you had ketones, etc. This extra information can help your diabetes care team assess your treatment.

- **Watch for trends:** circle any blood glucose readings that are too high or too low. Can you see a pattern to when these readings occur? (For example, do you tend to have lows after soccer practice on Tuesdays and Thursdays?) Discuss this with your care team.
### Sick day guidelines

- **Check your glucose more often**—about every 3 hours when you’re sick.
- **Check ketones at least 2 times a day** while you’re sick. Do this even if your blood glucose has been low. Checking ketones is especially important if you’ve been vomiting (throwing up). You can check urine or blood ketones—the table below includes directions for both results.
- **Drink plenty of fluids.** The type of fluid you drink—sweet or not—will depend on your glucose levels.
- **Keep taking insulin while you’re sick.** Do NOT skip a dose entirely (unless your doctor tells you to), but DO make appropriate adjustments as described in the table below.

<table>
<thead>
<tr>
<th>Urine ketones</th>
<th>Blood ketones</th>
<th>Specific instructions for eating/drinking, insulin adjustments, and medical care</th>
</tr>
</thead>
</table>
| No ketones          | Below 0.6 mmol/L is in the normal range | **If blood glucose is below 80 mg/dL**, have some hard candy, popsicles, or sips of sugared drink (2 to 4 ounces per hour). *If you can’t keep blood glucose above 80 mg/dL by doing this, go to the nearest hospital Emergency Room right away.*  
**If blood glucose is 200 mg/dL or higher**, take your usual correction dose of short-acting insulin every 4 hours. |
| Small ketones       | 0.6 to 1.5 mmol/L | **If blood glucose is below 80 mg/dL**, have some hard candy, popsicles, or sips of sugared drink (2 to 4 ounces per hour) until blood glucose is in your target range.  
**When blood glucose is 200 mg/dL or higher**, take the correction dose of short-acting insulin specified by your doctor. (If you’re using intermediate-acting insulin and are vomiting or unable to eat, decrease your dose of intermediate-acting insulin by half.) Take short-acting insulin every 3 to 4 hours until the urine ketones are normal/negative or blood ketones are below 0.6 mmol/l. *Important: your blood glucose MUST be above 200 mg/dL before you take this extra insulin.* |
| Moderate to large ketones | 1.6 to 3.0 mmol/L | **1. If blood glucose is below 80 mg/dL**, have some hard candy, popsicles, or sips of sugared drink (2 to 4 ounces per hour) until blood glucose is above 200 mg/dL.  
**2. When blood glucose is 200 mg/dL or higher**, take 1.5 times the correction dose of short-acting insulin specified by your doctor. (If you’re using intermediate-acting insulin and are vomiting or unable to eat, decrease your dose of intermediate-acting insulin by half.) Take short-acting insulin every 3 to 4 hours until the urine ketones are normal/negative or blood ketones are below 0.6 mmol/l. *Important: your blood glucose MUST be above 200 mg/dL before you take this extra insulin.* |
| Above 3.0 mmol/L | | **If you’re able to eat and drink, but still have ketones**, call your doctor’s office or diabetes nurse for advice.  
**If you’re vomiting and look/feel ill, go to the nearest Emergency Room.** |

Vomiting for more than 6 to 8 hours and signs of dehydration (dry mouth, dry skin, no tears, little or no urination)  
**Go directly to the nearest hospital Emergency Room.**

---

**Sports day instructions**

Are you an athlete? A dancer? Some people need to adjust their daily diabetes care on days when they are very physically active. Talk it over with your care team, and write down any special instructions here.
Contacts for questions about diabetes care...

**Parent/Guardian:**

phone (home): ____________________  phone (work): ____________________  phone (work): ____________________

**Parent/Guardian:**

phone (home): ____________________  phone (cell): ____________________  phone (work): ____________________

**Diabetes Clinic or diabetes educator:**

phone: ____________________________

**Doctor (diabetes specialist):**

phone: ____________________________

**Doctor (primary care):**

phone: ____________________________
**PRIMARY CHILDREN’S MEDICAL CENTER DIABETES PROGRAM**

**MEDICATION AUTHORIZATION FORM**

**ADMINISTRATION OF MEDICATION AND MONITORING AT SCHOOL**

Date: ________________________________

Name of child: ________________________ DOB: ________________________________

Diagnosis:  
☐ Type 1 diabetes  ☐ Type 2 diabetes

**TO BE COMPLETED BY PRESCRIBING HEALTH CARE PROVIDER**

**MEDICATION**

☐ Humalog insulin  ☐ Novolog insulin  ☐ Apidra insulin

**DELIVERY DEVICE**

☐ Syringe  ☐ Insulin pen

**ROUTE**

Subcutaneous

**DOSAGE**

☐ Insulin/Carbohydrate ratio (before meals and snacks): ________________________________

☐ Correction insulin dose  
(before meals only for hyperglycemia): ________________________________

☐ Set dose of insulin: ________________________________

Reportable adverse reactions / side effects: ________________________________

Name of healthcare provider (please print): ________________________________

Healthcare provider signature: ________________________ Phone number: ________________________ Date: ________________________

**SELF-MEDICATION AUTHORIZATION**

☐ Capable to carry and self-administer the above medication

☐ Requires supervision to self-administer the above medication

☐ Requires school personnel to administer the above medication

**TO BE COMPLETED BY PARENT / GUARDIAN**

I hereby give my permission for my child to take medication and do blood glucose monitoring at school as prescribed by my child’s prescribing healthcare provider, and I authorize reciprocal release of information related to my child’s health/medications between the school nurse and the prescribing healthcare provider.

Signature of Parent / Guardian: ________________________ Date: ________________________

Work phone number or other daytime phone number: ________________________ Cell phone number or pager number: ________________________
Medical Authorization Form — back intentionally left blank.
This Medical Authorization Form be torn out to copy and share with school staff.
Diabetes happens when a person’s body cannot make enough insulin. Insulin is the body’s natural way to break down glucose. Glucose (a type of sugar) comes from many foods, mainly starches and carbohydrates like breads, pasta, and cereals. Children with diabetes have high levels of glucose in their blood. This is because they do not make enough insulin to break down the glucose they eat. This can be dangerous. In children, diabetes is treated with insulin injections, healthy eating, and exercise. Eating alone cannot control diabetes in children and diabetes is not contagious. Diabetes is not caused from eating “too much sugar”.

Hypoglycemia (low blood glucose)
A concern during school time is that the child’s blood glucose may drop too low. This is called an “insulin reaction” or hypoglycemia. This situation is most likely to occur in children with diabetes.

- when the child misses or delays a meal or snack
- during a strenuous activity just before lunch
- during a lengthy field trip or field day

Symptoms
- unusually sleepy
- confused
- moody or combative
- daydreaming
- lack of concentration
- lack of coordination
- sweating
- pale
- shaky
- suddenly hungry
- crying
- headache

How do you treat hypoglycemia?
Treat hypoglycemia immediately, and when in doubt, treat it. Give the child one of the following:
- juice (any kind) - 4 oz. or ½ cup
- regular soda pop (not diet) - ½ can
- glucose tablets - start with 2-3
- milk - 1 cup (1 carton)

The teacher or staff should stay with the student until he is more responsive and asks to resume normal activity. This takes about 15 to 20 minutes. If the child does not respond in that time, repeat the juice or glucose tablets, then call the parents.

Once the child responds, send him to lunch with an adult, or give him a snack of peanut butter, cheese, crackers, a meat sandwich, or a glass of milk.

If you are unsure about what is happening with the child, and if a blood glucose meter is available, check the child’s blood glucose and give the results to the parents.

Hyperglycemia (high blood glucose)
Sometimes the child’s blood glucose will be too high. This is called hyperglycemia. It may be due to:

- illness
- eating too much
- missing an insulin dose
- stress

The child will drink lots of water and urinate more than usual. If this persists or if the child’s blood glucose meter reading is above 300mg/dl, follow the instructions on the student’s diabetes care plan and notify the parents.

Nutrition
The most widely used form of meal planning for people with diabetes is carbohydrate counting. It is the most accurate way to match food and insulin. Most children with diabetes have to count the amount of carbohydrates in their school meals. It is helpful for the child to have school menus and to have nutrition information for foods served at school.

Some children with diabetes need a regular mid-morning and mid-afternoon snack so their blood glucose level doesn’t drop too low. They may
need an extra snack if the class is going to have a strenuous field trip or field day. This will keep the glucose levels from dropping too low because of extra physical activity.

Primary Children’s Medical Center

Diabetes Education: 801.587.3999
Let's Talk About...

How to treat low blood glucose

If the student is conscious and able to swallow:

1. If a meter is available, check the child’s blood glucose level. If lower than 70 mg/dl, give one of the following:
   - juice—cup ½ (4 ounces)
   - regular soda pop (not diet)— ½ can
   - glucose tablets—start with 2-3

2. The student’s symptoms should improve within 15 minutes. If not, repeat step 1.

3. Once the blood glucose level is 80 mg/dl or above, and if it will be longer than one half hour before the next meal or snack, give a small snack such as crackers or milk.

4. If the student is not responding to treatment in 30-45 minutes, notify the parents.

If the student is unconscious or having a seizure:

1. Call 911 immediately.

2. Give glucagon shot according to instructions, if the parents have given consent and they have provided a kit.

3. Notify the parents.

If symptoms subside:

The student should be able to return to class as soon as he is mentally alert and the symptoms are gone. How long this takes depends on the individual and the severity of the symptoms.

For more information:

Primary Children’s Medical Center
Diabetes Education, 801.587.3999.
need an extra snack if the class is going to have a strenuous field trip or on a long day like this will keep the glucose levels from dropping too low because of extra physical activity.

Primary Children’s Medical Center
Diabetes Education: 801.587.3999

All of the information contained in the Let’s Talk About . . . series is for educational purposes only. This educational information is not a substitute for medical advice or for care from a physician or other health care professional. If you have questions about your child’s health, contact your health care provider.
Glucagon is an injectable medicine used to treat severe hypoglycemia (very low blood glucose). Unlike other medicines for diabetes, it’s not taken every day, but only during an emergency. Use this sheet to learn why, when, and how to use this important medicine.

**If you use insulin to treat your diabetes,**

you must **always have glucagon available** in case of emergency.

- **Share this sheet with the people who live, work, and study with you.**
  Review WHY, WHEN, AND HOW to use glucagon. Help them practice mixing and injecting glucagon according to the instructions.

- **ALWAYS have a glucagon kit on hand.**
  A kit contains the glucagon medicine (a powder and a liquid, to be mixed together when needed), a syringe to inject it with, and instructions. You might want to leave kits in several places—home, work, school, etc.—but make sure to store them at room temperature. (Don’t leave your kit in a hot car, for example.)

- **Keep it current.**
  Check the date on each kit, and replace when necessary—don’t use glucagon that’s past its expiration date.

Glucagon is packaged in kits brand named Glucagon Emergency Kit and GlucaGen HypoKit.

**If you live, work, or study with someone who uses insulin,**

you must be ready to give a glucagon shot in an emergency.

- **Know where the glucagon kit is stored.**
  A kit contains the glucagon medicine (a powder and a liquid, to be mixed together when needed), a syringe to inject it with, and instructions. You might want to leave kits in several places: home, work, school, etc.

- **Practice mixing and injecting glucagon**
  according to the instructions in the kit.
  (Use an orange for the shots.)

- **Be prepared to give a glucagon shot,**
  even if you’re not comfortable doing so.
  You could save a life!
**Glucagon**

**WHY is glucagon important?**

People who take insulin are at risk for episodes of severe hypoglycemia. During such an episode, brain cells don’t get the fuel (glucose) they need. Unless their blood glucose is quickly raised, it can cause brain damage—even death.

Glucagon is one way to quickly raise blood glucose. It’s a natural hormone that helps the liver release glucose into the bloodstream. It’s the fastest and safest way to raise blood glucose when the person is unconscious.

**WHEN should glucagon be used?**

A person using insulin needs an injection (shot) of glucagon if their blood glucose has dropped so low that they are:

- Unconsciousness or unresponsive
- Having seizures or convulsions
- Unable to drink or swallow
- Unable to eat sugar or sugar-sweetened products

Ideally, the sick person’s blood glucose is tested first, to make sure their symptoms come from hypoglycemia. But since severe hypoglycemia is an emergency—and since the person helping may not know how to test blood—this isn’t crucial. **When in doubt, use glucagon!** Glucagon is safe, even if it’s given inappropriately.

**HOW to give a glucagon shot**

1. **Follow the instructions on the glucagon kit** to mix the powder and liquid.

2. **Measure the correct dose of glucagon into the syringe.**
   The correct dose for ______________________ is ______mg.

3. **Inject the glucagon into the person’s thigh or arm.** You can inject the medicine under the skin or into the muscle.

4. **Call the sick person’s doctor for more instructions.** The phone number is: __________________________.

5. **If the sick person doesn’t get better within 5 minutes, call 911.** Throw out any of the glucagon you don’t use. Do not mix or use after the expiration date printed on the kit or the vial. Replace the glucagon right away so it will be available the next time it’s needed.
Glossary

**autoimmune process**: a process in which the body’s immune system—which is responsible for protecting your body from invading illness—mistakenly attacks healthy tissue. Type 1 diabetes results from an autoimmune process that attacks the pancreas, damaging it so it can’t produce enough insulin.

**basal**: a baseline amount. In insulin treatment, your basal insulin refers to the insulin you take to keep a minimum level of insulin in your body at all times.

**beta cells**: the cells in the pancreas that normally produce insulin.

**bolus**: a single, large dose of medication—a surge. In insulin treatment, your bolus insulin refers to the insulin you take with food to help your body process the glucose from food.

**carbohydrates (carbs)**: a nutrient in many foods. Eating and drinking carbohydrates has a big effect on your blood glucose. For this reason, people who take insulin need to match their insulin dose to their carbohydrate intake (they need to “cover their carbs”).

**correction dose**: in insulin treatment, a correction dose is the extra short-acting insulin you may need to take to “correct” high blood sugar. Your medical team will tell you how and when to take a correction dose.

**DKA (diabetic ketoacidosis)**: a serious condition that involves high blood glucose, ketones, and dehydration. DKA must be treated right away. See page 33 of this booklet.

**glucagon**: emergency medication used to treat very low blood glucose (hypoglycemia). It comes in a kit and is given by injection when a person’s blood glucose has dropped so low that they cannot eat or drink, or are unconscious or having seizures. See page 53 of this booklet.

**glucose**: a type of sugar that is your body’s main source of energy. (Blood glucose refers to the glucose in your bloodstream.)

**glucose meter**: a machine that measures the glucose in your bloodstream (your blood glucose). Specifically, most meters measure the amount of glucose in your plasma, which is part of your blood.

**hypoglycemia**: high blood glucose. See page 27 of this booklet.

**hyperglycemia**: low blood glucose. See page 31 of this booklet.

**insulin**: a hormone produced by the pancreas that allows glucose to move out of your bloodstream and into your body’s cells.

**ketones**: a by-product of the breakdown of fat and protein inside your body. High levels of ketones can be harmful.

**metabolic disorder**: any condition—such as diabetes—that affects how your body uses food for energy and growth.

**mg/dL**: abbreviation for “milligrams per deciliter.” Blood glucose is often measured in units of mg/dL.

**mmol/L**: abbreviation for “millimoles per liter.” Blood ketones are often measured in units of mmol/L.

**pancreas**: the organ that normally produces insulin, located behind your stomach.

**target range**: the range of levels between which your blood glucose should stay. (For example, many school-age children have a blood glucose target range of 80 to 150 mg/dL.) Your medical team will tell you what your target range is.

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**Resources**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermountain Healthcare</td>
<td><a href="intermountainhealthcare.org/diabetes">intermountainhealthcare.org/diabetes</a></td>
</tr>
<tr>
<td>Primary Children’s Medical Center Diabetes Clinic at the Utah Diabetes Center</td>
<td><a href="healthcare.utah.edu/utahdiabetescenter">healthcare.utah.edu/utahdiabetescenter</a></td>
</tr>
<tr>
<td>American Diabetes Association</td>
<td><a href="diabetes.org">diabetes.org</a></td>
</tr>
<tr>
<td>Children with Diabetes</td>
<td><a href="childrenwithdiabetes.org">childrenwithdiabetes.org</a></td>
</tr>
<tr>
<td>Juvenile Diabetes Research Foundation</td>
<td><a href="jdrf.org">jdrf.org</a></td>
</tr>
<tr>
<td>Foundation for Children and Youth with Diabetes (camp)</td>
<td><a href="fcydcomputada.org">fcydcomputada.org</a></td>
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<tr>
<td>Barbara M. Davis Center for Childhood Diabetes</td>
<td><a href="barbaradaviscenter.org">barbaradaviscenter.org</a></td>
</tr>
<tr>
<td><strong>National Institutes of Health (NIH):</strong></td>
<td><strong>Website</strong></td>
</tr>
<tr>
<td>• National Diabetes Education Program</td>
<td><a href="diabetes.niddk.nih.gov">diabetes.niddk.nih.gov</a></td>
</tr>
<tr>
<td>• National Institute of Diabetes and Digestive and Kidney Diseases</td>
<td>For school/daycare: <a href="ndep.nih.gov/resources/school.htm">ndep.nih.gov/resources/school.htm</a></td>
</tr>
<tr>
<td><strong>National Institutes of Health (NIH):</strong></td>
<td><strong>Website</strong></td>
</tr>
<tr>
<td>• National Diabetes Education Program</td>
<td>Primarily for physicians: <a href="niddk.nih.gov">niddk.nih.gov</a></td>
</tr>
<tr>
<td></td>
<td>For school/daycare personnel—as well as patients and families: <a href="ndep.nih.gov/resources/school.htm">ndep.nih.gov/resources/school.htm</a></td>
</tr>
</tbody>
</table>
You can find this handbook and other diabetes resources at:

www.intermountainhealthcare.org/diabetes