This packet has important information to keep your child healthy and safe on their journey with diabetes. Each person’s health is unique. If you have any questions about this information, please ask your doctors.

- An appointment has been made for your child:
  with ____________________________
  on ____________ at ________ am / pm

  Go to: The Pediatric Diabetes Clinic
  3700 California Street, Suite B555
  San Francisco, CA 94118
  (415) 600-0750

  Or

- Call to make an appointment at:
  The Pediatric Diabetes Clinic
  3700 California Street, Suite B555
  San Francisco, CA 94118
  (415) 600-0750

  Please tell us if you are unable to keep this appointment.

  Please bring your child’s blood glucose records and meter. It also helps if you bring his or her 3-day food record and current insulin plan.
# Table of Contents

## Introduction to Living with Diabetes
- What is Diabetes? ................................................................. 3
- Different Types of Diabetes .................................................... 4

## Basic Skills for Managing Your Diabetes

### Healthy Eating
- What Can I Eat? .................................................................... 8
- Carbohydrates and Meal Planning .......................................... 9
- Sample Menu ........................................................................ 13
- Planning Your Meal with the Plate Method ............................... 14

### Being Active
- Exercise is Good for You and Your Diabetes ......................... 18

### Blood Glucose Monitoring
- Steps for Testing Your Blood Glucose .................................. 20
- Target Blood Glucose Values ................................................ 23
- A1C Blood Test ...................................................................... 24

### Taking Medications Safely
- Pills for Type 2 Diabetes ...................................................... 28
- Insulin Injection .................................................................... 29

### Problem Solving
- Low Blood Glucose (Hypoglycemia) ...................................... 37
- Low Blood Glucose Emergency: Glucagon ............................. 39
- High Blood Glucose (Hyperglycemia) ..................................... 43
- What is Diabetic Ketoacidosis (DKA)? ................................. 44
- How to Check Your Urine for Ketones ................................. 45
- Sick Day Plan – When You Have Diabetes ......................... 47
- Diabetes Care During a Disaster .......................................... 48

### Reducing Risks
- Health Maintenance ............................................................. 50

### Healthy Coping
- Resources ............................................................................ 51
- Developmental Stages and Diabetes ....................................... 52
- Diabetes in School ................................................................. 55
What Is Diabetes?

Diabetes is a condition where the body is unable to use sugar (also called glucose) normally. Your body is made of millions of cells that need glucose for energy. Glucose comes from the foods you eat. Your blood carries glucose to the cells in your body. A hormone called insulin helps glucose enter the cells where it can be used or stored for energy. If the glucose can not get into the cells, it builds up in the blood.

When you have diabetes the amount of glucose in your blood becomes higher than normal. Your blood always has some glucose in it to provide your body with energy. However, too much glucose in the blood is not healthy.

Diabetes occurs for one of the following reasons:

• The body does not make enough insulin (called insulin deficiency).
• The body cannot use insulin properly (called insulin resistance).
• The body does not make enough insulin and can not use insulin properly.

Different Hormones Affect Blood Glucose Levels

The body relies on many different hormones to keep blood glucose levels in balance.

Hormones that lower blood glucose include insulin, amylin and glucagon-like peptide-1 (GLP-1). Insulin and amylin are both made in the pancreas, a gland located behind the stomach. GLP-1 is made by the small intestine.

Hormones that increase blood glucose include glucagon, cortisol and epinephrine. Glucagon is made by the pancreas, while cortisol and epinephrine are both made by the adrenal glands (located above the kidneys). These hormones are often referred to as the “stress” hormones.

Signs and Symptoms of Diabetes

Before being diagnosed with diabetes, you child may or may not experience some of the signs and symptoms of high blood glucose. Symptoms may include:

• Frequent urination
• Increased thirst
• Increased appetite
• Unexplained weight loss
• Blurry vision
• Frequent infections
• Dry, itchy skin
• Tiredness
Different Types of Diabetes

- **Type 1 Diabetes** occurs when not enough insulin is made in the pancreas. This is caused by injury to the insulin producing cells (beta cells) in the pancreas. In type 1 diabetes injury to the beta cells usually occurs because the body’s own immune system destroys them, causing insulin deficiency. This is called autoimmunity or self-allergy. A genetic predisposition (inherited genes) must be present for this to occur. These genes come from both the mother and father, and make someone more likely to get diabetes. If one parent has type 1 diabetes, the risk that their child develops type 1 diabetes is less than 8%. If neither parent has type 1 diabetes, the risk is even lower than that. Eighty percent of children with diabetes have type 1 diabetes. The treatment for type 1 diabetes is insulin, which is taken through a needle.

**The honeymoon period**

When your child is diagnosed with diabetes, about 10-20% of the beta cells in the pancreas are still able to make insulin. At the time of diagnosis, these cells are tired and do not produce much insulin. Several weeks after insulin treatment is started, these cells start to make insulin again – this is the start of the honeymoon period. During this time you will notice your child’s blood glucose levels come down. Insulin dosage will be lowered because not as much is needed to keep blood glucose within target range. However, the honeymoon is temporary and does not mean that the diabetes is cured. Your child’s insulin doses will eventually need to be increased again.

---

**Time Course of Type 1 Diabetes**

![Graph showing the time course of Type 1 Diabetes with key periods labeled: Trigger, Clinical Presentation, Honeymoon Period, Insulin Resistant Periods.](image-url)
• **Type 2 diabetes** is the most common form of diabetes in adults over age 40 years. About 90% of adults with diabetes have type 2. It is also becoming more common in children, particularly overweight teenagers. It is more common in Native Americans and at least half of Hispanic and African-American youth with diabetes have type 2 diabetes. Type 2 diabetes is inherited, but it is also linked with being overweight and not getting enough exercise (see risks of developing type 2 diabetes). Type 2 diabetes usually starts with the cells not being able to use insulin properly. Eventually, the cells of the pancreas get tired and start to make less insulin. People with type 2 diabetes may need medications (pills) and/or insulin.

• **Pre-diabetes** occurs when the blood glucose is higher than normal but not high enough to be considered diabetes. A child with pre-diabetes is more at risk for developing type 2 diabetes. Increasing physical activity, losing weight, and eating a healthy diet may delay or prevent the onset of type 2 diabetes.

• **Other** forms of diabetes are less common. They may include medical conditions of the pancreas or be caused by medications that prevent the body from using insulin properly (for example, steroid use). Pills or insulin may also be required to control blood glucose levels.

Steroids (for example, Prednisone®, Solumedrol® and Decadron®) treat certain conditions, like asthma, skin conditions and inflammatory bowel disease, and are used with some surgeries (for example, to prevent rejection of transplanted organs). Steroids also increase insulin resistance and prevent the body’s insulin from working properly. Over time, the doctor may decrease the amount of steroid medications your child needs. Therefore, it is important to be in close contact with your child's doctor to report his or her glucose levels so medications may be adjusted.

As of 2008, about 24 million Americans have diabetes. Most people with diabetes have type 2. Talk to your child's doctor about the type of diabetes your child has.
Type 2 Diabetes Risk Factors

It is not always clear why people get diabetes. Some things that may put your child at greater risk for developing diabetes are:

- Not exercising / not enough physical activity.
- Having a close relative with diabetes (family history).
- Being overweight.
- Being a member of a high-risk ethnic group — Hispanic/Latino, African American, Asian, Pacific Islander or Native American.
- Being born to a woman with diabetes during pregnancy and/or a birth weight of more than nine pounds.
- Having high blood pressure, greater than 140/90 mmHg.
- Having high blood levels of triglycerides, 250 mg/dL or more.
- Having low blood levels of high density lipoproteins (HDL), under 35 mg/dL.
- Being diagnosed with pre-diabetes.
- Smoking.
Your Child’s Hospital Stay and Beyond

It is important to learn all about caring for your child’s diabetes. At the time of diagnosis, you and your child will spend two to three days learning about diabetes. In the following pages, we cover the basic skills needed to help your child manage diabetes both in the hospital and at home. You will receive a lot of information in the next few days. This can be very overwhelming for children and families, but we are here to support you. With the right amount of information and support, you will have the tools necessary to control your child’s diabetes. We expect that you will have lots of questions once you get home. When you leave the hospital, you will be able to reach a doctor or diabetes educator 24 hours a day with urgent and non-urgent questions.

Basic Skills for Managing Your Child's Diabetes

Although parents play an important role in caring for their child early on, diabetes is mostly self-managed. Throughout this guide, you will find the seven self-care behaviors as defined by the American Association of Diabetes Educators, along with symbols to represent the behavior as described below. Each section has detailed self-care information. Use this guide to learn and to teach your child about caring for diabetes.

Healthy Eating

Being Active

Monitoring

Taking Medications (includes all types)

Problem Solving (when blood glucose is too low or too high)

Reducing Risks (through routine preventative care measures)

Healthy Coping
Healthy Eating

What Can I Eat?

Many people think that having diabetes requires a special diet. A healthy diet for your child is one that promotes normal growth and development, a healthy weight and blood glucose control. This can be a well-balanced diet that is suitable for the entire family.

Although food is not the only factor that raises blood glucose, it does have a large impact. Your child will have very few restrictions on types of food that can be included in his or her diet. You will learn how to keep track of what your child eats. Every family will work out a plan with a pediatric dietitian who has experience in diabetes education.

Type 1 diabetes

- Diet and exercise alone are not enough to treat type 1 diabetes.
- The amount of carbohydrate in the diet is important, and it depends on your child’s age and appetite. You will learn how to keep track of the amount of carbohydrates your child eats.
- We recommend that you limit your child’s intake of sugary drinks, and use them only to treat low blood glucose.

Type 2 diabetes

- Type 2 diabetes can sometimes be treated with diet and exercise alone.
- Treatment can include insulin and/or glucose lowering medications, diet and exercise.
- A healthy weight is important. Children with type 2 diabetes should eat a well-balanced diet that is low in fat, sugar and calories. Regular exercise also helps to achieve a healthy weight.
Carbohydrates and Meal Planning

What foods turn into glucose?
Carbohydrate turns into glucose in the body and raises blood glucose levels. Sugars and starches are the carbohydrates in our diet. These foods are our main source of energy. Some examples of foods that contain carbohydrate are rice, fruits, pasta, bread, potato, beans, peas, desserts, milk and yogurt. Carbohydrate “carb” ratios and carbohydrate controlled are two meal plans used to balance the carbohydrate eaten with the insulin given to help keep your child’s blood glucose levels in the target range.

Very little of the fat and protein eaten is converted into glucose, so these foods do not need to be counted. Fat and protein slow digestion and absorption, so a meal that includes some fat and protein may delay how fast the blood glucose rises. Remember that low-fat and low-calorie food choices are important for keeping a healthy weight.

Getting Started
To make meal planning work, the following two things need to be done:

1. Foods containing carbohydrate have to be measured or weighed to know how much is consumed. It takes time, effort, and practice to learn portion sizes. Measuring is a lot of work at first, but after some practice, you will be able to “eyeball” foods and will not have to measure everything every time you eat. It usually takes several weeks of measuring, recording and calculating to become comfortable.

2. Clear, accurate records must be kept for the following:
   - Times and results of the blood glucose readings
   - All food eaten (measured in grams of carbohydrate or number of carbohydrate choices/exchanges)
   - Time of meals and snacks
   - Time, type, and dose of insulin or oral diabetes medication
   - Type, duration, and intensity of exercise
   - Any additional influences on blood glucose level, such as illness, stress, and menstrual period

The next section will take you step-by-step through the process of following a meal plan.
Step 1: Choose a Meal Plan

The plan should be tailored to suit your child’s eating habits, lifestyle, medication regime, and any unexpected changes in routine. There are two types of meal plans:

1. **Carbohydrate controlled**: Families often start with this plan, which involves eating the same amount of carbohydrate at each meal or snack everyday. Insulin doses are changed based on the blood glucose level, exercise, and other factors such as illness, stress or menstrual period. When the amount of carbohydrate in the diet changes too much from day to day, it is harder to find the correct dose of insulin to give and the blood glucose levels become unstable.
   - Eat meals and planned snacks at about the same time each day. We recommend that meals be 4-5 hours apart with snacks in between. Morning and bedtime snacks are not required for all children (this depends on age). Most children need an afternoon snack.
   - Do not skip meals or snacks, even if blood glucose is high.
   - Eat about the same amount of carbohydrate at scheduled meals and snacks every day.
   - Eat only non-carb or low-carb foods between scheduled meals and snacks, or if your child is still hungry after finishing the target amount of carbohydrate.
   - If your child always struggles to finish the goal amount of carbohydrate, the goal amount may need to be reduced. If your child is always hungry after eating the goal amount of carbohydrate, the goal amount may need to be increased.

2. **Carbohydrate “carb” ratios**: Families often move to this plan later on, although some families find that this plan fits their lifestyle better from the beginning. In this plan, the total rapid-acting insulin dose given before a meal or snack accounts for the total number of grams of carbohydrate eaten and the amount needed to bring a high blood glucose down.
   - This plan involves counting grams of carbohydrate in food to be eaten. An amount of rapid-acting insulin is given that matches the number of grams of carbohydrate to be eaten. This is shown using an I/C (insulin to carbohydrate) ratio. An example of an I/C ratio is 1/15, or 1 unit of insulin for each 15 grams of carbohydrate. You and your child’s healthcare provider determine the best I/C ratio for your child.
   - The insulin given to bring a high blood glucose down is called a “correction factor”. An example of a correction factor is 1 unit for every 50 blood glucose points over a target blood glucose of 150. You and your child’s healthcare provider determine the right correction factor for your child. The I/C dose is added to the correction factor to determine the total rapid acting insulin dose given before a meal or snack.
**Step 2: Learn Which Foods are Carbohydrate**

**Some carbohydrate foods are:**

<table>
<thead>
<tr>
<th>Food</th>
<th>Food</th>
<th>Food</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>Fruits</td>
<td>Pretzels/Popcorn</td>
<td>Potato*</td>
</tr>
<tr>
<td>Lentils</td>
<td>Fruit juices</td>
<td>Pasta/Noodles</td>
<td>Yams*</td>
</tr>
<tr>
<td>Dried beans</td>
<td>Sugar/honey</td>
<td>Crackers</td>
<td>Peas*</td>
</tr>
<tr>
<td>Milk</td>
<td>Desserts</td>
<td>Bread</td>
<td>Corn*</td>
</tr>
<tr>
<td>Yogurt</td>
<td>Sodas</td>
<td>Cereals</td>
<td>Lima beans*</td>
</tr>
</tbody>
</table>

* These vegetables are starchy and raise blood glucose.

**Note:** High fiber food choices are encouraged (for example, whole grain breads and cereals; fresh fruits and vegetables; beans and legumes).

**Some non/low-carb (free**) foods include:**

- Meats, cheeses, eggs
- Peanut butter, nuts & seeds, olives, avocado
- Vegetables (except starchy vegetables such as corn, potatoes and green peas)
- Diet soda, Crystal Light®, sugar-free Jell-o®
- Fats such as salad dressing, butter, cream cheese

**Note:** Many products labeled as sugar-free, fat-free or reduced-fat still contain carbohydrate. These foods usually have the same amount of carbohydrate as the regular food they are replacing. It is important to read the nutrition facts when counting carbohydrates (see **Understanding a Food Label**).
Step 3: Measuring Carbohydrate

Measuring Cups                  Measuring Spoons                     Food Scale (optional)

The secret to following these meal plans is to figure out how much carbohydrate is in one portion of the food you are eating. The best place to find the amount of carbohydrate in a food is in the Nutrition Facts (or food label) found on food packages (see Understanding a Food Label). What you may consider to be one serving of a food will not always equal what the food label calls one serving. Count the amount of carbohydrate according to how much is actually eaten.

Another tool to use is the Diabetic Exchange Lists. This tool is especially helpful if a food does not have a label. In these lists, each food portion is adjusted to equal 15 grams of carbohydrate, or 1 carbohydrate choice. The first portion listed is a common portion. If you want to use a food scale, the weight is listed in parentheses. A separate Diabetic Exchange Lists handout is available at the Pediatric Diabetes Clinic.

Remember…

- Avoid sugary drinks, like juice and regular soda, except to treat low blood glucose.
- Water and low fat milk are the best choices for drinks, but sugar-free drinks are fine if the child wants flavor.
- The total amount of carbohydrate eaten is most important, not the kind of carbohydrate. The dietitian will teach you how to include small amounts of desserts in your child’s meal plan as part of a healthy diet.

My Carbohydrate Controlled Plan

<table>
<thead>
<tr>
<th>Meal</th>
<th>Time</th>
<th># Grams of Carbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snack</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Or

My I/C Ratio for Carb Ratios

_____ unit(s) per _____ grams carbohydrate/carb choice(s)
## Sample Menu

<table>
<thead>
<tr>
<th>Time</th>
<th>Meal</th>
<th>Options</th>
<th>Carbohydrate (g)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 AM</td>
<td>BREAKFAST</td>
<td>1 small orange or 1 small banana (4 oz including the peel)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 slices whole grain bread or 1 whole English muffin</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 egg/egg substitute or 1 - 2 oz low-fat cheese/ham/turkey</td>
<td>45 Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tbsp margarine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>water or sugar-free drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30 AM</td>
<td>SNACK</td>
<td>8 oz nonfat or low-fat milk or 1 small fruit or ½ sandwich</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>12 PM</td>
<td>LUNCH</td>
<td>2 slices bread or 2 corn tortillas (6 inches across) or ½ cup rice or 1 medium potato (6 oz)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 oz 1% low-fat milk or 1 small fruit</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - 5 oz meat, chicken or fish (not fried or breaded)</td>
<td>45 Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetable and/or green salad (no limit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 tsp mayonnaise or vinaigrette dressing (if desired)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water or sugar-free drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 PM</td>
<td>SNACK</td>
<td>1 cup light yogurt (with sugar substitute) or 8 oz low-fat milk or 6 Saltine® crackers with peanut butter</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>6 PM</td>
<td>DINNER</td>
<td>½ cup pasta or ½ cup rice or 1 medium potato (6 oz)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 oz low-fat milk or small fruit</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - 5 oz fish, meat or chicken (not fried or breaded)</td>
<td>45 Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vegetables (carrots, broccoli, cauliflower, bok choy, pepper, spinach)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Salad greens with low-fat dressing (if desired)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water or sugar-free drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tbsp sour cream or margarine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30-9 PM</td>
<td>SNACK</td>
<td>1 small fruit with ½ cup cottage cheese or ½ sandwich or 8 oz low-fat milk or 1 cup light yogurt (with sugar substitute)</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Meals and snacks should be at least 2 ½ - 3 hours apart.

*This is an example only. Individual needs vary greatly and are influenced by many factors.*
Planning Your Meal With The Plate Method

The Plate Method is a visual method designed to make meal planning easy.

Vegetables
Fill half (½) of your plate with salad, leafy greens (raw or cooked)

Carbohydrates
Fill a quarter (¼) of your plate with carbohydrates

- Appropriate number of carbohydrate choices depends on the age of your child.
  Ask the dietitian about the right number of carbohydrate choices for your child.

  For snacks between meals, choose 1-2 carbohydrate choices (about 15-30 grams of carbohydrates for example, 1 small apple and/or 1 artificially sweetened yogurt, or 3 cups popcorn).

Protein
Fill a quarter (¼) of your plate with protein: include 3 - 6 ounces
(3 ounces = 1 deck of poker cards)
Fats and Oils

Restricting fat for children younger than 2 years is not recommended because they need fat to develop the brain and central nervous system. For an overweight or obese child, a plan should be put in place to reduce total dietary fat. Choose unsaturated fats (omega-3, monounsaturated and polyunsaturated) such as olive oil, peanut oil, canola oil, olives, nuts, seeds and avocado.

Sugar Substitutions

Artificial sweeteners that are approved by the Food and Drug Administration (FDA) are safe to use. Common brand names include:

- Equal® and NutraSweet® (aspartame)
- Splenda® (sucralose)
- Sugar Twin®, Sweet-10®, Sweet’N Low®, and Sprinkle Sweet® (saccharin)
- Sweet One® (acesulfame K)

These sweeteners have been tested for safety, but it is best to use them in moderate amounts.

Sugar alcohols are another type of sugar substitute. Sorbitol, mannitol and xylitol are sugar alcohols that produce lower blood glucose than regular sugar and other carbohydrates. Consuming too much sugar alcohol can upset the stomach, so use in moderation. Sugar alcohols do contain carbohydrates and calories so they must be counted as part of the total carbohydrate.
Understanding a Food Label

The two most important pieces of information for the carbohydrate controlled and carb ratio diets are:

- The serving size.
- The grams of total carbohydrate.

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size 1 cup (228g)</th>
<th>Servings Per Container 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount Per Serving</strong></td>
<td></td>
</tr>
<tr>
<td>Calories 90</td>
<td>Calories from Fat 30</td>
</tr>
<tr>
<td>% Daily Value*</td>
<td></td>
</tr>
<tr>
<td><strong>Total Fat</strong> 3g</td>
<td>5%</td>
</tr>
<tr>
<td>Saturated Fat 0g</td>
<td>0%</td>
</tr>
<tr>
<td>Cholesterol 0mg</td>
<td>0%</td>
</tr>
<tr>
<td>Sodium 300mg</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Total Carbohydrate</strong> 13g</td>
<td>4%</td>
</tr>
<tr>
<td>Dietary Fiber 3g</td>
<td>12%</td>
</tr>
<tr>
<td>Sugars 3g</td>
<td></td>
</tr>
<tr>
<td>Protein 3g</td>
<td></td>
</tr>
</tbody>
</table>

- Vitamin A 80% • Vitamin C 60%
- Calcium 4% • Phosphorus 4%

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

<table>
<thead>
<tr>
<th>Calories: 2,000</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
</tr>
<tr>
<td>Sat Fat</td>
<td>Less than 20g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
</tr>
<tr>
<td><strong>Total Carbohydrate</strong></td>
<td>300g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
</tr>
</tbody>
</table>

**First: Check Serving Size**
- The serving size for this food is 1 cup.
- There are 2 servings or 2 cups in this container.

**Second: Count Total Carbohydrate Content**
- The Total Carbohydrate tells how many grams of carbohydrate are in 1 serving size. 15 grams of carbohydrate is equal to 1 carbohydrate choice (so 1 serving of this is equal to about 1 carbohydrate choice).
- Fiber is also included in the total carbohydrate amount.
- Sugar is already included in the total carbohydrate amount. This value shows the total amount of both natural and added sugars.
Meal Planning Resources

Books

American Diabetes Association (www.diabetes.org)
- Exchange Lists for Meal Planning, 2007
- The Complete Guide to Carb Counting by Hope Warshaw
- The Healthy Lunch Box
- Month of Meals: Classic Cooking
- Month of Meals: Ethnic Delights
- Month of Meals: Old-Time Favorites
- Month of Meals: Meals in Minutes
- Month of Meals: Vegetarian Pleasures
- Diabetes Meal Planning Made Easy, (3rd Edition) by Hope Warshaw
- Magic Menus for People with Diabetes
- The American Diabetes Associations Guide to Healthy Restaurant Eating by Hope Warshaw

Health Innovations (www.parknicollet.com)

Other
- Bowes and Churches Food Values of Portions Commonly Used by J Pennington
- Calories and Carbohydrates, (16th edition) by Barbara Kraus

Note: You can find many of these resources at regular bookstores. Amazon.com also carries them and may even offer used copies at a reduced price.

Other Resources

Carb Cards
Rx4 Better Health
1-800-798-6972
www.rx4betterhealth.com
Click on “Carb Cards” (listed on the right side of the home page)

Nutrition Placemat
By Kelly Van Horn, RD, CDE
Tabletop Nutrition, LLC
425-898-9431
www.tabletopnutrition.com
ttnutrition@earthlink.net
Being Active

Exercise is Good For You and Your Diabetes

It is important for all children to be active. The best types of exercise for your child will depend on his or her age. Infants, toddlers and preschool children get regular and often intense exercise through play. Older children may take part in individual or group sports at school or at home. Managing diabetes with exercise is one of the many skills you will learn over time with the help of your child’s doctor.

Exercise, along with insulin, oral medications (for type 2 diabetes), food and stress all affect blood glucose levels. Exercise can either lower or raise the blood glucose level. However, it more commonly causes low blood glucose in children. Our goal for children with diabetes is that they continue to be active safely, which means minimizing and treating low blood glucose that occurs from exercise.

Tips for Preventing and Treating Low Blood Glucose

- Aim for higher blood glucose levels before exercise (such as 180 mg/dL). Extra snacks or less insulin may be needed.
- Think ahead to prevent low blood gluoses during and up to 12 hours (“delayed hypoglycemia”) after the exercise.
  - The evening insulin dose may need to be reduced.
  - Add an extra 15 to 30 grams of carbohydrate at bedtime if afternoon and evening exercise was intense.
  - Make sure the bedtime blood glucose is above 130 mg/dL.
- Sip drinks such as Gatorade® (you can dilute it with water) during intense exercise.
- Always carry a meter and fast acting sugar to treat and prevent low blood glucose.
- Doing extra blood glucose tests can be very helpful.
- Drink more water during exercise to prevent dehydration.
- Wear a medical alert bracelet (call 1-888-633-4298 to request a catalog).

Caring for diabetes with exercise takes trial and error. Every child and every type of exercise is different. Over time, you will learn how different kinds of exercise affect your child’s blood glucose and how to manage it.
**Type 2 Diabetes and Exercise**

Exercise helps to control weight, blood pressure and cholesterol for children with type 2 diabetes. By working the muscles, the body will use insulin more efficiently (whether it is your child's own insulin or insulin taken by injection). Keep in mind that every little bit helps. Walking 30 minutes a day, in addition to a healthy diet, has shown good results in preventing and controlling diabetes.

Help your child choose an exercise routine that he or she enjoys. Set realistic goals and make a plan. Start slowly, build up, and monitor how it affects your child’s blood glucose. Make it a family or friend event and go together!

**Why is it Important to Reach or Maintain an Optimal Weight?**

Weight control decreases your child’s risk for heart disease and high blood pressure. Reducing body fat also improves blood glucose control. If your child is overweight, talk to his or her doctor about a realistic weight loss goal. Allow a reasonable time to reach the goal. Do not lose more than 2 pounds per week.
Blood Glucose Monitoring

Regularly checking your child’s blood glucose tells you how food, exercise, medication or illness affects his or her diabetes. Knowing this helps you better control your child’s blood glucose levels.

There are two different tests to check blood glucose:

- Self-monitoring blood glucose test
- A1C blood test

**Self-Monitoring Blood Glucose**

In order to test your child’s blood glucose, you need a blood glucose meter, test strips, and lancets (needles used to poke the finger). Using a small drop of blood from the finger, the meter tells you how much glucose is in the blood at the time of the test. Health insurance plans usually cover glucose testing supplies with a prescription signed by the doctor. You can generally find these items at any pharmacy. Depending on your child’s health plan, you may need to get them through a mail-order pharmacy.

**Steps for Testing Blood Glucose:**

- Review the instructions that come with the meter.
- Wash hands in warm, soapy water and dry them.
- Insert a test strip into the meter.
- Poke finger with a lancet to get a blood drop.
- Apply the blood drop to the test strip.
- The meter then gives you the blood glucose result.

**Note:** Use a different finger each time and adjust the lancet device to the lowest setting that will still allow you to get enough blood. You may use all ten fingers. This can lower pain from the lancets.
If your child is not getting enough blood:

• When washing hands, use warm water to increase blood flow to the hands.
• Have your child gently shake his arm down to get more blood into the fingers.
• Press the lancet firmly against the side, not the center, of the fingertip and push the button to poke the finger.
• Massage your child’s finger after you poke it to get a bigger drop of blood.

Taking Care of the Glucose Meter and Test Strips

• If you have questions, call the toll-free number on the back of the meter.
• Glucose meters run on batteries. Have spare batteries available.
• Keep test strips covered, dry and in the packaging until you use them.
• Do not use test strips after the expiration date.
• Keep test strips at room temperature, below 86° Fahrenheit. Do not refrigerate.
• Do not put used lancets in the garbage! Throw them away in a sharps container.

Quality control
To check if your meter is working correctly, use the control solution that comes with your meter to do a control test. You can get more information on how to do this by reading the instruction book, or by calling the 24-hour, toll-free number printed on the back of the meter.

Keep a Log Book of Your Child’s Blood Glucose Results
Tracking blood glucose levels over time tells you how well your child’s diabetes plan is working. Many meters come with a log book to track results. Every time you check your child’s blood glucose, record the result in the log book. Bring the log book and meter to all of your child’s health care appointments.

Other things to track:

• Any changes in how your child feels, including illness or stress.
• Unusually low or high blood glucose readings.
• Your child’s diabetes pills and/or insulin.
### When to Check Your Child’s Blood Glucose

There are recommended routine times during the day to check blood glucose. In addition to the times listed below, always test your child’s blood glucose if they are feeling symptoms of low or high blood glucose.

<table>
<thead>
<tr>
<th>Plan 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Every morning on an empty stomach</td>
<td></td>
</tr>
<tr>
<td>• Before main meals</td>
<td></td>
</tr>
<tr>
<td>• Bedtime</td>
<td></td>
</tr>
<tr>
<td>• 3:00 AM, as needed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Target Blood Glucose Values*

Your child's doctor defines his or her target blood glucose values. The goal is to keep your blood glucose level within your target range most of the time. Your child’s blood glucose may be below or above the target range some of the time. Our goal is to minimize the frequency of low and high blood glucoses and teach you how to respond to blood glucoses that are out of range.

### Target Home Blood Glucose Values

recommended by the Center for Pediatric Diabetes Services

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (non-diabetic)</td>
<td>70-120 mg/dL</td>
</tr>
<tr>
<td>Type 1 Diabetes</td>
<td></td>
</tr>
<tr>
<td>Age 0-6 years</td>
<td>80-200 mg/dL</td>
</tr>
<tr>
<td>Age 6-12 years</td>
<td>70-180 mg/dL</td>
</tr>
<tr>
<td>Age 13-19 years</td>
<td>70-150 mg/dL</td>
</tr>
<tr>
<td>Age 19 or older</td>
<td>70-140 mg/dL</td>
</tr>
<tr>
<td>Type 2 Diabetes</td>
<td></td>
</tr>
<tr>
<td>Fasting and before meals</td>
<td>70-120 mg/dL</td>
</tr>
<tr>
<td>Two hours after the start of a meal</td>
<td>under 160 mg/dL</td>
</tr>
</tbody>
</table>

In the hospital, a blood glucose result below 80 is treated as low regardless of your child's age. At home, your child's individualized target blood glucose values will be:

-  
-  

During the hospital stay and for the first 1-2 weeks at home, your child’s blood glucose values may be above the target range. After diagnosis, it takes time to find the right insulin dose for your child. When your child leaves the hospital and returns home to their normal routine and activity level, blood glucose values will come down. Once at home, you will be able to reach the pediatric diabetes educators by phone for help in making any insulin and medication adjustments.

It is important to know what to do if your child's blood glucose is outside his or her target range. Refer to Problem Solving to treat low and high blood glucose values.
**A1C Blood Test**

The A1C is a laboratory test that measures the average blood glucose levels over the last 2 - 3 months. It measures overall control. This is an important test for children with diabetes. A1C will be measured every 3 months during your child’s diabetes clinic visit.

<table>
<thead>
<tr>
<th>Age</th>
<th>A1C (%) Goal</th>
<th>Average Glucose (mg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 0-6 years</td>
<td>7.5-8.5</td>
<td>80-200</td>
</tr>
<tr>
<td>Age 6-12 years</td>
<td>&lt; 8</td>
<td>70-180</td>
</tr>
<tr>
<td>Age 13-18 years</td>
<td>&lt; 7.5</td>
<td>70-150</td>
</tr>
<tr>
<td>Adult</td>
<td>&lt; 7</td>
<td>70-140</td>
</tr>
</tbody>
</table>

What was your A1C test result?  _________     Date: __________
Sharps Containers

Lancets and syringe needles are called *sharps*. Used sharps must be put into special sharps containers and then taken to a safe needle disposal site. This helps protect people from needle-sticks that can infect them with diseases like hepatitis or HIV/AIDS.

**It is illegal to throw needles in the garbage!**

San Francisco Safe Needle Disposal Program

San Francisco has a Safe Needle Disposal Program at Walgreens® pharmacies. If you do not have a sharps container, you can get one free at Walgreens.

1. Put all of your used sharps in this container.
2. Close and lock the lid when the container is full.
3. Bring the full container back to Walgreens to get a new one.

Other Programs

- Call your local pharmacist, garbage service or public health department and ask about safe sharps disposal.
- The Centers for Disease Control web site has information on safe community needle disposal in most states. Go to www.cdc.gov/needledisposal.
- The Coalition for Safe Community Needle Disposal is a nationwide program. Visit their web site at www.safeneedledisposal.org or call 1-800-643-1643 for information on disposal sites near you. They also have information on companies that offer “mail-back” programs for used sharps.
- Earth 911 is a web site that lets you search for sharps disposal sites in your area. Visit www.earth911.org and use the search box at the top of the page.
## DIABETES LOG

<table>
<thead>
<tr>
<th>Time</th>
<th>Bld Sugar</th>
<th>CHO</th>
<th>Humalog</th>
<th>NPH</th>
<th>Lantus</th>
<th>Activity</th>
<th>Ketones</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CURRENT RATIOS**

CHO: (Breakfast) ____ units / _____ gr.
(Other) ____ units / _____ gr.
Hi: ____ units / _____ B.S. > ______

**Name:**
**Home Tel:**
**Work Tel:**
**Cell phone:**

CPMC - Center for Diabetes Services
Your Blood Glucose Monitoring Record

<table>
<thead>
<tr>
<th>Day</th>
<th><em>Fasting</em> (before breakfast)</th>
<th>AM Snack</th>
<th><em>Before Lunch</em></th>
<th>AM Snack</th>
<th><em>Before Dinner</em></th>
<th><em>Bedtime</em></th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fri</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Target Blood Glucose: ______________________

This is a sample template of a glucose record. You may use the logbook that came with your glucose monitor. This information helps you and your doctor make adjustments to your treatment plan.

* Minimum recommended blood glucose testing
Taking Medications Safely

Pills for Type 2 Diabetes

If your child has type 2 diabetes, your child’s doctor may order a medication in pill form to control his or her diabetes. **These medications do not contain insulin.** The medication most commonly used in children with type 2 diabetes is Metformin®.

Metformin® (Glucophage)

- Glucophage or Metformin helps lower the blood glucose levels in type 2 diabetes.
- It works by allowing your body to use the insulin it already produces.
- Metformin can cause some stomach bloating, nausea, cramping, and diarrhea when you first start taking the medicine. It usually goes away within a few days. It helps to take Metformin with food to prevent stomach discomfort.
- Lactic acidosis is a **very rare**, but serious metabolic complication. It can be prevented by avoiding Metformin use in patients with:
  - kidney disease
  - liver disease
  - who are seriously dehydrated (have lost a lot of water from your body)
  - a severe infection
  - having surgery
  - having an x-ray procedure with injection of dyes (contrast agents)
  - alcoholism or binge drinking
  - heart disease
- Metformin comes as 500 mg and 1000 mg tablets. The maximum dose is 2000 mg twice a day.
Insulin Injection

Insulin is a hormone that lowers blood glucose. Insulin cannot be taken as a pill because stomach enzymes destroy it before it can work. This section is about using insulin safely. This means knowing how to draw up and inject insulin as well as knowing how different insulin works (specifically, action and timing).

How to Mix Insulin (Vial and Syringe)

1. Wash your hands and gather your supplies.

2. **Never shake a vial of insulin.** Take the cloudy (NPH) insulin and roll the vial between your hands until the insulin is evenly cloudy.

3. Clean the top of both the clear (Novolog®, Humolog® or Apidra®) and the cloudy vials with an alcohol wipe.

4. Note the amount of clear insulin you will need. Pull the plunger until you fill the syringe with that amount of air.
5. With the vial right side up, push the needle into the rubber stopper on top of the vial and push the air in the syringe into the cloudy vial of insulin.

6. Repeat the same process for the clear vial of insulin, but do not take out the syringe.

7. Turn the clear vial upside down with the syringe still in the rubber stopper.

8. Slowly pull the plunger to fill the syringe with clear insulin. To get the right number of units, make sure that the top of the black plunger is lined up to match the number of insulin units needed.

9. Look for air bubbles. If there are air bubbles in the syringe, that means you will not be getting the right amount of insulin. If you see air bubbles in the syringe, push the insulin back into the vial (do not pull out the needle) and start over from Step 8.

10. When you have the correct number of units in the syringe, pull the needle out of the rubber stopper.

11. Once the clear insulin has been drawn up in the syringe, then draw up the cloudy insulin. If you draw up too much cloudy insulin then you must discard the insulin and start over.

12. Once you have drawn up both types of insulin, you are ready to inject the insulin. Please see instructions below on how to properly inject insulin.
How to Inject Insulin

1. Clean your skin where the injection is to be made. You may use soap and water or an alcohol wipe. Make sure your skin is completely dry before you inject. Use the abdominal area (unless otherwise advised) as insulin is most evenly absorbed in this area. Change the site on the abdomen for each injection. Stay one inch or more away from your navel with each injection. (See Figure A below, *Where to Inject Insulin Safely.*)

2. With one hand, pinch your skin away from muscle.

3. Pick up the syringe with the other hand and hold it the same way as you would hold a dart. Do not let the needle touch anything. Insert the needle straight into the skin. Be sure to insert the needle all the way. It is best for most people to use a 90 degree angle to inject insulin.

4. To inject the insulin, push the plunger all the way down and hold for ten seconds.

5. Pull the needle straight out of the skin.

6. If necessary, you may press your finger or an alcohol swab over the spot where you gave your injection, but do not rub the area.

7. Place the syringe with the needle into a sharps container according to the instructions in *Blood Glucose Monitoring.* Never recap a needle!
How to Use an Insulin Pen

1. Wash your hands and gather your supplies.

2. Clean your skin (see Step 1 of How to Inject Insulin on the previous page).

3. Peel back the paper cover on the needle, and attach the needle to the pen by screwing it into place.

4. Do an “air shot” to remove excess air in the insulin cartridge. Turn the dial to 2 units. Push the bottom of the dial (end of the pen) all the way in. Check that the insulin has come out of the needle tip. If not, repeat the air shot.

5. Make sure the dial goes back to zero (“0”). It is very important to do this step each time you take a shot and to use a new needle each time.

6. Dial the pen to the amount of units needed.

7. Follow the steps on How to Inject Insulin on the previous page (only press the dial to deliver your injection). See manufacturer recommendations for how long to hold the plunger down and how to store the pens.

8. Remove the needle from the pen and place it in a sharps container. Do not store the pen with the needle attached. This may cause insulin to leak out, and you may not get the correct dose.
Action and Timing of Different Types of Insulin

The point at which insulin starts working is called the **onset**. The time when insulin is working the strongest is called the **peak**. The **duration** is how long the insulin works in the body before it is gone. Knowing when insulin is working in your body helps you to prepare and respond better to high or low blood glucose.

<table>
<thead>
<tr>
<th>Insulin Type</th>
<th>Color</th>
<th>Length of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rapid Acting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humalog® (lispro)</td>
<td>Clear</td>
<td>Onset: 0 - 15 minutes</td>
</tr>
<tr>
<td>Novolog® (aspart)</td>
<td></td>
<td>Peak: 30 - 90 minutes</td>
</tr>
<tr>
<td>Apidra® (glulisine)</td>
<td></td>
<td>Duration: Up to 5 hours</td>
</tr>
<tr>
<td><strong>Intermediate Acting NPH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humulin N®</td>
<td>Milky white when mixed (rotate vial to mix)</td>
<td>Onset: 2 - 4 hours</td>
</tr>
<tr>
<td>Novolin N®</td>
<td></td>
<td>Peak: 6 - 10 hours</td>
</tr>
<tr>
<td><strong>Long Acting</strong></td>
<td></td>
<td>Duration: Up to 20 hours</td>
</tr>
<tr>
<td>Lantus® (glargine)</td>
<td>Clear</td>
<td>Onset: 1 - 2 hours</td>
</tr>
<tr>
<td>Levemir® (detemir)</td>
<td></td>
<td>Peak: no peak</td>
</tr>
<tr>
<td><strong>Premixed: Short and Intermediate Acting</strong></td>
<td>Milky white</td>
<td>Duration: Up to 20 hours</td>
</tr>
<tr>
<td>Humulin® 70/30</td>
<td></td>
<td>Onset: 30 minutes - 1 hour</td>
</tr>
<tr>
<td>Novolin® 70/30</td>
<td></td>
<td>Peak: 2 - 10 hours</td>
</tr>
<tr>
<td>Humulin® 50/50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Premixed: Rapid and Intermediate Acting</strong></td>
<td>Milky white</td>
<td>Onset: 0 - 15 minutes</td>
</tr>
<tr>
<td>Humalog-Mix® 75/25</td>
<td></td>
<td>Peak: 30 minutes - 12 hours</td>
</tr>
<tr>
<td>Novolog-Mix® 70/30</td>
<td></td>
<td>Duration: Up to 20 hours</td>
</tr>
<tr>
<td>Humalog® 50/50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Insulin Regimens

The lines in each graph below show the action of insulin over time.

Rapid-Acting and Intermediate-Acting

Rapid-Acting and Long-Acting

Rapid-Acting and Long-Acting and Intermediate-Acting
California Pacific Medical Center
Diabetes Clinic Visit Summary

Phone: (415) 600-0750
Fax: (415) 600-0755

Name: ________________________________ Date of Visit: ________________

Today’s HgbA1C is: _________ Last HgbA1C was: _________ Goal is: _________

Testing: We recommend testing glucose at least 4 times a day – before meals and at bedtime and as needed for symptoms of hypoglycemia

Current Meal Plan (Carbs)

<table>
<thead>
<tr>
<th></th>
<th>Breakfast</th>
<th>Snack</th>
<th>Lunch</th>
<th>Snack</th>
<th>Dinner</th>
<th>Bedtime</th>
</tr>
</thead>
</table>

Insulin Recommendations

<table>
<thead>
<tr>
<th></th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Units</td>
<td>Humalog/Novolog</td>
<td>Humalog/Novolog</td>
<td>Lantus:</td>
<td>Lantus:</td>
</tr>
<tr>
<td>&lt;100</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>&lt;100</td>
</tr>
<tr>
<td>101-150</td>
<td>101-150</td>
<td>101-150</td>
<td>101-150</td>
<td>101-150</td>
</tr>
<tr>
<td>151-200</td>
<td>151-200</td>
<td>151-200</td>
<td>151-200</td>
<td>151-200</td>
</tr>
<tr>
<td>201-250</td>
<td>201-250</td>
<td>201-250</td>
<td>201-250</td>
<td>201-250</td>
</tr>
<tr>
<td>251-300</td>
<td>251-300</td>
<td>251-300</td>
<td>251-300</td>
<td>251-300</td>
</tr>
<tr>
<td>301-350</td>
<td>301-350</td>
<td>301-350</td>
<td>301-350</td>
<td>301-350</td>
</tr>
<tr>
<td>351-400</td>
<td>351-400</td>
<td>351-400</td>
<td>351-400</td>
<td>351-400</td>
</tr>
<tr>
<td>&gt;400</td>
<td>&gt;400</td>
<td>&gt;400</td>
<td>&gt;400</td>
<td>&gt;400</td>
</tr>
</tbody>
</table>

Insulin to Carb Ratio: _____ unit(s) for every _____ grams/carb

Corrective Dose: _____ unit(s) for every _____ points over _____ (target)

Injection Sites: _____ abdomen _____ arms _____ legs _____ buttocks

Trouble areas to stay away from: __________________________

Goals / Plan:

1.
2.
3.

Instructions:

Call 415-600-0770 to schedule your next appointment in 8 weeks.

MD Signature: ______________________________ Date: ________________
General Insulin Tips

- Insulin lowers blood glucose.

- Insulin cannot be taken orally as a pill because stomach enzymes destroy it before it can work.

- Each kind of insulin has its own characteristic *onset*, *peak* and *duration*.

- Check with your child's doctor before changing the amount, type or brand of insulin.

- Your insulin dosages are based on your blood glucose levels, meal plan and activity. They will probably change over time. This does not mean your child's diabetes is getting worse!

- Double check the dose. If you overdraw, start over.

- Use the insulin by the expiration date on the vial. An open vial of insulin can be kept in the refrigerator or at room temperature, but once it is open it is only good for 28 days. Keep unopened vials of insulin in the refrigerator.

- Ask your diabetes educator to show you ways to get rid of air bubbles.

- Lantus® (glargine) and Levemir® (detemir) cannot be mixed with other insulin.

- If the needle bends while you draw up the insulin, do not straighten it. Place the bent needle in a sharps container and start over with a new needle.

- If you notice a bump or bruise at the site of an injection, avoid using that site again until it returns to normal.
Blood Glucose Values
It is important to know what to do if your child's blood glucose is outside the target range. See the guidelines below.

Low Blood Glucose (Hypoglycemia)
Low blood glucose, also called hypoglycemia, is a true emergency. It can happen suddenly and progress rapidly to a coma. It is important to know how to prevent, recognize and treat low blood glucose.

Low blood glucose is a reading under 70 mg/dL with or without symptoms (80 mg/dL if child is younger than 5 years of age), or between 70 - 100 mg/dL with symptoms.

Symptoms of low blood glucose:

Early symptoms
- Shakiness
- Sweaty, cold or clammy skin
- Dizziness or lightheadedness
- Anxiousness or nervousness
- Fast heart beat
- Hunger
- Headache
- Irritability
- Weakness or fatigue
- Vision changes

Late symptoms
- Tingling around the mouth
- Mental dullness
- Personality changes
- Seeing spots in front of your eyes or vision changes

Your child may have low blood glucose even if he or she does not have all of these symptoms. If your child has symptoms of low blood glucose, do a test right away. If you cannot test, treat as if he or she has low blood glucose.

To treat low blood glucose, follow the 15/15 Rule (see next page).
Low Blood Glucose Treatment: 15/15 Rule

1. Treat low blood glucose by giving one serving of fast-acting sugar from the following list (each serving below contains about 15 grams of fast-acting sugar):
   - 3 square or 4 round glucose tabs
   - ½ cup (4 oz) fruit juice
   - ½ cup (4 oz) of regular (not diet) soda
   - 1 tablespoon of sugar mixed with water
   - 5 small sugar cubes
   - 8 Lifesavers® candies
   - 2 tablespoons of raisins (mini box size)
   - 1 cup of non-fat milk

2. 15 minutes after treating the symptoms, test your blood glucose:
   - If your child’s blood glucose is still less than 70 mg/dL, or between 70 - 100 mg/dL with symptoms, give another 15-gram serving of fast-acting sugar from the list above.
   - Repeat until blood glucose is over 70 mg/dL and the symptoms are gone.
   - If low blood glucose has not resolved after two servings of fast-acting sugar (in 30 minutes), get medical help.
   - If your child’s next meal or snack is more than 30 minutes away, have him or her eat a snack once their blood glucose returns to normal. The snack should include protein and carbohydrate.

Examples of Snacks:
   - 8 oz of milk
   - a ½ sandwich with protein, cheese, or peanut butter
   - 6 crackers with meat, cheese, or peanut butter

When taking insulin, it is important for your child to carry fast-acting sugar and a glucometer with them at all times
Dr.ing and Low Blood Glucose

If your blood glucose is below 70 mg/dL, your driving skills will be impaired and put you and others at risk for injury. To be safe, check your blood glucose before driving. Always carry your blood glucose meter, glucose tabs and a small snack with you. That way, if you get stuck in traffic or your blood glucose gets low, you can treat it.

Do not drive if:

- Your blood glucose is below 70 mg/dL (must be above 100 mg/dL to drive)
- You have symptoms of low blood glucose

Low Blood Glucose Emergency: Glucagon

If your blood glucose level gets so low that you cannot safely swallow food or drink or you pass out or have a seizure, you need to raise it quickly. Glucagon is a medicine that raises your blood glucose immediately. It is given by injection. Someone else must give you the injection because you may not be fully conscious. Your doctor gives you a prescription for a glucagon rescue kit which contains the following:

- A small bottle of dry glucagon
- A syringe filled with liquid
- Simple instructions – please refer to these in addition to reading the guidelines below

If You Can Not Safely Swallow, or You Pass Out from Low Blood Glucose:

- Your parent or another person must give the glucagon injection
- Someone must call 911
- Call your endocrinologist: (415) 600-0750
Preparing Glucagon for Injection*

1. You must mix the dry glucagon with the liquid in the syringe before giving the injection.

2. Remove the flip-off seal from the bottle of glucagon.

3. Remove the needle cover from the syringe. Do not remove the plastic clip from the syringe. This clip prevents the plunger from being pulled out of the syringe.

4. Inject all of the liquid in the syringe into the bottle of glucagon, and then remove the syringe from the bottle.

5. Swirl the bottle gently until the dry glucagon dissolves completely. The mixture will look clear like water. Do not use the medicine if it looks cloudy or thick.

6. Hold the bottle upside down and insert the syringe into the bottle. Pull the plunger back until the syringe fills with the mixture.

7. For children:
   - if child weighs less than 20 kg or 45 lbs, give 0.5 mg (or ½ dose)
   - If child weighs more than 20 kg or 45 lbs, give 1 mg (or full dose)

Now you can give the injection:

1. Clean a spot on the buttock, arm or thigh with an alcohol swab.

2. Inject the glucagon mixture, and then withdraw the syringe. Press an alcohol swab on the injection site.

3. Turn the child on his or her side. This helps prevent the person from choking if he or she vomits.

4. Call 911.

5. As soon as the person is awake enough to safely swallow food and drink, he or she must drink either a regular soft drink or juice followed by a carbohydrate snack, such as crackers and cheese or a 1/2 sandwich, to prevent a rebound low glucose.

6. In severe hypoglycemia, always give glucagon and call 911.

Always tell your doctor if you have had a low blood glucose emergency, even if you feel fine afterwards.

* Adapted from the Eli Lilly™ glucagon instruction sheet. Other kits are available on the market.
Hypoglycemia (Low Blood Glucose)

**Causes:** Too little food or skipping a meal; too much insulin or diabetes pills; more active than usual.

**Onset:** Often sudden.

**Some Symptoms:**
- Shaky
- Fast heartbeat
- Sweating
- Dizzy
- Anxious
- Hungry
- Blurry vision
- Weakness or fatigue
- Headache
- Irritable

**If low blood glucose is left untreated, you may pass out and need medical help!**

**What Can You Do?**

**CHECK** your blood glucose, right away. If you can't check, treat anyway.

**TREAT** by eating 3 to 4 glucose tablets or 3 to 5 hard candies you can chew quickly (such as peppermints), or by drinking 4-ounces of fruit juice, or 1/2 can of regular soda pop.

**CHECK** your blood glucose again after 15 minutes. If it is still low, treat again. If symptoms don't stop, call your healthcare provider.

For more information, call the Novo Nordisk Tip Line at 1-800-260-3730 or visit us online at ChangingDiabetes-us.com.

Novo Nordisk Inc. grants permission to reproduce this piece for non-profit educational purposes only on condition that the piece is maintained in its original format and that the copyright notice is displayed. Novo Nordisk Inc. reserves the right to revoke this permission at any time.

Concept developed by Rhonda Rogers, RN, ESN, CDE

Hyperglycemia (High Blood Glucose)

**Causes:** Too much food, too little insulin or diabetes pills, illness, or stress.

**Onset:** Often starts slowly.

Some Symptoms:
- Extreme Thirst
- Need to Urinate Often
- Dry Skin
- Hungry
- Blurry Vision
- Drowsy
- Slow Healing Wounds

High Blood Glucose May Lead to a Medical Emergency If Not Treated.

**What Can You Do?**

If your blood glucose levels are higher than your goal for three days and you don’t know why,

- Check Blood Glucose
- Call Your Healthcare Provider

For more information, call the Novo Nordisk Tip Line at 1-800-260-3730 or visit us online at ChangingDiabetes-us.com.

Novo Nordisk Inc. grants permission to reproduce this piece for non-profit educational purposes only on condition that the piece is maintained in its original format and that the copyright notice is displayed. Novo Nordisk Inc. reserves the right to revoke this permission at any time.

Concept developed by Rhonda Rogers, RN, BSN, CDE

© Novo Nordisk Inc. 126379R ChangingDiabetes-us.com 6/2006 Printed in U.S.A.
High Blood Glucose (Hyperglycemia)

High blood glucose, also called hyperglycemia, is when blood glucose is over 250 mg/dL or over the target range.

It is unhealthy for your child to have high blood glucose for long periods of time because it can increase the risk of damage to organs and blood vessels. High blood glucose can lead to health problems in the short-term as well. Your child’s treatment plan may need to be changed if their blood glucose values are frequently high.

Causes of high blood glucose include:

- Too much food
- Too little exercise or decreased physical activity
- Stress, illness, injury, infection or surgery
- Certain medications such as steroids (for example, Prednisone® or Decadron®)
- Too little insulin, or insulin that has spoiled or been exposed to extreme temperatures (extreme heat or cold)
- Insulin pen or pump malfunction

Note: Make sure your blood glucose meter is working accurately.

Symptoms of high blood glucose include:

- Increased thirst
- Increased urination
- Dry mouth or dry or itchy skin
- Drowsiness or fatigue
- Blurred vision
- More frequent infections
- Hunger
- Unexplained weight loss

Symptoms of severe high blood glucose include*:

- Heavy, labored breathing
- Nausea and vomiting
- Pains in stomach
- Loss of appetite
- Severe weakness
- Aching all over
- Presence of ketones

* If your child has any of these symptoms, contact his or her doctor immediately
What should your child do if his/her blood glucose is too high?

- Drink plenty of sugar-free fluids (water is best).
- If blood glucose is over 250 mg/dL twice in a row or your child is sick and on insulin, check the urine or blood for ketones. If he or she has ketones, follow the Sick Day Plan and call your child’s health care team.
- Ask yourself what may have caused the high blood glucose and take action to correct it. Check with the health care team if you are not sure of what to do.
- Try to figure out if there is a pattern to your child’s high blood glucose levels. Speak with the health care team about possible changes to your child's diabetes management plan.

Call the doctor if your child:

- Has a blood glucose level over 250 mg/dL for several consecutive tests and has moderate or large ketones
- Is vomiting
- Is consistently over his or her target range

What is Diabetic Ketoacidosis (DKA)?

Diabetic Ketoacidosis (DKA) is a serious condition that occurs most often in people with type 1 diabetes. The body burns fat for energy when it does not have enough insulin and blood glucose levels are too high. The fat breakdown causes the formation of ketones (acids), which may show up in the blood and urine. High ketone levels are very dangerous and can lead to DKA. Although DKA is most common in people with type 1 diabetes, it can also affect people with type 2 diabetes.

DKA can develop quickly, especially if your child has a fever or is sick with a cold or flu. DKA is a serious illness that can advance to a severe illness and even death.

Common Symptoms of DKA

- Unusual thirst and hunger
- More frequent urination
- Throwing up or feeling sick to the stomach
- Stomach pain
- Fruity smell on your breath
- Breathing fast and deep
How to Prevent DKA

Early detection and treatment is the key to preventing DKA. Moderate to large ketones in the blood and urine means that your child may need more insulin to prevent DKA. When your child is sick and on insulin it is very important to test ketones if the blood glucose is above 250 mg/dL. **Always check for ketones if your child is feeling nauseous or vomiting.**

**Call your child’s doctor if he or she tests positive for moderate or large ketones.** Getting the right treatment from the doctor lowers the chance that your child could develop DKA. Make sure your child:

- Drinks more fluids. The extra fluids help to flush ketones out of the body.
- Does not exercise if they have ketones. Exercise may increase the ketone level.

How to Check Your Urine for Ketones

1. Purchase Ketostix® or Keto-Diastix® (reagent strips) at any pharmacy.
2. Place a small amount of urine in a clean cup.
3. Dip the strip into the urine.
4. Remove the strip from the urine and wait 15 seconds. The strip will change color if there are ketones in the urine.
5. Match the color of the strip to the color chart that comes on the side of the bottle or inside the package of strips.
6. If ketone results show “trace” or “small” ketones, drinking sugar-free fluids should help this return to normal and your child should continue to stay hydrated throughout the day, especially until ketones read negative.
7. If ketone results show “moderate” or “large” ketones, call your endocrinologist.
How to Interpret Urine Ketones Results and When to Call for Help

Moderate or large ketones and/or vomiting: Call your child’s doctor immediately. If you cannot speak to the doctor right away, go to the emergency room or call 911.

Small or trace ketones: Stay hydrated.

Anytime your child has ketones, make sure you:
• Check blood glucose every 2 - 3 hours
• Give more water or sugar-free, uncaffeinated drinks

How to Check Blood for Ketones

As of 2008, only one meter tests for blood ketones: the Precision Xtra®. You can get this at any pharmacy. Your diabetes educator can show you how to use this meter. It is similar to using a blood glucose meter. You can only use the fingertips for blood ketone testing.

How to Interpret Blood Ketones Results

• Normal blood β-ketone (beta ketone) levels are less than 0.6 mmol/L.
• High blood β-ketone levels are more than 8.0 mmol/L. Do a second test. If the result is still over 8.0 mmol/L, take your child to the emergency room immediately or call 911.
• At risk blood β-ketone levels are 1.5 mmol/L or higher. This means your child may be at risk for developing DKA. Call your child’s doctor immediately. If you cannot reach your doctor, go to the emergency room.
• Call your child’s doctor for instructions if his or her blood β-ketone results are between 0.6 and 1.5 mmol/L with a glucose level above 250 mg/dL.
Sick Day Plan – When You Have Diabetes

Sick Day Guidelines

When your child is sick, the blood glucose may go up. However, if he or she is vomiting, the blood glucose may go down. It is important to check blood glucose level and ketones often during sickness.

Follow these instructions:

- **Check blood glucose and ketones every 2-3 hours.** Keep checking ketones until they are negative twice in a row.

- **Never stop giving insulin.** Your child might need less insulin, but still needs some, even if they can’t eat.

- If vomiting, try giving 1 teaspoon of fluid every 10 minutes (juice, Popsicle®, regular soda, tea, broth, Gatorade®, water).

- If able to tolerate, slowly increase fluids each hour and if blood glucose is above 200 mg/dL, give sugar-free fluids; if blood glucose is below 200 mg/dL, you can give fluids such as Gatorade.

- **Call the diabetes team** if your child can not take fluids, is vomiting or has moderate or large ketones.

  **Mon-Fri, 9am - 4:30pm:** call (415) 600-0750  
  Ask for Endocrinologist or Endocrine nurse practitioner.

  **After hours, weekends, and holidays:** call (415) 600-0750 
  Ask to speak to the diabetes doctor on-call.  
  There is a doctor on-call 24 hours a day.

Make a “Sick Day Kit”

It is best to be prepared. Keep these items in a small box so they are ready if your child gets sick:

- Jell-O® packets, crackers, a few cans of regular soda, Gatorade, cake frosting

- Thermometer

- These **Sick Day Plan** instructions

- Your doctor’s phone number:

  ______________________

- Urine Ketostix® or Precision Xtra® to monitor ketones (if needed)
Diabetes Care During a Disaster

A disaster is a sudden event that inflicts widespread destruction, hardship and distress, and can be a serious threat to your child’s diabetes health. Water and food may be limited and/or contaminated, and diabetes supplies may be very hard to get.

**Routine diabetes care supplies**

Have two weeks’ worth of your child’s routine diabetes care supplies, or have them ready to add to the diabetes disaster kit (see below) at a moment’s notice:

- Insulin and all daily medication
- Insulin syringes, alcohol swabs and tissue
- Glucose monitor kit with extra batteries
- Test strips, lancet device and lancets
- Fast-acting sugar (glucose tabs, small box of raisins, juice box)
- Snacks (peanut butter crackers, nuts)
- Glucagon rescue kit (if your child uses insulin)
- Sharps container

**Diabetes disaster kit**

Prepare an easy-to-carry diabetes disaster kit that is both insulated and waterproof. You can store the following:

- Comfortable clothing
- Small first aid kit to treat minor cuts or abrasions
- Notepad and pencil to write down any glucose values
- List of your child’s doctors and phone numbers
- List of all your child’s medications, medical conditions and past surgeries
- Space to add the items from your routine diabetes care supplies

You will need to prepare and store several food items. This includes at least three days’ supply of non-perishable foods (for example, crackers, peanut butter, nuts, powdered milk, cheese and crackers, canned tuna), and one gallon of water per person, per day, with several cans of juice and diet soda.
Reducing Risks

How to Stay Healthy After You Leave the Hospital

This is your formula for successful diabetes management.

**Healthy Eating:** Eating the right foods at the right times helps keep blood glucose in a safe range. Follow the meal plan provided by your child’s dietitian.

**Being Active:** Learn about the benefits of regular exercise. Ask for guidance from your child’s doctor on how to manage his or her diabetes with exercise.

**Monitoring:** Regularly checking blood glucose tells you how food, exercise, medication or illness affects your child’s diabetes. Knowing this helps achieve better blood glucose control.

**Taking Medication Safely:** Carefully follow your doctor’s and pharmacist’s instructions.

**Healthy Coping:** Accepting the diagnosis of diabetes can be difficult. Speak to family members or close friends, or try joining a support group. Set aside time for your child and the family to enjoy stress-relieving activities. Stress, lack of sleep and depression may impact blood glucose levels and how you take care of yourself and your child. Get help if you need it!
### Health Maintenance

<table>
<thead>
<tr>
<th>Every Visit</th>
<th>Date</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review Blood Glucose Records</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-180 mg/dL for children <strong>before meals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-130 mg/dL for teens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;180 mg/dL for children, &lt;150 mg/dL for teens <strong>2 hours after meals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blood Pressure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADA Goals: 90-95th percentile for age, sex, &amp; height</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal: Body Mass Index less than 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A1C</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>is a blood test that reflects an average blood glucose over the past 3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADA Goal: is age specific, refer to table on page</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dental cleaning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>recommended 2 times per year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cholesterol</strong> (every 5 years after age 10 based on risk)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Celiac Disease:</strong> screen once yearly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HDL and LDL</strong> (every 5 years based on risk)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL Goal: less than 100 mg/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Done at minimum age of 2 years if there is family history of hypercholesterolemia or cardiovascular event before age 55 years. If no family history then first lipid screening at age 10 unless otherwise indicated by doctor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Microalbumin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>is a urine kidney test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usually done once child reaches 10 years of age, unless otherwise indicated by doctor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hypothyroidism</strong> (checked every 1-2 years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dilated Eye Exam</strong> (every 1-2 years after the age of 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st ophthalmologic exam should be obtained once child is 10 years and has had diabetes for 3-5 years; sooner if otherwise indicated (especially if child was diagnosed before age 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Complete Physical Exam</strong> (once yearly after infancy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ask your health care team about getting the flu shot and pneumonia vaccine. Also, tell your health care team if you have unusual symptoms.
Healthy Coping

Apart from the stress of your child being hospitalized, caring for diabetes can be a challenge. Inside this section you will find information and resources to support your family as they adjust to this change in your lives. The certified diabetes educators will work with you and your family to learn about the things you can do day-to-day to ensure your child has a happy and healthy life. Our team is available to answer your questions and to provide support.

Resources

Brave Buddies
This is an online support group for parents of kids with diabetes primarily in the San Francisco Bay Area. The group provides a forum for parents to share practical information with each other. Topics include: preschool, 504 school accommodations, managing sports activities, useful products, research studies and whether pumping is right for your child. There are also occasional group events at local parks.

Request to join at health.groups.yahoo.com/group/bravebuddies/ or call Tracy Weatherby at (650) 965-1050

Rufus, the Bear with Diabetes™
This is a teddy bear that can help young children learn about and cope with their diabetes. Both boy and girl bears are available. The cost of the bear plus shipping is $25.00. To order, write to:

Rufus, The Bear With Diabetes (Attn: Carol Cramer)
225 Pebble Creek Drive
Lake Zurich, IL 60047
Visit web site for more information: www.childrenwithdiabetes.com/d_06_c20.htm

Diabetes Society of Santa Clara Valley
Support groups for parents, children, and teens
1165 Lincoln Avenue, Suite 300, San Jose
(408) 287-3785

Parent Resource Network
Juvenile Diabetes Research Foundation
(650) 967-5128

Diabetes Camps
Contact these two organizations for more information:

- Diabetes Youth Foundation: (925) 680-4994
- Diabetes Society of Santa Clara Valley: (408) 287-3785 or (800) 989-1165
Developmental Stages and Diabetes

Infants (0 to 2 years old)

Infancy is characterized by:
- Very rapid growth
- Continuing brain development
- Trusting relationships with the parents
- Unpredictable eating habits (food can become a power struggle)
- Unpredictable sleep patterns

For managing your infant's diabetes, your goals should be:
- Have a blood glucose target of 100 to 200 mg/dL
- Adjust insulin program around eating patterns
- Use small lancets for finger stick blood tests
- Have materials ready before blood tests and injections to lower stress
- Do not do blood tests or injections in the child's bed (keep the bed a "safe" place)
- Use play as a teaching tool (*Rufus, the Bear with Diabetes* can help)

Toddlers (2 to 3 years old)

As children grow from infancy to toddlerhood, they:
- Can participate in some self-care
- Look for parental approval while they test their limits
- Show decreased appetite and picky eating habits (easily distracted from eating)
- Begin to show more regular sleep patterns

For your toddler, your goals for managing your child's diabetes should be:
- Have a blood glucose target of 100 to 200 mg/dL (5.56 to 11.11 mmol/L)
- Have regular meal and snack times
- Limit choices for food, injection sites, and blood test times to minimize stress
- Have child help with blood tests and injections, perhaps by placing the test strip in the blood glucose meter or the lancet in the lancing device
- Have materials ready before blood tests and injections to lower stress
- Use stories, books and games as teaching tools (*Rufus, the Bear with Diabetes* can help)
Pre-school (4 to 5 years old)

Pre-school children are characterized by:
- Peer issues begin to emerge
- Can understand rules
- Can do more self-care, including blood tests under parental supervision
- Eating behavior is more predictable
- Very energetic, so hypoglycemia can be a problem
- Regular sleep patterns

Your goals for managing your pre-schooler's diabetes should be:
- Have a blood glucose target of 100 to 200 mg/dL (5.56 to 11.11 mmol/L)
- Allow child to do own blood glucose checks and push the plunger on the syringe
- Use reward systems, such as sticker charts, to encourage good diabetes care
- Avoid labeling blood glucose test results as good or bad
- Help child identify feelings of low blood glucose
- Involve child in meal plan decisions
- Use stories, books and games as teaching tools (*Rufus, the Bear with Diabetes* can help)

School Age (6 to 10 years old)

School aged children are characterized by:
- Fear of being different from other children
- Can perform most self-care, including blood tests and insulin injections
- Eager to learn
- Beginning to understand consequences of their actions
- Tests independent decision-making
- Most of their time is spent away from home

Your goals for managing your school age child's diabetes should be:
- Have a blood glucose target of 70 to 150 mg/dL (3.89 to 8.33 mmol/L)
- Include school lunches, parties and special events in the meal plan
- Plan schedule around usual activities
- Make sure school understands and provides for child's needs
- Track school attendance and performance
| **Early Adolescence**  
| **(11 to 14 years old)** |
| Children in early adolescence are beginning to experience many significant changes and are characterized by: |
| - Growth spurts which affect insulin requirements |
| - Glucose control may be difficult despite everyone's best efforts |
| - Concerned about body image |
| - Greatly influenced by friends |
| - May challenge authority |
| - Development of self-esteem |
| - Beginning to understand abstract concepts |

Your goals for helping your early adolescent with his diabetes management should be:

- Allow for a hectic lifestyle in the diabetes plan
- Begin to work on problem solving skills
- Discuss treatment options (Multiple Daily Injections [MDI], the pump and meal planning)
- Allow independent visits with the health care team
- Include sex education as part of diabetes education
- Track school attendance and performance

| **Adolescence**  
| **(15 to 18 years old)** |
| Children in adolescence are undergoing significant physical and emotional changes and are characterized by: |
| - Puberty is well underway |
| - Concerned with physical appearance |
| - Clearer sense of self (can set goals) |
| - Increased independence and decision-making |
| - Risk-taking behaviors, including not taking insulin and not performing blood glucose tests |
| - Many social activities that are unpredictable |

Your goals for helping your adolescent with his diabetes management should be:

- Allow for a hectic lifestyle in the diabetes plan
- Allow independence in problem-solving
- Discuss treatment options (Multiple Daily Injections [MDI], the pump and meal planning with carbohydrate counting)
- Be non-judgmental (for example, there is no such thing as a "bad" blood glucose reading)
- Keep social issues separate from diabetes
- Help set realistic goals
- Watch for risk-taking behaviors, such as not taking insulin
- Track school attendance and performance
Diabetes in School

General guidelines:
1. No meal or snack should be denied even if blood glucose is high
2. Adequate time is needed to finish meals and snacks
3. More food may be needed before exercise
4. Try to have birthday parties at lunch or at the end of the day to match the afternoon snack time
5. Fast acting carbohydrate should always be available to treat low blood glucose
6. Bathroom and water breaks must be allowed if blood glucose is high
7. Student should always wear a medical ID

Diabetes should not interfere with your child’s school attendance.

Your child is allowed to take part in all school activities. This includes class, recess, sports, field trips, picnics, birthday parties or any special events. You are not required to be present. You and the school nurse will form a care plan that allows staff to care for your child at school events. If you have problems and your school receives any form of federal funding, you are eligible to have a Section 504 Plan drawn up which will make sure your child receives medical care at school.

The only time your child should not participate in the above is:
1. If they have moderate or large ketones.
2. If their blood glucose before lunch is over 300.*
3. If they are vomiting or have a fever they should not go to school. They will need frequent monitoring of blood glucose and ketone levels.

*If your child’s blood glucose is over 300 or he or she is sick, they must check urine for ketones. They can have normal or low blood glucose and still have large ketones if they are sick. Call the diabetes team if they are sick and have ketones. They will need special care and probably extra insulin.

Diabetes-specific school forms are being provided for you. Please bring them when you meet with your school nurse. If you have problems at school, you can discuss them with the Diabetes Clinic at your next visit or call us sooner if there is an urgent matter.

If your child is having frequent hypo/hyperglycemia at school, please call immediately to adjust insulin doses. It is the parents’ responsibility to know what their child’s blood glucose levels are at school.