

Pediatric Diabetes Education Plan

Getting Ready to Learn About Diabetes

Learning something new can be hard. The purpose of this education plan is for you and the staff to read over this information together. Make sure to tell the staff:

- Who else do you want to learn with you?
- What is the best way for you to learn? Do you learn best by reading a book or pamphlet or learning by doing things yourself?
- If you cannot focus on learning right now.

This information is important to your child's health. We may explain something more than once. We will be giving you information in small bits at a time. If there is something you don't understand it's ok to ask us to explain.

What I Need to Learn About Diabetes

By the time I leave the hospital I will be able to tell the staff:

- What type of diabetes my child has.
- How feelings about diabetes affect my child and me.
- How to monitor my child's blood glucose (sugar) level.
- How diabetes medicines work in my child's body.
- About insulin and the amount of insulin my child should be given.
- How to give my child's insulin.
- How to recognize and treat high blood sugar.
- How to recognize and treat low blood sugar.
- When and how to use a glucagon emergency kit.
- How to count carbohydrates.
- When and how to test for ketones.
- How to record blood sugar results, insulin given, carbohydrates eaten, ketones, and activity level.
- How and when I should follow-up with my child's outpatient providers.

The staff will use three questions to teach me about Diabetes:

1. What is the main problem?
2. What do I need to do?
3. Why is this important to me?

The staff will ask me to repeat back important points in my own words or ask me to show what I have learned. They want to make sure that I know this information.

What is my main problem?

My child has diabetes. Diabetes means there is too much sugar (glucose) in my child's blood. When my child digests food, the body breaks down much of the food into sugar. The body makes and uses a hormone called insulin to push the sugar from the blood into the cells. Insulin is made by the pancreas. When the body does not have enough insulin, or it has trouble using insulin, sugar cannot get into cells. Sugar builds up in the blood. High blood sugar is not good for health. There are several areas of diabetes that I need to understand for my child to stay in good health.

What do I need to do?

I need to understand what type of diabetes my child has.

Type of diabetes

- Type 1
 - This is the most common type in children and young adults.
 - My child's body is making little or no insulin.
 - Insulin must be given to replace what is not made by the body.
 - Insulin must be taken for the rest of my child's life.
 - My child will always have Type 1 diabetes
 - Type 1 diabetes will not change to Type 2 diabetes.
- Type 2
 - Type 2 diabetes is becoming more common in children.
 - Risk factors include: overweight/obese, genetics/family history and other metabolic conditions
 - The body makes insulin. My child's body does not use insulin the way it should or does not make enough insulin. This is called insulin resistance.
 - It can be treated with oral medicine or insulin.
- Diabetes caused by steroids.
- Diabetes caused by other conditions.

I need to understand how feelings about diabetes affect my child and me.

- Diabetes can make my child and me feel sad, angry, guilty or scared.
- These feelings are normal.
- Taking care of diabetes is hard.
- My child and I can cope with diabetes, but it may take time.
- My child can lead a normal, healthy, happy life with diabetes.

I need to understand how to monitor my child's blood sugar level.

Blood Sugar Checking (follow the directions for the meter)

- I will watch my child's nurse show me how to check my child's blood sugar. Later I will show the nurse how to check my child's blood sugar. I will:
 - Wash my hands and my child's hands with soap and water.
 - Put the test strip into the meter.
 - Poke my child's finger.
 - Put a drop of blood on the test strip.
 - Read my child's current blood sugar level.
 - Log the result in my child's log book.
 - Dispose of the lancet (needle) in a puncture proof container.
 - Place the test strip in the regular trash.
- Timing of testing
 - I need to check my child's blood sugar level at least 5 times per day (before meals, at bedtime, and at 2:00 am).
 - My child should always check a blood sugar before driving or exercise.
- Know what my child's blood sugar should be
 - The recommended blood sugar range can vary.
 - An average blood sugar target is between 80 to 180 mg/dL before meals and 90 to 180 mg/dL before bed.
- How to get supplies
 - I need to check with my insurance to find out where to get my child's supplies and how much they will cost.
 - The cost of the meter and supplies will vary by insurance company.
 - My doctor will write a prescription for my child's blood sugar testing supplies.
 - I will need to go to a pharmacy or a medical supply company.

I need to understand how diabetes medicines work in my child's body.

Oral Diabetes Medications

- The names and doses of medicines.
 - I will know the name and dose of each medicine my child is taking for diabetes.
- How the diabetes medicine works in my child's body.
 - Each diabetes medicine helps to control blood sugar.
 - Each medicine does this in a different way.
 - It's important to know how the medicines my child is taking work in the body.
- When my child should take the medicine.
 - Some medicine needs to be taken at certain times.
 - The time depends on how the medicine works in the body, when my child eats food and how the body absorbs food.
 - My child may have to take some medicines more than one time each day.
- Side effect of my child's medicines.

- I will know what the side effects are.
- Each medicine my child takes for diabetes can have different side effects.
- Common side effects include stomach or intestinal problems.
- I need to call the doctor if:
 - I am concerned about side effects my child is having with the medicine.
 - My child's blood sugar is not within the goal range.
 - I have any other concerns or questions about my child's medicine.
 - I have problems paying for my child's medicine.

I need to know about insulin and the amount of insulin my child should be given.

About Insulin

- There are several types of insulin.
 - Long acting insulin [Lantus[®]/Basaglar[®] (glargine), Levemir[®] (detemir)]
 - Short acting insulin [Novolog[®], Humalog[®], Apidra[®]]
- Each type of insulin works differently in my child's body.
 - Long acting insulin
 - Starts working in 1 to 2 hours, lasts up to 24 hours
 - Inject 1 to 2 times per day, at the same time(s) each day
 - Do not mix this insulin with any other kind of insulin
 - Short acting insulin
 - Starts working within 5 to 15 minutes.
 - Works hardest and strongest at 30 to 90 minutes.
 - Stops working by 4 hours.
 - Taken to cover food that will be eaten and to correct a high blood sugar
- Storing insulin properly
 - Keep unopened insulin pens in the refrigerator until the expiration date.
 - Once a pen is opened, it can be stored at room temperature.
 - Lantus[®], Novolog[®], Apidra[®], Basaglar[®] and Humalog[®] are good at room temperature for 28 days
 - Levemir[®] is good at room temperature for 42 days
- Insulin assistance plans
 - I understand that some programs help me pay for insulin if I qualify.
 - I will talk to my child's medical social worker for information about plans to help pay for diabetes supplies and care.
- When to call my child's doctor about insulin
 - I need to call my child's doctor if I have any questions about how to give my child's insulin or how much to give.
 - My child's blood sugar is not within the goal range.
 - I have any other concerns or questions about my child's insulin.
 - I have problems paying for my child's insulin.

Amount of Insulin

- My child needs to be given insulin before meals and bedtime.

- The amount of insulin I give my child is based on:
 - What my child's blood sugar is before they eat (correction scale).
 - How many carbohydrates my child is going to eat (insulin to carbohydrate ratio).
- I will figure out how much insulin to give my child by:
 - Counting my child's carbohydrates before each meal.
 - My child's insulin to carbohydrate ratio is: Give _____ unit(s) of insulin for every _____ grams of carbohydrates to be eaten.
 - If my child's dose is in half units, I will round up or down to the nearest half unit. If my child's dose is in whole units, I will round up or down to the nearest whole unit.
 - Checking my child's blood sugar
 - I will use my child's correction scale to decide how much insulin my child should have for a high blood sugar.
 - The correction scale will be in the after visit summary and given to me by the nurse.
 - Adding these two amounts of insulin together to determine my child's total insulin dose for each meal.

Example:

$$\begin{array}{r}
 \text{_____ units of insulin based on blood sugar level} \\
 + \text{_____ units of insulin based on carbohydrates to be eaten} \\
 = \text{_____ total insulin dose to be given}
 \end{array}$$

- I will not give insulin more often than every 4 hours.
- My child's nurse will help me figure out how to calculate the total amount of insulin my child should receive at meal times and bedtime.

I need to know how to give insulin with an insulin pen.

- Get the insulin pen ready
 - I will wash my hands and my child's hands.
 - I will clean the top of the insulin pen with alcohol.
 - I will place a pen needle on the end of the pen.
 - I will do an "air shot" to prime the pen. To do an air shot, I will dial the pen to 2 units. I will push the button at the end of the pen and look for a steady stream of insulin. If I do not see a steady stream, I will do another 2-unit air shot.
- Giving the insulin
 - I will dial the dose of insulin my child needs.
 - Choose the injection site
 - I need to give my child's insulin into fatty tissue just under the skin.
 - I will give my child's insulin in the stomach, buttocks, outer thighs and the fatty part of the upper arms.
 - I will use a different site each time I give my child's insulin.
 - I will place the injection tip at the injection site.

- I will push the button at the end of the pen and hold the pen in place for 6 to 10 seconds to deliver the insulin.
- My diabetes educator or nurse will show me the correct way to use the insulin pen safely.
- Disposal of needles
 - I need to dispose of my child's pen needles in a puncture proof container.
 - Empty laundry soap bottles, coffee cans, or bleach bottles work well.
 - Tape the lid shut after the container is full, write the word "sharps" on the container, and throw it away in the regular trash.

I need to recognize and treat high blood sugar.

Hyperglycemia (high blood sugar)

- Some causes of high blood sugar include:
 - Too much food
 - Too little or missing a dose of my child's insulin
 - Less active than usual
 - Illness
 - Stress
 - Changes in other medicines my child may be taking
- Signs and symptoms of high blood sugar may include:
 - Very thirsty
 - Very hungry
 - Frequent use of the bathroom
 - Feeling tired
 - Blurred vision
 - Possible numbness or tingling in hands or feet
 - Poor healing of cuts or wounds
- Actions to take for high blood sugar
 - If my child has type 2 diabetes, I will try to find the cause of my child's high blood sugar. It might be too little medicine, too much food, too little activity, illness or stress. If I notice repeated high blood sugar levels (higher than ____) over a period of days, I will contact my child's doctor.
 - If my child has type 1 diabetes I will:
 - Check ketones (see page 8) if my child's blood sugar is greater than 300 mg/dL.
 - Call the doctor if my child has moderate to large ketones.
 - Have my child drink at least 8 ounces of water every hour, unless told otherwise by my child's doctor.
 - Check my child's blood sugar every 2 to 4 hours.

I need to recognize and treat low blood sugar.

Hypoglycemia (low blood sugar)

- Causes of low blood sugar may include:
 - Too much insulin
 - Not enough food
 - Too much exercise
 - Missing or delaying meals
- Signs and symptoms of low blood sugar may include:
 - Hunger
 - Headache
 - Sweaty
 - Dizzy
 - Shaky
 - Rapid heartbeat
 - Confusion
 - Irritable, nervous or upset
- What is a low blood sugar?
 - A low blood sugar is 70 mg/dL or less if your child is 6 years old or older OR 80 mg/dL or less if your child is less than 6 years old.
 - Symptoms of low blood sugar may be present at levels higher than 70 or 80 mg/dL.
- If my child has symptoms of low blood sugar, I will:
 - Test my child's blood sugar level.
 - Use the rule of 15 if my child's blood sugar is less than 70 or 80 mg/dL based on age.
 - Eat 15 grams of fast-acting carbohydrate and wait 15 minutes to re-check my child's blood sugar.
 - I will repeat this if my child's blood sugar remains below 70 mg/dL or 80 mg/dL based on my child's age.
 - Use the rule of 30 if my child's blood sugar is less than 50 mg/dL.
 - Eat 30 grams of fast-acting carbohydrate and wait 15 minutes to re-check my child's blood sugar
 - I will repeat this if my child's blood sugar remains below 50 mg/dL.
 - My child will carry a fast-acting source of sugar, such as juice or glucose tablets, **at all times**.
 - Do **not** give insulin to cover the carbs eaten for low blood sugar.

I need to know when and how to use a glucagon emergency kit.

When to use a glucagon emergency kit

- If my child has type 1 diabetes, my child will have a glucagon emergency kit.
- The glucagon emergency kit contains a shot that is to be used if I cannot safely treat my child's low blood sugar with food. I may have to use this shot if my child is not responding and swallowing.

How to use a glucagon emergency kit

- I will mix the glucagon according to the kit instructions.
- I will give my child 0.5 mL glucagon if my child is less than 5 years old. I will give my child 1 mL if my child is 5 years old or older.
- I will give the glucagon shot into a muscle on the front of the leg.
- My child's nurse or diabetes educator will show me how to inject glucagon correctly.
- Many people will need to be trained to give glucagon to my child.

I need to know how to count carbohydrates.

Carbohydrate Counting and Healthy Eating

- Know how carbohydrates affect blood sugar level.
 - My child needs carbohydrates to give the body energy.
 - Carbohydrates increase blood sugar levels more than any other nutrient.
 - Eating too many carbohydrates may cause high blood sugar.
 - Eating too few carbohydrates may cause low blood sugar.
- Know the foods that contain carbohydrates:
 - Grains: bread, cereal, crackers, noodles, rice, tortillas.
 - Starchy vegetables: corn, beans, legumes, peas, potatoes, sweet potatoes.
 - Fruits: fresh, canned or dried fruit, fruit juice.
 - Milk: milk, yogurt.
 - Sweets: cakes, cookies, desserts, ice cream, jam, jelly, regular pop, sugar, syrup.
 - Foods high in fiber: whole grains, fresh fruits and vegetables. They help slow down how fast carbohydrate is absorbed.
- Read food labels
 - I need to read the labels on the foods my child eats.
 - I need to check both the total grams of carbohydrate and the serving size.
 - I can use food lists to check the carbohydrate content of foods that do not have labels.
- Advanced carbohydrate counting
 - If my child is taking insulin, I need to balance the amount of carbohydrates my child eats with the amount of insulin my child takes to have a normal blood sugar level.
 - Advanced carbohydrate counting lets me adjust the amount of rapid-acting insulin my child takes based on the amount of carbohydrate my child eats.
 - My doctor will tell me how many grams of carbohydrate are covered by one unit of rapid acting insulin. My child needs to take ____ units of insulin if eating _____ grams of carbohydrate.
 - Until my child's follow up appointment with the diabetes doctor, my child will eat only low carb snacks (less than 5 grams of carbs) between meals and at bedtime. The dietitian or nurse will provide me with a list of low carb snacks. **Do not** give insulin for these snacks

I need to know about ketones and when and how to test for ketones if my child has Type 1 diabetes.

What are ketones

- Ketones are chemicals which appear in the urine and blood when body fat is used for energy.
- Body fat is used for energy when:
 - There is not enough insulin to allow sugar to be used for energy
 - Not enough food has been eaten to provide energy
- My child should not exercise if there are ketones in the urine

When to check for ketones

- I will check my child's ketones if:
 - My child is sick or has a fever, nausea, or is vomiting.
 - My child's blood sugar is >300 mg/dL

How to check for ketones

- Collect a sample of urine.
- Dip the Ketostix into the urine.
- Wait the amount of time stated on the Ketostix package.
- Compare the color of the Ketostix to the colors on the side of the vial.
- My diabetes educator or nurse will show me how to check for urine ketones.
- I will call my child's diabetes doctor if my child has "moderate" or "large" ketones.

I need to record blood glucose level results, insulin given, carbohydrates eaten, ketones and activity level.

- It is important that I write my child's blood sugar levels, amount of insulin given, grams of carbohydrates eaten, ketones and activity level in the logbook provided.
- I will call the Helen DeVos diabetes educator and give them this information every day, until told otherwise.

I need to know how and when I should follow-up with my child's outpatient doctors.

- My child will have a follow up appointment with his/her diabetes doctor shortly after hospital discharge. This appointment will be scheduled before hospital discharge. My child's appointment is on _____ at _____.
- I will call my child's diabetes educator at Helen DeVos every day to report blood sugar numbers at 1-866-940-7073.

Why is this important to me?

Knowing more about diabetes and its management will help me keep my child safe.

To help me understand diabetes, I may receive:

- The Pink Panther Book
- Diabetes Discharge Kit
 - 2 Glucose meters
 - Two lancing devices
 - Blood glucose strips
 - Control solution
 - Lancets
 - Urine ketone strip
 - Calorie King book
 - Testing log
- Diabetes Awareness Bracelet
- Prescriptions
 - Insulins (vial or pen)
 - Insulin syringes or pen needles
 - Glucagon emergency kit
- Education Folder
 - Pediatric Diabetes Education Plan
 - Survival skills
 - Health maintenance
 - My Food Plan for Kids and Teens
 - Low carb snack ideas
 - Multiple daily injection therapy plan
 - Spectrum/Helen DeVos pre-admission papers

Diabetes Education Plan

Resources for Staff

- Understanding Diabetes (Pink Panther) - by H. Peter Chase, MD

Teaching Tools (items given to the patient)

- Understanding Diabetes (Pink Panther) – by H. Peter Chase, MD (given inpatient and outpatient)
- Education Binder

References

- Understanding Diabetes (Pink Panther) – H. Peter Chase, MD

Approved by: Patient Education Council

Authored by: Mary Ausich, MS, RD, CDE & Andi Person, MSN, RN, CDE

Last revision date: 8/13/18

Always close each teaching session with the question, “What questions do you have for me?”

***This page is intended for staff use only. Do not give to the patient. This document is not a part of the permanent medical record.**