



# Diabetes Individualized Health Plan

EISD rev. 2/15

Parents, please complete this form in collaboration with school nurse.

Student Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Annual Review	Year	Initials												
IHP														
Diab, Care Plan														

## ASSESSMENT DATA Parents, please answer each question in this section.

Diabetes Type I  Type II  Age of onset: \_\_\_\_\_ Brief history: \_\_\_\_\_  
 Emergency contacts/phone numbers: \_\_\_\_\_  
 Physician name/phone number: \_\_\_\_\_ Preferred hospital: \_\_\_\_\_  
 Rides school bus: Yes  No  Bus: \_\_\_\_\_ Enrolled in Easy Care: Yes  No  Other: \_\_\_\_\_  
 Takes Glucophage or Glucotrol: Yes  No  Particular concerns: \_\_\_\_\_  
 Insulin delivery method: Injections  Insulin pump  Combined glucose monitoring/insulin system:

## NURSING DIAGNOSES & OUTCOME GOALS

**Diagnosis:** Potential for physiological injury due to complications related to hypoglycemia or ketoacidosis.  
**Goal:** Student will maintain his/her blood glucose in the target range according to the Diabetes Care Plan.  
**Diagnosis:** Potential for knowledge deficit related to need to balance glucose monitoring, insulin, diet, stress and exercise.  
**Goal:** Student will increase his/her age-appropriate understanding and self-management of diabetes.

## INTERVENTIONS

### PARENTS Parents, please read and initial each statement below.

- \_\_\_\_\_ Submit a Diabetes Care Plan signed by the student's physician before the first day of each school each year.
- \_\_\_\_\_ Provide snacks, medications and diabetic supplies for school, after-school programs, UIL events, Easy Care, etc.
- \_\_\_\_\_ Notify classroom teacher and school nurse of any change in the student's condition or plan of care.
- \_\_\_\_\_ Keep track of expiration dates for medications and blood glucose strips and replace them before they expire.
- \_\_\_\_\_ A student with diabetes qualifies for a 504 plan. Does this student have a 504 Plan? Yes  No

### STUDENT Parents, please select from the following options.

- Student requires supervision:  testing blood glucose  calculating insulin dose  administering insulin
- Student is independent:  testing blood glucose  calculating insulin dose  administering insulin
- Student is authorized to:  self-carry insulin  self-administer insulin
- Student will check blood glucose per doctor's instructions, when symptomatic **and** as indicated below:  
**Before** snack , lunch , recess , PE , physical activity , major tests , leaving school , other \_\_\_\_\_.
- Student will report blood glucose levels to school nurse.
- Student will keep snacks in classroom and/or backpack for unplanned low blood sugars.

### DIET Parents, please select from the following options.

- Diet is unrestricted. Insulin will be calculated to cover carbohydrates.
- Diet is restricted as follows: \_\_\_\_\_
- Student or teacher will alert nurse to changes in exercise/activity so that eating plan can be adjusted.

## NURSING INTERVENTIONS

- Nurse will meet with parents and student, if possible, to review the student's history and Diabetes Care Plan.
- Nurse will follow physician's orders in the Diabetes Care Plan to maintain student's blood glucose in the target range.
- Nurse will collaborate with parents, student, teachers, bus driver, Easy Care to maintain blood glucose in the target range.
- Nurse will notify teachers of student's condition by adding a critical alert in Skyward.
- Nurse will provide a copy of the Diabetes Care Plan and Individualized Health Plan (IHP) to teachers via Skyward.
- Nurse will teach and oversee unlicensed diabetes care assistants to provide care in the absence of/in conjunction with nurse.
- Nurse will teach staff to recognize and treat signs/symptoms of hypoglycemia and provide an escort if student goes to clinic.
- Nurse will provide emotional support and assist with problem-solving.
- Nurse will pack student's snacks, diabetic medications, supplies and hypoglycemia treatment supplies for field trips.
- Nurse will assess student's understanding of diabetes and diabetes management skills.

- Nurse will teach diabetes management skills appropriate for student’s physical, emotional and cognitive development.

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**OUTCOMES**

The student, parents, physician, school nurse, teachers and other members of the multidisciplinary team will collaborate to:

- maintain the student’s blood glucose in the target range
- identify and treat diabetes symptoms according to the Diabetes Care Plan
- encourage independence and self-care consistent with the student’s understanding, maturity and skills.

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**ADDENDUM**

The *Overview of Diabetes in Children and Adolescents* (pages 3-5, attached) is essential information for teachers, substitute teachers, unlicensed diabetic care assistants (UDCAs), bus drivers, Easy Care staff and multidisciplinary team members. It provides up-to-date information about diabetes, diabetes management, safety and support of students with diabetes.

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**PARENT/GUARDIAN/STUDENT/NURSE** I have had the opportunity to read and modify the Individualized Health Plan.

_____	_____
Parent/Guardian	Date
_____	_____
Student	Date
_____	_____
School Nurse	Date

# Overview of Diabetes in Children and Adolescents

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Adapted from the **National Diabetes Education Program (NDEP)**  
A program of the National Institutes of Health and the Centers for Disease Control

## Introduction

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**Diabetes mellitus** is a group of diseases characterized by high levels of glucose in the blood resulting from defects in insulin production, insulin action, or both. Diabetes is associated with serious complications, but timely diagnosis and treatment of diabetes can prevent or delay the onset of long-term complications (damage to the cardiovascular system, kidneys, eyes, nerves, blood vessels, skin, gums, and teeth). New management strategies are helping children with diabetes live long and healthy lives. Children with diabetes are encouraged to participate in all school activities.

## Diabetes Type 1 (Juvenile Onset)

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**Type 1 diabetes** can occur at any age. It is the leading cause of diabetes in children and accounts for almost all diabetes in children under 10 years of age. Type 1 diabetes is an autoimmune disease in which the immune system destroys the beta cells of the pancreas that produce insulin. Insulin is the hormone *key* that transports glucose from digested food into the cells. Without insulin, glucose is *locked out* and the cells *starve*. *Starvation* causes the body to break down its own muscle and fat tissues to survive.

**Symptoms:** Early symptoms, which are mainly due to hyperglycemia, include increased thirst and urination, constant hunger, weight loss and blurred vision. Children may also feel very tired. As insulin deficiency worsens, fat is broken down for energy, and ketones build up in the blood. Increased ketones are associated with shortness of breath, abdominal pain, vomiting and dehydration. Elevation of blood glucose, acidosis, and dehydration comprise the condition known as *diabetic ketoacidosis* or DKA. If diabetes is not diagnosed and treated with insulin at this point, the individual can lapse into a life-threatening coma. Often, children with vomiting are mistakenly diagnosed as having gastroenteritis. New-onset diabetes can be differentiated from gastroenteritis by the frequent urination that accompanies continued vomiting, as opposed to the decreased urination that occurs from vomiting and dehydration due to gastroenteritis.

**Management:** The basic elements of type 1 diabetes management are insulin administration (either by injection or insulin pump), nutrition management, physical activity, blood glucose testing, and the development of strategies to avoid hypoglycemia and hyperglycemia that may lead to diabetic ketoacidosis (DKA). Algorithms are used for insulin dosing based on blood glucose level, food intake, physical activity, and illness, if present.

**All people with diabetes are advised to avoid “liquid carbs” (carbohydrates)** such as sugar-containing soda, sports or energy drinks, juices (including 100 percent fruit juice), and regular pancake syrup. These liquid carbs raise blood glucose rapidly, contain large amounts of sugars in small volumes, are hard to balance with insulin, and provide little or no nutrition.

**Intermediate and rapid-acting insulin:** Children receiving fixed insulin doses of intermediate- and rapid-acting insulin must have food given at the time of peak action of the insulin. They need a consistent meal plan that aims for a set amount of carb grams at each meal (e.g., 60 grams of carbs at lunch) and snack since they do not adjust their mealtime insulin for the amount of carb intake.

**Long-acting insulin and insulin pumps:** Children receiving a long-acting insulin analogue or using an insulin pump receive a rapid-acting insulin analogue just before meals, with the amount of pre-meal insulin based on carb content of the meal using an insulin-to-carb ratio and a correction scale for hyperglycemia. Carb counting involves calculating the number of grams of carbohydrate, or choices of carbohydrate, the youth eats. One carb choice equals 15 grams of carbohydrate. Sources of carbs include starches (breads, crackers, cereal, pasta, rice), fruits and vegetables, dried beans and peas, milk, yogurt and sweets. In addition to the amount of insulin needed to cover the carbs (called the carb dosage), extra insulin might be needed if the youth’s blood glucose is above the target range before a meal or snack. Further adjustment of insulin or food intake may be made based on anticipation of special circumstances such as increased exercise and illness. Children on these regimens are expected to check their blood glucose levels routinely before meals and at bedtime.

**Physical activity** is a critical element of effective diabetes management. In addition to maintaining cardiovascular fitness and controlling weight, physical activity can help to lower blood glucose levels. To maintain blood glucose levels within the target range during extra physical activity, students will need to adjust their insulin and food intake. They also may need to check their blood glucose levels more frequently to prevent hypoglycemia while engaging in physical activity.

## Diabetes Type 2

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**Type 2 diabetes** used to occur mainly in adults who were overweight and older than 40 years. Now, as more children and adolescents in the United States become overweight or obese and inactive, type 2 diabetes is occurring more often in young people aged 10 or older. Most children and adolescents diagnosed with type 2 diabetes are also insulin resistant and have a family history of type 2 diabetes. Type 2 diabetes is more common in certain racial and ethnic groups such as African Americans, American Indians, Hispanic/Latino Americans and some Asian and Pacific Islander Americans.

**Onset:** The first stage in the development of type 2 diabetes is often insulin resistance, requiring increasing amounts of insulin to be produced by the pancreas to control blood glucose levels. Initially, the pancreas responds by producing more insulin, but after several years, insulin production may decrease and diabetes develops. Type 2 diabetes usually develops slowly and insidiously.

**Symptoms:** Some children or adolescents with type 2 diabetes may show no symptoms at all. In others, symptoms may be similar to those of type 1 diabetes. A youth may feel very tired, thirsty, or nauseated and have to urinate often. Other symptoms may include weight loss, blurred vision, frequent infections and slow healing of wounds or sores. Some youth may present with vaginal yeast infection or burning on urination due to yeast infection. Some may have extreme elevation of the blood glucose level associated with severe dehydration and coma.

**Management:** Although there are no national recommendations for blood glucose levels in children with type 2 diabetes, it may be reasonable to use the values for children with type 1 as a guide. All aspects of the regimen need to be individualized.

The cornerstone of diabetes management for children with type 2 diabetes is healthy eating with portion control and increased physical activity. Metformin is usually initiated at the time of diagnosis of type 2 diabetes. However, research shows that approximately half of youth with type 2 diabetes will be unable to maintain A1C less than 8 percent on metformin alone, with or without lifestyle change. If metformin is not sufficient to normalize blood glucose levels, the addition of insulin may be needed. While there are numerous other oral medications for use in adults, they are not approved in children. Insulin may be taken by injection or via a subcutaneous pump.

## Hypoglycemia (low blood glucose)

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**Diabetes treatment** can sometimes cause blood glucose to drop too low. **Hypoglycemia can be life-threatening.** The only energy source for the brain is glucose. Listen to what the student tells you and how he/she appears. Be aware that most children younger than 6 or 7 years of age lack the cognitive capacity to recognize and respond to hypoglycemic symptoms.

**Prevention:** Hypoglycemia reactions often occur after exercise, before meals, when meals and snacks are missed or delayed and during stomach upsets. Hypoglycemia can also occur without any apparent cause. Prevent hypoglycemia by making sure the student has snacks and meals at scheduled times and has an additional source of glucose during exercise. Be particularly vigilant during field trips, schedule changes, field days, etc. Always carry a source of glucose in case of a hypoglycemia reaction.

**Symptoms:** The student may become irritable, shaky, confused, pale, dizzy, drowsy, tearful, sweaty, nervous, hungry, seem “out of it” or act inappropriately. The student may also experience headache, tingling or abdominal pain. As blood glucose levels drop further, the student may stagger, experience blurred vision or poor coordination. When blood glucose levels fall very low, the student may lose consciousness or have seizures. Notify parents of all hypoglycemic reactions. Do not leave the student alone until he or she is fully alert and symptom-free.

**For the Nurse:** The target range for blood glucose varies with age, but even in the best of all worlds, no one can achieve the target range 100% of the time. The target range for children 7 years and younger is 100-200. For children 7-12 years of age, the target range is 80-180. For students over 12 year of age, the target range is 70-160. These targets are modified based upon the child’s maturity and ability to recognize symptoms of low blood glucose. These target ranges are much lower than they were a few years ago. They offer much better control of blood glucose, but hypoglycemia reactions are also more common.

**Treatment:** Treatment of early symptoms is the best prevention of an emergency situation. Do not ignore early signs or symptoms, and do not leave the student unattended. Assign an escort if he or she needs to leave the classroom during a hypoglycemia reaction, (e.g., to go to the clinic or bathroom). If a hypoglycemia reaction is suspected, immediate action is required. If trained, check the blood glucose level and follow doctor’s orders in the Diabetes Care Plan. If untrained or unable to test blood glucose level, *treat anyway*.

**If conscious and able to swallow, give food high in sugar.** The student should drink or eat 15 grams of a glucose-containing carbohydrate source to quickly raise the blood glucose to normal levels. Examples of 15grams of carbohydrate include 3 or 4 glucose tablets (chewed and followed by water), 4 ounces of fruit juice (not low-calorie or reduced sugar), ½ can of soft drink (not sugar-free) and a school-sized carton of milk. Follow with ½ meat sandwich or peanut butter sandwich and a carton of milk if lunch is more than 45 minutes away. If not greatly improved within 15-20 minutes, repeat the high-sugar food item.

**If lethargic, unresponsive, or unable to swallow--call 911.** If Glucagon injection is ordered and provided, administer it. Glucagon is a fast-acting hormone that can quickly increase blood sugar. Glucagon causes vomiting, however, so be sure to position the student on his or her side to prevent aspiration of vomit into the lungs.

### **Hyperglycemia (high blood glucose)**

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Causes of hyperglycemia include forgetting to take medications on time, eating too much, illness, stress and getting too little exercise. Some episodes of hyperglycemia may occur without any apparent reason. Hyperglycemia develops slowly and is not a medical emergency like hypoglycemia. Parents and physicians will address it with changes in eating patterns and medication. Report early symptoms, e.g., increased appetite, rapid weight loss, increased thirst and urination, to the school nurse and parents. Late symptoms include loss of appetite, weakness, rapid breathing, nausea, vomiting and disorientation. Advanced symptoms--loss of consciousness and coma—mimic the advanced symptoms of hypoglycemia. The best way to avoid confusion is to check the blood glucose level with a glucometer. If unable to test, treat as hypoglycemia (see above). Advanced symptoms (loss of consciousness, coma) require emergency medical services no matter what the cause--call 911.

### **Transition to Independence**

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Children with diabetes—depending on their age and level of maturity—will learn to take over much of their care. Most school-age children can recognize symptoms of hypoglycemia and monitor blood glucose levels. They also participate in nutrition decisions. They often can give their own insulin injections but may not be able to draw up the dose accurately in a syringe until a developmental age of 11 to 12 years.

### **Adolescents**

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Adolescents often have the motor and cognitive skills to perform all diabetes-related tasks and determine insulin doses based on blood glucose levels and food intake. This is a time, however, when peer acceptance is important, risk-taking behaviors are common and rebellion against authority are part of a teens' search for independence. Thus, adolescents must be supervised in their diabetes tasks and allowed gradual independence with the understanding that the independence will be continued only if they adhere to the diabetes regimen and succeed in maintaining reasonable metabolic control. During mid-adolescence, the family and health care team should stress to teens the importance of checking blood glucose levels prior to driving a car to avoid hypoglycemia while driving.

### **Sources**

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National Diabetes Education Program (A program of the National Institutes of Health and the Centers for Disease Control)  
[http://ndep.nih.gov/media/Overview-of-Diabetes-Children-508\\_2014.pdf](http://ndep.nih.gov/media/Overview-of-Diabetes-Children-508_2014.pdf)  
<http://www.kidshealth.org/parent/medical/endocrine/type1.html>