Cincinnati Children's

Diabetes Care at School

I. Introduction

It is important for a child with diabetes to take part in school activities for physical, emotional, and social wellbeing. The child's age, length of time since diagnosis, and developmental stage will affect his or her ability to perform various tasks independently. The amount of assistance from the school may vary from child to child.

Substitute teachers will also need to be informed of students with diabetes. The Diabetes ID sheet can be used to communicate pertinent information.

The diabetes team and the family will determine the frequency of blood glucose (BG) checks while at school based on the child's medical needs. The family will communicate this information to the appropriate school personnel.

II. Diabetes Overview

A. Definition of Diabetes:

When a person has diabetes, their body either cannot make insulin or the insulin that their body makes does not work properly. The body needs insulin to function properly and convert food to energy. In the absence of insulin or if the insulin produced is unable to function properly, a person's blood glucose level will rise above normal values.

This is called **hyperglycemia** (high blood glucose) and is an indication of diabetes.

B. Common Signs and Symptoms of Hyperglycemia:

- Frequent urination
- Increased thirst
- Increased hunger
- Weakness/Fatigue
- Unexplained weight loss
- Blurred vision
- Irritability

C. Type 1 Diabetes:

- Cells in the pancreas that make insulin are destroyed
- Insulin injections or insulin pump therapy are required
- Most commonly occurs in children
- Makes up 10 percent of all cases of diabetes

D. Type 2 Diabetes:

- The insulin that the body makes does not work properly.
- Treatment may include any or all of the following: insulin injections, pills, diet and exercise
- Most commonly occurs in adulthood, but the number of children and adolescents developing type 2 diabetes is increasing.

- Strong family history
- Makes up 90 percent of all cases of diabetes

E. Facts about diabetes:

- Diabetes is not caused by eating too much sugar.
- There is nothing you could do to prevent type 1 diabetes.
- A person cannot catch diabetes from someone else.

III. Nutrition and Diabetes

A. General Facts:

- The nutritional needs of a child with diabetes and a child without diabetes are the same.
- Both diets should include a variety of foods in order to promote proper growth and development.
- Treatment for diabetes consists of finding a balance between carbohydrate, insulin and exercise to keep blood glucose (BG) levels within a safe range.

B. Carbohydrates:

- Foods that contain carbohydrates increase BG levels. This does not mean that the individual with diabetes should avoid carbohydrates. Instead, he/she needs to learn to count carbohydrate grams to match the insulin.
- There are many sources to assist with carbohydrate counting such as food labels, the internet, and fast food guides. Examples of foods that contain carbohydrates are:
  - Starches—bread, cereal (sweetened and unsweetened), pasta, rice, potatoes, corn, peas, crackers, popcorn
  - Fruits—fresh, frozen, canned, and juices
  - Milk—milk and yogurt
  - Others—cakes, cookies, candy, chips, ice cream
- The American Diabetes Association and The American Dietetic Association recommend that sweets can be included within the context of a healthy diet.
- Foods that contain proteins and fats have little or no effect on blood glucose levels. However, if eaten in excess can cause weight gain.

IV. Insulin Therapy Options

A. Basal/Bolus Injection Insulin Therapy and Insulin Pump Therapy:

- BG must be checked prior to the administration of insulin and to eating foods with carbohydrates.
- Insulin dose is based on the grams of carbohydrate to be eaten and the BG reading. (Refer to attached ***School Orders*** for calculating insulin dose)
- Insulin must be given before each meal or snack containing carbohydrates.

- Parties/Special Events/Field Trips:
  - This insulin regimen allows for flexibility in timing of meals as well as amounts of carbohydrates.
  - Treats can be eaten with other students, but insulin must be given to cover the grams of carbohydrates.
  - Insulin will need to be taken along for field trips.
  - Extra carbohydrate snacks should also be kept with the student in case of hypoglycemia.

B. Split/Mixed Insulin Therapy (NPH and Regular Insulin):

- Two insulin injections generally given by parents at home (i.e., usually at breakfast and supper).
- 3 meals and 3 snacks at specific times each day (Refer to student's specific meal plan).
- A specific amount of carbohydrate at each meal and snack.
- Checking BG before meals (while at school: before lunch) or if the student exhibits signs of low blood glucose or illness. (Refer to attached ***Hypoglycemia Emergency Plan for a Student with Diabetes)***
- **Parties/Special Events/Field Trips:**
  - Meal/snack timing should be about the same time each day for optimal blood glucose control.
  - Altering meal/snack times can result in high or low blood glucose levels.
  - If possible, notify the student's family ahead of time to include them in the plans.
  - Parties are often scheduled 1½ -2 hours after lunch, which usually matches closely with the student's regular snack time.
  - Parties generally include carbohydrates (cake, cookies, chips, ice cream, etc.). The treat or a portion of the treat may fit into the student's meal/snack plan.
  - Students should be allowed to eat on the bus/van if necessary.

V. Exercise/Activity/Gym Class

- Children with diabetes can participate in all activities.
- Exercise and activity, such as recess, may lower BG levels.
- To maintain safe BG levels for activity/exercise, the student may need to take extra grams of carbohydrates before a physical activity (Refer to attached ***Physical Activity and Diabetes Guidelines)***.
- Be aware of the signs and symptoms of low BG (Refer to attached ***Hypoglycemia Emergency Plan for a Student with Diabetes).***
- **ALWAYS** have a fast acting carbohydrate (i.e. juice) in case of low BG.
- The P.E. instructor/recess supervisor will need to be aware of the student with diabetes as well as know the signs and treatment of low BG. The instructor should take into consideration the time and duration of the activity.
- Students with gym/recess before lunch are at greater risk for low BG due to the length of time since they last ate.