Diabetes Education Plan

Getting Ready to Learn About Diabetes

Learning something new can be hard when you are not feeling well. Here are some good things to tell the staff:

- Who do you want to learn with you? We would like to have someone who will be helping you at home 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 are not feeling well, if you are in pain or you cannot focus on learning right now.

Because this teaching is about your health, the staff may explain something more than once and give you information in “bite size” pieces over several days. 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 I have.
- How to use carbohydrate counting to manage my diabetes.
- Why exercise is important for managing my diabetes.
- How diabetes medicines work in my body.
- If I need insulin, how to give myself insulin.
- How to monitor my blood sugar.
- How to recognize and treat high blood sugar.
- How to recognize and treat low blood sugar.
- What the chronic complications of high blood sugar are.
- How my feelings may affect my diabetes management.
- How to change my behaviors and seek support to help manage my diabetes.
- How to manage my diabetes when I am sick.
- How to manage my diabetes with an insulin pump.
- How to be safe at school with diabetes.
The staff will use three questions to teach me about Diabetes:

1. What is my 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 about my disease and how to take care of myself.

**What is my main problem?**

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

**What do I need to do?**

I need to understand what type of diabetes I have.

Types of diabetes
- Type 1 – My body is making little or no insulin. This usually begins during childhood or as a young adult.
- Type 2 – My body is not using insulin the way it should or is not making enough insulin.
- Diabetes caused by steroids.
- Diabetes caused by other conditions.

I need to know how to use carbohydrate counting to manage my diabetes.

**Carbohydrate Counting/Healthy eating**
- Know how carbohydrates affect my blood sugar level.
  - I need carbohydrates to give my body energy.
Carbohydrates increase my 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.
Consistently eating the right amount of carbohydrates at meals and snacks helps control my blood sugar levels.

- Know the foods that contain carbohydrates:
  - Grains: bread, cereal, crackers, noodles, rice, tortillas.
  - Starchy vegetables: corn, dried 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 food labels on the foods I eat.
  - 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 the foods I eat that do not have labels.

- Food portions
  - I need to measure my food portions so I can figure out how much carbohydrate I am eating.
  - My serving size may be different than the serving size listed on food labels or food lists.

- Carbohydrate counting
  - Counting the grams of carbohydrate in the foods I eat helps me manage my diabetes.
  - I can also count the ‘carbohydrate choices’ I eat. One ‘carbohydrate choice’ is equal to 15 grams of carbohydrate.

- Advanced carbohydrate counting
  - If I am taking insulin, I need to balance the amount of carbohydrate I eat with the amount of insulin I take to have a normal blood sugar level.
Advanced carbohydrate counting lets me adjust the amount of rapid-acting insulin I take based on the amount of carbohydrate I eat.

My doctor will tell me how many grams of carbohydrate are covered by one unit of rapid acting insulin. I need to take _____ units of insulin if I am eating ______ grams of carbohydrate.

- My personal meal plan
  - I need to eat 3 meals and 1 to 2 snacks every day.
  - I should eat at about the same time every day.
  - I need to eat a consistent amount of carbohydrate at each meal or snack every day.
  - My doctor or dietitian will tell me how many carbohydrates I should eat at meals and snacks:
    - Breakfast: ___________
    - Lunch: ______________
    - Dinner: ______________
    - Snacks: ______________
  - I should not skip meals.
  - I should eat a variety of foods.

I need to understand that exercise is important for diabetes management

**Exercise and Diabetes**

- Exercise may help:
  - Control my blood sugar.
  - Keep me at a healthy weight.
  - Keep my heart and blood vessels healthy.
  - Lower my blood pressure.
  - Increase my good cholesterol.
  - Reduce stress.

- To exercise safely, I need to:
  - Talk to my doctor before I begin an exercise program.
  - Check my blood sugar. I may need to eat a snack before I exercise.
  - Wear a medical ID and comfortable shoes.
  - Carry a quick acting source of sugar with me. When I exercise, my blood sugar level can go down.
  - Check my blood sugar after exercise to see how my body responded.
I need to understand how my diabetes medicines work in my body.

**Oral Diabetes Medicines and Other Injectables (except insulin).**
- The names and doses of my medicines.
  - I will know the name and dose of each medicine I am taking for diabetes.
- How my medicine works in my body.
  - Each of my diabetes medicines helps to control my blood sugar.
  - Each medicine does this in a different way.
  - It’s important to know how the medicines I am taking work in my body.
- When to take my medicine.
  - Some of my medicine needs to be taken at certain times.
  - The time can depend on how the medicine works in my body, when I eat food, and how my body absorbs food.
  - I may have to take some medicines more than one time each day.
- Side effect of my medicines.
  - I will know what the side effects are for my medicines.
  - Each medicine I take for diabetes can have different side effects.
  - Common side effects are low blood sugar (hypoglycemia), stomach or intestinal problems, swelling in hands and feet and weight gain.
- Medicine assistance plans.
  - I understand that some programs help me pay for medicine if I qualify.
- Other injections (except insulin)
  - I understand that there are injections of medicines other than insulin that help to control my blood sugar.
  - It is important to know the proper dose and timing of these injections.
  - Possible side effects include nausea, weight loss and irritation at the injection site.
- I need to call my doctor if:
  - I am concerned about side effects I’m having with my medicine.
  - My blood sugar is not within the recommended range.
I need to understand the type of insulin I am using and how to administer this insulin.

**Insulin Usage**

- Types of insulin, how they work and when to take them.
  - There are several types of insulin.
  - Each type of insulin works differently in my body.
    - When the insulin starts to work.
    - When the insulin works its best.
    - When the insulin stops working.
  - My doctor will tell me when to take my insulin.

- Vial and syringe
  - I need to know how to use a syringe.
  - I must fill the syringe with insulin from a vial.
  - My diabetes educator or nurse will show me the correct way to use the vial and syringe.

- Use of an insulin pen.
  - Insulin pens are another way to give insulin.
  - A pen needle is placed on the end of the pen. I dial the dose of insulin I need to take. Then I push the button at the end of the pen to deliver the insulin.
  - My diabetes educator or nurse will show me the correct way to use the insulin pen safely.

- Injection Site
  - I need to give my shot into fatty tissue just under the skin.
  - Locations include the stomach, buttocks, outer thighs, and the fatty part of the upper arms.
  - I need to rotate where I inject insulin into my body.

- Mixing insulin
  - Your doctor may prescribe more than one type of insulin for better blood glucose control.
  - Some insulins can be combined into one syringe and taken as one injection. Sometimes these can be bought already mixed.
  - If I need to mix insulin, my diabetes educator or nurse will show me the best way to do this safely.
If I am using Lantus or Levemir, they cannot be mixed with any other insulins.

- Storing insulin properly
  - Unopened vials of insulin or insulin pens should be stored in the refrigerator.
  - Once a vial or pen is opened, it can be stored at room temperature.
  - I will check with a pharmacist to find out how long my insulin can be stored.

- Disposal of needles
  - I need to dispose of my used syringes in a puncture proof container.
  - Empty laundry soap or bleach bottles work well.

- Insulin side effects
  - The main side effect of insulin is low blood sugar (hypoglycemia).
  - It is important that I know the signs and symptoms of hypoglycemia.
  - See the hypoglycemia section for more information.

- Insulin assistance plans
  - I understand that some programs help me pay for insulin if I qualify.

- When to call my doctor
  - I need to call my doctor if I have any questions about how to give my insulin or how much to take.
  - My blood sugar is not within the recommended range.
  - I have any other concerns or questions about my insulin.
  - I have problems paying for my insulin.

I need to understand how to check my blood glucose (sugar) with a meter and how to use the results.

**Blood Glucose Checking (follow the directions for my meter)**

- Getting a blood sample. I will:
  - Wash my hands with soap and water.
  - Put the test strip into the meter.
  - Poke my finger.
  - Put a drop of blood on the test strip.
- Read my current blood sugar level.
- Dispose of the lancet (needle) in a puncture proof container.
- Place the test strip in the regular trash.

- Frequency and timing of testing
  - The frequency and timing of testing is different for everyone.
  - My diabetes educator will tell me how often and when I should test my blood sugar.
  - I should always check my blood sugar before driving or exercise.

- How to keep a record or log book of my blood glucose levels
  - It is important that I write my blood sugar levels in a logbook or chart and bring this with me when I go to the doctor.
  - This will help my doctor determine if I need any changes in my diabetes plan.

- Know what my blood glucose numbers should be.
  - The recommended blood sugar range can vary.
  - My doctor or nurse will tell me what my target blood sugar range should be.
  - An average blood sugar target range is 70 to 130 mg/dL before meals and less than 180 mg/dL two hours after the start of a meal.
  - I will call my doctor if I notice that my blood sugar is often outside of my target range.

- How to get supplies
  - I need to check with my insurance to find out where to get my supplies and how much they will cost me.
  - The cost of the meter and supplies will vary by insurance company.
  - My doctor will write a prescription for my blood sugar testing supplies.
  - I may need to go to a pharmacy or a durable medical supply company.

I need to understand the signs, symptoms, and treatment of high blood sugar

**Hyperglycemia (High Blood Sugar)**
- Signs and symptoms of high blood sugar may include:
  - Increased thirst
  - Frequent use of the bathroom
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- Feeling tired
- Blurred vision
- Possible numbness or tingling in hands or feet
- Poor healing of cuts or wounds

**Some causes of high blood sugar include:**
- Too much food
- Too little or missing a dose of my diabetes medicine
- Not exercising
- Illness
- Stress
- Changes in other medicines I may be taking

**Actions to take for a high blood sugar.**
- If I have type 2 diabetes I will try to find the cause of my high blood sugar (too little medicine, too much food, too little activity, illness, or stress). If I notice repeated high blood sugar levels I will contact my doctor.
- If I have type 1 diabetes I will:
  - Check ketones if my blood sugar is greater than 240 mg/dL.
  - Call my doctor if I have moderate to large ketones.
  - Check my blood sugar every 2-4 hours.
  - Drink at least 8 oz. of fluids every hour, unless told otherwise by my doctor.
  - Follow my sick day plan given to me by my doctor as needed.

I need to understand the signs, symptoms, and treatments of low blood sugar.

**Hypoglycemia (Low Blood Sugar)**
- Signs and symptoms of low blood sugar may include:
  - Hunger
  - Headache
  - Sweaty
  - Dizzy
  - Shaky
  - Rapid heartbeat
  - Confusion
  - Irritability
- Causes of low blood sugar may include:
o Too much diabetes medications
o Not enough food
o Too much exercise
o Missing or delaying meals

• What is a low blood sugar
  o A low blood sugar is 70 mg/dL or less.
  o I could experience symptoms of low blood sugar at levels higher than 70 mg/dL.

• If I have symptoms of low blood sugar I will:
  o Test my blood sugar level.
  o Use the rule of 15 if my blood sugar is low.
    ▪ Eat 15 grams of fast-acting carbohydrate and wait 15 minutes to re-test my blood sugar.
    ▪ I will repeat this if my blood sugar remains below 70 mg/dL.
  o I will carry a fast-acting source of sugar, such as juice, glucose tablets, or soft candies, with me at all times.

• When to use a glucagon emergency kit.
  o If I have type 1 diabetes, my doctor may want me to have a glucagon emergency kit.
  o The glucagon emergency kit contains a shot that should be used if I cannot safely treat a low blood sugar with food, for example if I am unconscious.
  o I cannot give it to myself; someone will have to be trained to give it to me.

I need to understand the chronic complications of high blood sugar.

**Chronic (Long Term) Complications**

• Good diabetes management will help prevent long term complications which may include:
  o Nerve damage (neuropathy)
  o Damage to my feet
  o Eye damage or blindness (retinopathy)
  o Damage to my heart and blood vessels
  o Dental problems
  o Kidney damage (nephropathy)
  o Poor healing of cuts and wounds
  o Sexual difficulties
To reduce my risk of long term complications, I should have:
- My weight and blood pressure checked, and a foot exam at every doctor’s visit
- My Hgb A1c checked every 3 months. This lab test lets my doctor and I know how well my diabetes is being managed.
- A dilated eye exam, kidney function test, and blood fats yearly. Blood fats include triglycerides, total cholesterol, LDL cholesterol, and HDL cholesterol.
- A flu shot yearly and other immunizations advised by my doctor.

Foot care I can do to reduce complications:
- Examine my feet daily
- Wash my feet daily with mild soap and lukewarm water
- Apply lotion if my skin is dry (I will not apply between toes)
- Wear shoes at all times and make sure they fit well
- Report to my doctor any drainage, cuts, blisters, bruises, or sores

I need to understand how my feelings affect my diabetes management.

Make a plan for emotional concerns (psychosocial concerns)
- Feelings
  - Being told I have diabetes can make me feel sad, angry, guilty, or scared.
  - These feelings are normal.
  - Taking care of my diabetes is hard.
  - I can cope with diabetes but it may take time.
  - I can lead a normal, healthy, happy life with diabetes.
- Stress management/coping skills
  - Stress may cause my blood sugar to go up.
  - I need to have a plan to cope with stress. Both positive and negative life events can cause stress.
  - I need to recognize symptoms of stress which may include muscle tension, change in sleeping patterns, and change in appetite.
  - Some coping skills include taking a walk, listening to music, and talking with friends and family about my feelings.
- Depression
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• Depression is common in people with diabetes.
  • Some signs and symptoms of depression include lack of appetite, feeling sad, sleep problems, an irritable or anxious mood, lack of energy, loss of interest in usual activities, and feeling worthless.
  • I will talk to my doctor if I experience any of these.

• Diabetes at work and school
  • People with diabetes are protected by the Americans with Disabilities Act. If I am experiencing discrimination at work, I should call 1-800-DIABETES (800-342-2383) for help.
  • If I am experiencing difficulty managing my diabetes at school, I should contact my school office or the Intermediate School District office.
  • If I need special accommodations, my employer or school is required by law to work with me.

• Family support is very important for people with diabetes.

• Community Resources
  • There are many community resources available for people with diabetes.
  • My diabetes educator or doctor can provide me with a list of community resources or I can call 211.

I need to understand the behavior changes and support needed to help me manage my diabetes.

Promote Health and Behavior Change

• Seven self-care behaviors that help me manage my diabetes are:
  • Healthy eating
  • Being active
  • Monitoring my blood sugar
  • Taking medicines correctly
  • Problem solving in managing my diabetes
  • Reducing my risks
  • Healthy coping

• Resources available to help manage my diabetes are:
  • My doctor
  • The Bronson Diabetes Education Center staff - (269) 341-8585
Diabetes support groups, for more information please call:
- In Kalamazoo, the Bronson Diabetes Education Center staff at (269) 341-8585.
- In Battle Creek, call (269) 245-8190.
- In South Haven, call (269) 639-2790.

- Websites – [www.diabetes.org](http://www.diabetes.org) and [www.dlifetv.org](http://www.dlifetv.org)

- Diabetes magazines and books
- I will develop a diabetes self-care support plan. This plan helps me manage my diabetes. My plan may include family, friends, health care professionals, reliable internet sites, support groups, educational meetings, and additional community resources.

I need to understand how to manage my diabetes when I am sick.

**Sick Day Plan**
When I am sick I will:
- Still take my diabetes medicine(s) or insulin.
- Test my blood sugar every 2 to 4 hours.
- Eat foods from my meal plan if I can.
- Drink fluids:
  - If my blood sugar is more than 240 mg/dL, I will drink about ½ cup of sugar-free fluid every 30 to 60 minutes.
  - If my blood sugar is less than 240 mg/dL, I will drink about ½ cup of fluid that contains carbohydrate. If I am sick to my stomach, I will sip fluid slowly.
- Check my urine ketone levels if I have type 1 diabetes. Ketones may cause:
  - Frequent urination.
  - Thirst.
  - Breathing fast.
  - Nausea.
  - Stomach cramping or vomiting.
  - Shortness of breath.
  - Fruity smelling breath.
  - Muscle aches or stiffness.
  - Confusion.
- Let a friend or family member know I am not feeling well so they can check on me every 1 to 2 hours.
- Call my doctor:
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- If my blood sugar is more than 240 mg/dL for 2 days in a row.
- If my ketone levels are “moderate” or “large”.
- If I have a fever, nausea, or I am vomiting.
- Before taking any over-the-counter or herbal medicines.

I need to understand how to manage my diabetes with an insulin pump

**Insulin Pump**

- **How the insulin pump works**
  - My insulin pump uses only quick-acting insulin: Novolog, Humalog, or Apidra.
  - My insulin pump is set to deliver basal (background) insulin and bolus (meal time and correction) insulin.
  - My educator will teach me how to program my insulin pump with my personal settings.
  - My pump has alarms that will tell me if my pump is not infusing insulin. I will be taught how to respond to them.

- **Using the basal rate and bolus feature.**
  - My pump will deliver my basal rate throughout the day according to my settings.
  - I can have several different basal rates.
  - I will test my blood sugar and count my carbohydrates. I will enter my blood sugar level and carbohydrates into the pump. My pump will calculate and deliver my bolus and correction dose based on my settings.

- **When my blood sugar is over 240 mg/dL:**
  - I am at risk for ketoacidosis.
  - I need to check my ketones and give a correction dose of insulin through the pump.
  - I will re-check my blood sugar in 1 hour.
  - I will give an injection of insulin that is equal to my correction dose with a syringe and change my insertion site, if my blood sugar is not coming down.

- **Changing insertion site**
  - It is important to change my insertion site every 2-3 days to prevent infection.
  - I will not change my site at bedtime so I can be sure it is working right before I go to sleep.

- If I have problems with my insulin pump, I can contact:
The insulin pump company 24 hours a day. The telephone number is on the back of the pump
• My doctor.
• In Kalamazoo, call Bronson Diabetes Education Center at (269) 341-8585.
• In Battle Creek, call (269) 245-8190
• In South Haven, call (269) 639-2790

I need to understand how to be safe at school with diabetes

School Management
• Children with diabetes are covered by federal laws to make sure they are safe at school. These laws help make sure they have the same educational opportunities as other students.
• Parents, the child, and all school staff who care for the child with diabetes help make sure diabetes management continues at school.
• The school staff need to know:
  o What diabetes is
  o How to check blood sugar
  o Signs and symptoms of high and low blood sugar
  o How to treat low blood sugar
  o Use of glucagon
  o How and when to check for ketones
  o When to call 911
  o How to count carbohydrates
  o The action of insulin
    How to give insulin
  o How activity affects blood sugar
  o How much insulin to give for food or high blood sugar based on the child’s medical management plan. This plan is made by the child’s doctor and parent(s) and should be given to the school.
• I will contact the school office if my child’s medical management plan changes.

Why is this important to me?

How I manage my diabetes can improve how I feel. Knowing more about diabetes and what I can do to care for myself will help me manage my diabetes.
To help me understand diabetes, I may receive:

- Your Guide to Understanding Diabetes Management
- Nutrition packet
- Class packet
- Gestational packet
- Insulin pump packet
- Blood glucose meter
- Hyperglycemia pink handout
- Hypoglycemia blue handout
- How to count carbohydrates
- Choose your foods list
- Log book
- Glucose tab samples
- The Calorie King Calorie, Fat, and Carbohydrate Counter by Allen Boruschek
- Test Strips
- Syringes
- Pen Needles
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Resources for Staff

- Your Guide to Understanding Diabetes Management
- Understanding Diabetes (Pink Panther) - by H. Peter Chase, MD
- Understanding Insulin Pumps and CGMS (Pink Panther) – by H. Peter Chase, MD

Teaching Tools (items given to the patient)

- Your Guide to Understanding Diabetes Management - (given inpatient and outpatient)
- Understanding Diabetes (Pink Panther) – by H. Peter Chase, MD (given inpatient and outpatient)
- Understanding Insulin Pumps and CGMS (Pink Panther) – by H. Peter Chase, MD (given outpatient)
- Nutrition Packet – (given outpatient)
- Class Packet – (given outpatient)
- Insulin Pump Packet – (given outpatient)
- Gestational Packet – (given inpatient and outpatient)

References

- American Association of Diabetes Educators (AADE) Website – www.diabeteseducator.org

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

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