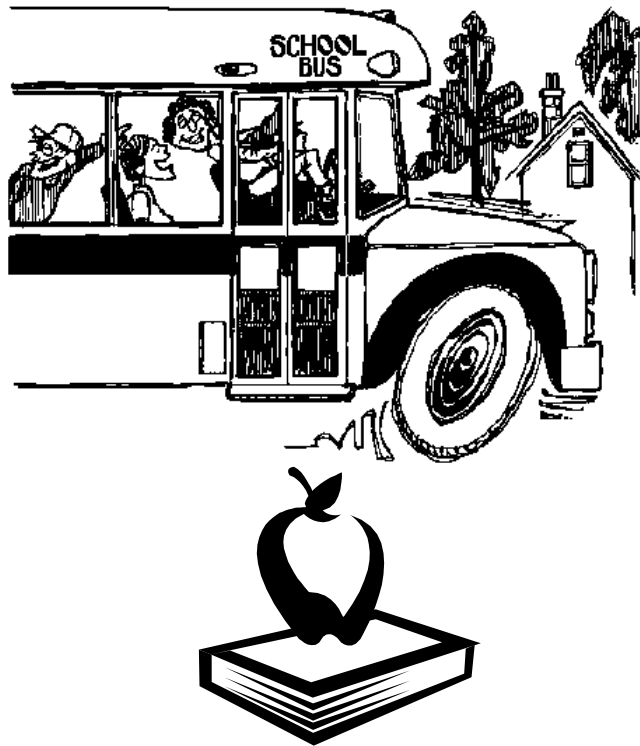


# MAINE GUIDELINE FOR SCHOOLS

Tools for Schools Who Have Students with Diabetes.



August 2004

**Preface:** The “Maine Guideline for Schools” is intended to supplement two important manuals for schools to address the needs of students with diabetes:

- “Helping the Student with Diabetes Succeed, A Guide for School Personnel”, U.S. Department of Health and Human Services, National Diabetes Education Program (NDEP), a joint program of the National Institutes of Health and Centers for Disease Control and Prevention 2003 and found at <http://ndep.nih.gov/materials/pubs/schoolguide.pdf> and,
- “Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools”, Mary Zombek, RN, MS, CPNP, published in 2001, with information on the web at <http://www.pedsonline.org>. (This document is available for purchase or can be borrowed from the Maine Health Education Resource Collection.) The web site is [www.library.umaine.edu/lmc/herc](http://www.library.umaine.edu/lmc/herc).

Most of the materials used in the “Maine Guidelines for Schools” are taken from these sources. It is expected that these two manuals will be the school’s primary sources for process and procedure in the management of students with diabetes in a school setting. The Maine Guideline excerpts the most useful tools school nurses will need in order to manage students at school. It also provides additional guidance not covered by the two Guidelines.

**Purpose:** The Diabetes in Schools Workgroup was formed to identify information and tools to assist schools in creating a safe environment for students with diabetes. The Workgroup intended that the information in the ‘Guideline’ will:

- Assist students to achieve academically to their full potential,
- Enhance opportunities for student to fully participate in school activities,
- Improve the quality of health care,
- Provide standardization of care,
- Support students as they move toward independence and self-management of care, and
- Encourage collaboration between school, family, student, and provider.

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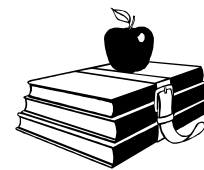
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A special thank you to Donna Collins, Department of Education, who helped prepare this document.

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## Diabetes ----- Overview

Diabetes is a disorder of metabolism – a chronic disease in which the body does not make or properly use insulin, a hormone needed to convert food into energy. Because individuals with diabetes lack insulin, they have increased blood glucose. Glucose is the body’s main source of energy. After digestion, glucose passes into the blood stream, where it is available for cells to take in and use or store for later use.

Insulin, produced by special cells in the pancreas, enables the cell surfaces to allow glucose to enter the cells.

In people who do not have diabetes, the pancreas automatically produces the right amount of insulin to enable glucose to enter the cells. Without insulin, blood glucose levels rise. The buildup of glucose in the blood (hyperglycemia) is the hallmark of diabetes. When the glucose level in blood goes above a certain level, the excess glucose flows out from the kidneys as it filters wastes from the bloodstream, into the urine. The glucose takes water with it, which causes frequent urination and extreme thirst. These two conditions – frequent urination and unusual thirst – are usually the first noticeable signs of diabetes. Weight loss often follows, resulting from the loss of calories and water in urine. A summary of common symptoms of diabetes and factors that can affect blood sugar levels in people with diabetes follows.

### Symptoms of High Blood Sugar that Characterize Diabetes

- frequent urination (including during the night)
- unusual thirst
- extreme hunger/weakness
- unexplained weight loss
- extreme fatigue
- blurred vision
- irritability
- itchy skin

- slow healing of cuts and bruises
- frequent infections of skin/gums/vagina/bladder

### Types of Diabetes

There are two main forms of diabetes. This “Guideline” will focus primarily on issues related to type 1 diabetes in children.

#### Type 1 Diabetes

Type 1 diabetes is an auto immune disease that occurs during childhood. The immune system attacks the beta cells (the insulin-producing cells of the pancreas) destroying them. Daily insulin is necessary for survival. Food intake, activity levels and insulin control diabetes. Approximately 5-10% of all people with diabetes have type 1 diabetes, translating to approximately 1 student per 400.

An individualized plan of care must be developed for each student as each child’s status and life events vary. For the plan of care to be most successful, an insulin regimen will be tailored to the needs of the child, as will a meal plan and recommendations for physical activity. Diabetes management allows people with diabetes to be more liberal with food planning than in the past. Individuals who have good control are less likely to experience complications from diabetes.

Children with diabetes must be allowed to participate fully in all school activities. They need the cooperation and support of school staff members to help them with their plan of care.

Blood glucose monitoring is essential to help assess how well the plan of care is working. Most children can perform blood glucose checks by themselves but may need supervision to see that the procedure is done

properly and results are recorded accurately. The child must have a meter at school so their blood glucose can be checked when needed. How often the children check their blood or whether they check at school at all are decisions made in conjunction with the child, family, health provider and school personnel.

It is the school administration's responsibility to ensure that staff members, including nursing staff have adequate training and updated skills in order to assist students with diabetes. The school nurse must recognize when he/she needs additional training to perform a particular procedure and can help determine where the appropriate training can be obtained.

### Type 2 Diabetes

Type 2 diabetes is the most common form of the disease, representing 90-95% of people with diabetes. This form of diabetes is a result of the body's inability to use insulin well. The body needs increasing amounts of insulin to control blood glucose. Although type 2 diabetes is most often found in individuals after age 40, recent trends are finding Type 2 diabetes in children, adolescents and young adults.

### The Path Toward Type 2 Diabetes

In adults, one of the greatest risk factors for type 2 diabetes is excess weight. The same is likely true for children. Science is pointing to multiple factors as reasons for the increase, such as, higher calorie intake and less physical activity. As an individual gains weight, the extra weight causes the

cells of the body to become resistant to the effects of insulin. The pancreas responds by producing more and more insulin, which eventually begins to build up in the blood. High levels of insulin in the blood, a condition called insulin resistance, may cause problems such as high blood pressure and harmful changes in the levels of different fats (cholesterol) in the blood. Insulin resistance, is the first step on the path to type 2 diabetes.

The second step to type 2 diabetes is a condition called impaired glucose tolerance. Impaired glucose tolerance occurs when the pancreas becomes exhausted and can no longer produce enough insulin to move glucose out of the bloodstream into cells. Glucose begins to build up in the blood. If it is not diagnosed and not treated, this gradual rise in glucose often leads to type 2 diabetes, high blood pressure, and heart disease.

While all these harmful activities are going on inside the body, the affected individual may feel perfectly fine. Type 2 diabetes is considered a silent disease because it works its destruction over many years without causing any noticeable symptoms. That's why half of the people who have type 2 diabetes don't know it.

**Clarification** – For the purposes of this Guideline, references to Primary Care Provider (PCP) includes diabetes specialists, who provide medical care for the student's diabetes.

## ACTIONS for the School Nurse

- **Obtain and review the student's current diabetes individualized care of plan** from their health care provider and pertinent information from the family.
- **Facilitate the initial school health team meeting** to discuss implementing the student's individualized plan of care and refer to and participate in the development and implementation of the student's 504 Plan, IEP, or other education plan, as appropriate. Monitor compliance with these plans and facilitate follow-up meetings of the school health team to discuss concerns, receive updates, and evaluate the need for changes to the student's plans, as appropriate.
- **Conduct a nursing assessment of the student and develop an Individual Health Plan.** Many school nurses already have systems set up to develop nursing care plans for students with a chronic diseases. The plan for students with diabetes is based on assessment of the student, input from the parents/guardian and the student, and the diabetes medical management plan. For example, the Individual Health Plan will identify specific functional problems, establish a goal to overcome each problem, and delineate tasks or interventions to help reach the goals.
- **Conduct ongoing, periodic assessments of students with diabetes and update the Individual Health Plan.**
- **Coordinate development of the student's Quick Reference Emergency Plan** and provide copies to staff members who have responsibility for the student throughout the school day (e.g., teachers, coach, PE instructor, lunchroom staff, and bus driver) in compliance with the student's rights of confidentiality. Review the Emergency Plan with substitute teachers, bus drivers and school nurses.
- **Obtain materials and medical supplies necessary for diabetes care tasks** from the parents/guardian and arrange a system for notifying the student or parents/guardian when supplies need to be replenished. Also consider frequent (daily if appropriate) communication with parents depending on the student's developmental age.
- **Plan and implement Diabetes Management Training** for the school nurses and staff members with responsibility for the student with diabetes who require such training. Ensure that all those mentioned in the 504 Plan, IEP, or other education plans, know their roles in carrying out the plan, how their roles relate to each other, and, when and where to seek help.
- **Participate in Diabetes Management Training** provided by health care professionals with expertise in diabetes and attends other continuing education offerings to attain and/or maintain knowledge about current standards of care for children with diabetes. The certified school nurse assigned to the school (or school district), is the key school staff member who coordinates the provision of health care services for a student with diabetes at school and at school-related activities. When

notified that a student with diabetes is enrolled in the school, annually or more often as necessary, the school nurse will:

- **Review the information about diabetes in current guidelines.** (“Helping Students with Diabetes Succeed” and “Pediatric Education for Diabetes in Schools”). (See information in preface.)
- **Distribute the Diabetes Primer Guide to all school personnel** who have responsibility for students with diabetes. (Found in “Helping Students with Diabetes Succeed”).
- **Train (or oversee training of), assess competence, and monitor trained diabetes personnel** in carrying out the health care procedures defined in the Individual Health Plan, 504 Plan, IEP, or other education plan.
- **Perform routine and emergency diabetes care tasks**, including blood glucose monitoring, urine ketone testing, insulin administration, and glucagon administration.
- **Practice universal precautions and infection control procedures** during all student encounters.
- **Maintain accurate documentation** of contacts with students and family members; communications with the student’s health care provider; and direct care given, including medication administration; and the training and monitoring of trained diabetes personnel.
- **Collaborate with other co-workers** (e.g., food service) and agencies (e.g., outside nursing agencies, school bus transportation services) as necessary to provide health care services.
- **Act as liaison between the school and the student’s health care provider**, with signed Health Insurance Portability and Accountability Act parental permission, regarding the student’s health care and self-management at school.
- **Communicate to parents/guardian any concerns about the student’s diabetes management or health**, such as acute hypoglycemia episodes, hyperglycemia, general attitude, and emotional issues.
- **Promote and encourage independence and self-care** consistent with the student’s ability, skill, maturity, and development level.
- **Respect the student’s confidentiality and right to privacy.**



- **Act as an advocate** for students to help them meet their diabetes health care needs.
- **Provide education and act as a resource on managing diabetes** at school to the student, family, and school staff. Establish and maintain an up-to-date resource file of pamphlets, brochures, and other publications for school personnel.
- **Assist the classroom teacher** with developing a plan for substitute teachers.
- **Be knowledgeable about federal, State, local laws, and regulations** that pertain to managing diabetes at school.

*“Helping the Student with Diabetes Succeed” a Joint Program of the National Institutes of Health and the Centers for Disease and Prevention, US Department of Health and Human Services, 2003.*

# Developmental Abilities in Diabetes Care By Age

## Age 4 – 5

Knows likes and dislikes  
Can tell where injection should be  
Can pinch skin  
Collects urine for ketones  
Turns on meter  
Helps with recording  
Identifies with “high” and “low” reading

## Age 6 – 7

Can begin to tell carbohydrate content of food  
Knows which ones to limit  
Can begin to help with aspects of injection  
Can prick finger  
Needs many reminders and supervision

## Age 8 – 10

Can select food according to criteria  
Knows if food fits diet plan  
May begin to do own shots  
Can do blood tests with supervision  
Can keep records  
Can do own urine test with supervision  
Needs many reminders and supervision  
Understands only immediate consequences of diabetes control, not long term  
“Scientific mind” developing—intrigued by tests

## Age 11 – 13

Helps plan meals and snacks  
Can see blood test results forming a pattern  
Still needs help with interpreting urine test  
May be somewhat rebellious  
Concerned with ‘being different’  
Peer pressure influencing decisions

## Age 14

Able to identify appropriate foods and portion sizes  
Can mix two insulins  
Can begin to use test results to adjust insulin  
Knows consequences of poor diabetes control but often has feelings of immortality  
Independence and self-image important  
Rebellion continues  
Strong peer pressure  
May be resistant to testing for urine ketones

*P.E.D.S. “Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools”, Mary Zombek, RN, MS, CPNP, published in 2001*

## **Expectations of the Student in Diabetes Care by Grade Level**

Children should be able to participate with parental consent in their diabetes care at school to the extent that is appropriate for the child's development and his/her experience with diabetes. The extent of the child's ability to participate in diabetes care should be agreed upon by the school personnel, the parent/guardian, and the health care team, as necessary.

### **1. Preschool and day care:**

The preschool child is usually unable to perform diabetes tasks independently. By 4 years of age, children may be expected to generally cooperate in diabetes tasks.

### **2. Elementary school:**

The child should be expected to cooperate in all diabetes tasks at school. By age 8 years, most children are able to perform their own fingerstick blood glucose tests with supervision.

### **3. Middle school or Junior High school:**

The student should be able to perform self-monitoring of blood glucose under usual circumstances when not experiencing a low blood glucose level. By 13 years of age, most children can administer insulin with supervision.

### **4. High school:**

The student should be able to perform self-monitoring of blood glucose under usual circumstances when not experiencing low blood glucose levels. In high school, most adolescents can administer insulin with supervision.

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools",  
Mary Zombek, RN, MS, CPNP, published in 2001*

# Developmentally Age Appropriate Skills Check List for Diabetes Care

School \_\_\_\_\_

Student \_\_\_\_\_

Date \_\_\_\_\_

This checklist is part of the school nurse's assessment that will be completed with the parent/care provider. Tasks that the student is able to complete are checked off. School personnel can be trained to observe tasks using this checklist as a resource.

## **Blood Glucose Testing:**

- \_\_\_ Turns on meter
- \_\_\_ Able to 'code' meter, if required
- \_\_\_ Inserts testing strip into meter
- \_\_\_ Operates lancing device
- \_\_\_ Lances finger or forearm
- \_\_\_ Places blood onto strip
- \_\_\_ Disposes of testing strip properly
- \_\_\_ Records blood glucose reading

## **Ketone Testing:**

- \_\_\_ Collects urine in a cup for ketone test
- \_\_\_ Dips testing strip into urine
- \_\_\_ Interprets color of strip
- \_\_\_ Records result

## **Insulin Administration:**

- \_\_\_ Selects appropriate injection site
- \_\_\_ Cleans site
- \_\_\_ Draws up insulin
- \_\_\_ Pinches up skin for injection
- \_\_\_ Injects needle
- \_\_\_ Pushes plunger in
- \_\_\_ Uses blood glucose test results to adjust insulin

## **Nutrition:**

- \_\_\_ Knows when to eat snacks
- \_\_\_ Eats snacks promptly
- \_\_\_ Knows carbohydrate content of food
- \_\_\_ Aware of foods to limit or restrict
- \_\_\_ Selects appropriate food on meal plan

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001*

## Equipment and Supplies Checklist for Parents

Student: \_\_\_\_\_ DOB: \_\_\_\_\_  
School: \_\_\_\_\_ Grade: \_\_\_\_\_

### Equipment and Supplies to be Provided by Parent

Parent Signature \_\_\_\_\_ Date \_\_\_\_\_

Daily Snacks (for AM/PM snack times): Specify: \_\_\_\_\_

Extra Snacks (for before, after, and/or during exercise) Specify type of snacks:  
\_\_\_\_\_

Glucose Meter Kit      Brand/Model: \_\_\_\_\_

(Includes meter, testing strips, lancing device with lancet, cotton balls, spot bandages).

Low Blood Glucose Supplies (Provide item from selected category – 5 day supply preferable)

- Fast acting carbohydrate drinks:** (Apple juice and/or orange juice, sugared soda -NOT diet)
- Glucose tablets:** 1-2 packages preferred
- Glucose gel products:** (Insta-Glucose, Monogel or Glucose/25 - 31gms.) 1-2 preferred
- Gel Cakemate™:**(not frosting), (19 gm., mini-purse size), 1-2 preferred
- Prepackaged snacks:** (such as crackers with cheese or peanut butter, Nite-Bite™, etc.)

High Blood Glucose Supplies (Check those that apply)

- Ketone test strips/bottle or meter kit
- Urine cup
- Water bottle

**Note:** Timing device may be wall clock or watch worn by pupil or personnel.

### Insulin Supplies

- Insulin pen
- Insulin and syringes
- Extra pump supplies, such as infusion set
- Vial of insulin, syringes
- Pump cartridge
- Batteries
- Tape
- Insertion device

Insulin supplies storage location: \_\_\_\_\_

**Emergency Supplies**

**Glucagon kit** stored: \_\_\_\_\_

Expiration date of glucagon vile: \_\_\_\_\_

**Recommended 3 Day Disaster Diabetes Supplies** (Check those that apply)

- Vial of insulin; 6 syringes, or
- Insulin pen with cartridge and needles
- Blood glucose testing kit (testing strips, lancing device with lancets) – if authorized
- Glucose gel product and glucose tablets
- Glucagon kit
- Food supply (include daily meal plan) stored as follows: \_\_\_\_\_
- Ketone strips/plastic cup – if authorized
- Pump supplies, as listed above
- Extra battery for pump
- Other Supplies – specify:  
\_\_\_\_\_

**For the school nurse to complete**

**Date Form sent home** \_\_\_\_\_

**Date Form returned to school** \_\_\_\_\_

School will include a copy of the IHP for diabetes management with the disaster supplies.

Stored as follows: \_\_\_\_\_

\_\_\_\_\_

# Individualized Plan of Care for Students with Diabetes

## Instructions

Every student with diabetes must provide a written order from their physician/health provider for the school nurse to carry out the plan of care. The “Individualized Plan of Care for Students with Diabetes” is suggested as a standard plan to be used for all students with diabetes.

### **Instructions:**

The plan of care is to be developed by the physician/health provider and updated as needed but at least annually.

The adjustments for illness/activities provides an order for the school nurse to change the insulin dose to accommodate the student’s need for dose adjustment during illness or changes in physical activity. Although this is a physician order for the school nurse, it is recommended that changes in insulin dose be made in consultation with the parent/guardian.

The school nurse is responsible for actions taken to carry out the plan.

If the school nurse has concerns or questions in providing care to the student, contact should be made with the provider or diabetes center.

### **Possible Side Effects**

Insulin – Possibility of low blood sugar

Glucagon – The student may vomit following Glucagon administration. If unconsciousness, turn child on side to protect the airway. If student is seizing, do not attempt to put anything in their mouth.

**INDIVIDUALIZED PLAN OF CARE FOR STUDENTS WITH DIABETES**

**Home and School Care Instructions**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Weight: \_\_\_\_\_ Height: \_\_\_\_\_ DOB: \_\_\_\_\_ School \_\_\_\_\_

School Nurse \_\_\_\_\_ School Fax \_\_\_\_\_

**PLAN: Multiple Daily Injections: \_\_\_\_\_ Pump: \_\_\_\_\_**

**Adjustment for illness / activity / other factors affecting BG values (+/- 50%)**

Basal	Bolus: Base Dose or Insulin to Carb Ratio	Basal	Bolus: Base Dose or Insulin to Carb Ratio
Breakfast			
AM Snack			
Lunch			
PM Snack			
Supper			
Bedtime			

**Pump Basal Rates:**

Time	Units/hr
12 MN	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
<b>Total Basal =</b>	<b>_____ units</b>

Time	Units/hr
12 MN	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
<b>Total Basal =</b>	<b>_____ units</b>

**Supplemental (Correction) Scale:**

Day \_\_\_\_\_  
 Evening and 2-3 AM \_\_\_\_\_  
 Other \_\_\_\_\_

**Blood sugars need to be checked before:**  Brkfst.  Bus  AM Snack  Lunch  
 PM Snack  PE  Getting on the bus  Supper  Bedtime  Other

**Meal Plan (Optional):**

	Total Carbs
Breakfast	
AM Snack	
Lunch	
PM Snack	
Dinner	
HS Snack	

**Urine Ketones:**

Check for urine ketones if Blood Sugar is > 240 or if child is ill. Contact parent if Moderate to Large ketones.

**Target Blood Sugar:**

**Before Meals =** \_\_\_\_ - \_\_\_\_  
**2 Hours After Meals/snacks and/or Correction =** \_\_\_\_ - \_\_\_\_  
**3 Hours After Meals/snacks and/or Correction =** \_\_\_\_ - \_\_\_\_

**Glucagon:** Dose: \_\_\_\_\_ Route: \_\_\_\_\_ Call parent immediately after giving.

I authorize the exchange of information about my child's diabetes between the Physician's Office and the school nurse.

Parent signature: \_\_\_\_\_ Date: \_\_\_\_\_

I authorize the school nurse to carry out the orders defined in the plan of care.

Physician/Provider Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Next App't: \_\_\_\_\_ Other: \_\_\_\_\_



# INDIVIDUALIZED PLAN OF CARE FOR STUDENTS WITH DIABETES

## Home and School Care Instructions

Name: James Smith Date: 9/4/04

Weight: 60 Kg Height: 140 cm DOB: 11/14/93 School George E Jack  
 School Nurse \_\_\_\_\_ School Fax \_\_\_\_\_

PLAN: Multiple Dose Injection: X Pump: \_\_\_\_\_

**Adjustments for illness/activity/other factors affecting BG values (+/- 50%)**

	Basal	Bolus	Basal	Bolus
Breakfast		8 units Novolog		+/- 4 units
AM Snack		0 units Novolog		+/- 0
Lunch		7 units Novolog		+/- 3.5
PM Snack		3 units Novolog		+/- 1.5 grms CHO
Supper	15 units Lantus	8 units Novolog	+/- 7.5 unit L	+/- 4
Bedtime		2 units Novolog		+/- 1

**Pump Basal Rates:**

12 MN	<u>0.9</u>
3 AM	<u>1.2</u>
7 AM	<u>1.2</u>
11 AM	<u>1.0</u>
5 PM	<u>1.1</u>
10 PM	<u>0.9</u>
<b>Total Basal:</b>	<u>24 units</u>

12 MN	<u>0.45 - 1.35</u>
3 AM	<u>0.6 - 1.8</u>
7 AM	<u>0.6 - 1.8</u>
11 AM	<u>0.5 - 1.5</u>
5 PM	<u>0.55 - 1.65</u>
10 PM	<u>0.45 - 1.35</u>
<b>Total Basal</b>	<u>12 - 36 units</u>

**Supplemental (Correction) Scale:**

Daytime <u>1 unit/40mg/dl &gt; 200</u>	+/- 20/dl
Bedtime and 2 - 3 AM <u>Unit/40 mg/dl &gt; 200</u>	NA
Other _____	

Blood Sugar checked before:  Brk  AM Bus  AM Snack  Lunch  PM Snack  PE  PM   
 Bus  Supper  Bedtime  Other

**Meal Plan:**

	Total Carbs
Breakfast	45 g
AM Snack	15 g
Lunch	60 g
PM Snack	30 g
Dinner	75 g
HS Snack	30 g

**Urine Ketones**

**Check for urine ketones if Blood Sugar is >240 or if child is ill. Contact**

**Target Blood Sugar:**

Before Meals + 80 - 150

2 Hours After Meals and/or Correction = 120 - 180

3 Hours After Meals and/or Correction = 80 - 150

**Glucagon:** Dose: 1 mg Route: SC Call Parent immediately.

I authorize the exchange of information about my child's diabetes between the Physician's Office and the School Nurse. Parent Signature \_\_\_\_\_ Date \_\_\_\_\_

I authorize the school nurse to carry out the orders defined in the Individualized Plan of Care.  
 Physician/Provider Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Next App;t: \_\_\_\_\_

## **Individual Health Plan for Student with Diabetes in School**

Every student with diabetes should have a written Individual Health Plan that includes an Emergency Care Plan. The IHP should be developed by the school nurse in collaboration with the student, family, and providers. Developing the plan prior to the student's attendance at school is preferable. The plan should be changed as needed and reviewed at least annually. Information from the plan is intended to be shared, with permission from parents/guardian or eligible student, with school staff who need the information to assure the health and safety of the student. The student's health provider must sign medical orders at least yearly.

According to the Nurse Practice Act, registered professional nurses may only accept medication orders from the health providers licensed to prescribe medication. This includes diabetes specialist licensed to adjust medications. Adjustment in medication orders must be made by the provider and can not be accepted from the parent/guardian or other unlicensed individual.

The school nurse is accountable for the quality of the health care he/she provides and for the training and supervision of unlicensed staff performing health tasks. The preparation of the health plan will help assure quality of care. The school nurse has the responsibility of counseling and coordinating with the student's parents, primary care provider, student and teacher to assure a safe learning environment.

When the student has a substitute teacher or attends a field trip, appropriate information about the student's health needs and how to respond to an emergency situation, must be provided to responsible staff to assure the safety of the student. The student's bus driver should also be aware of the student's health needs and be informed of their responsibility.

**“Helping the Student with Diabetes Succeed” provides an overview for training unlicensed staff and information on the roles of school personnel with students with diabetes.**

**SAMPLE**

**Individual Health Plan (IHP) for Students with Diabetes**

School Year \_\_\_\_\_

Name of Student \_\_\_\_\_ School \_\_\_\_\_ Date \_\_\_\_\_

*To be completed by parent/health care team and reviewed with necessary school staff. Copy should be kept in school health record and in the classroom.*

Date of Birth \_\_\_\_\_ Grade \_\_\_\_\_ Teacher \_\_\_\_\_ Date of Diagnosis \_\_\_\_\_

Classroom Teacher \_\_\_\_\_

**Contact Information:**

Parent/Guardian #1 \_\_\_\_\_ Address \_\_\_\_\_

Telephone: Home \_\_\_\_\_ Work \_\_\_\_\_ Cell Phone \_\_\_\_\_

Parent/Guardian #2 \_\_\_\_\_ Address \_\_\_\_\_

Telephone: Home \_\_\_\_\_ Work \_\_\_\_\_ Cell Phone \_\_\_\_\_

Student's Doctor \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

Address \_\_\_\_\_

Diabetes Educator \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

Other Emergency Contact \_\_\_\_\_ Relationship \_\_\_\_\_

Telephone: Home \_\_\_\_\_ Work \_\_\_\_\_ Cell Phone \_\_\_\_\_

Notify parent/guardian in the following situations: \_\_\_\_\_

**Blood Glucose Monitoring**

Target range for blood glucose: \_\_\_\_\_ mg/dl to \_\_\_\_\_ mg/dl Type of blood glucose meter \_\_\_\_\_

Times to routinely check blood glucose: \_\_\_\_\_

Times to do extra tests (check all that apply) \_\_\_\_\_ Before Exercise \_\_\_\_\_ With signs of hyperglycemia

\_\_\_\_\_ After Exercise \_\_\_\_\_ With signs of hypoglycemia

\_\_\_\_\_ Other (explain) \_\_\_\_\_

Can student perform own blood glucose tests? Yes No Exceptions \_\_\_\_\_

\_\_\_\_\_ No blood glucose testing at school

School personnel trained to monitor blood glucose level \_\_\_\_\_

**Insulin/Diabetic Medication**

Times, types and dosages of insulin injections/Medications:

Time	Name of Insulin/Medication	Dosage	Given at	
			Home	School
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

School personnel trained to assist with insulin injections \_\_\_\_\_

Can student give own injections? Yes No

Can student determine correct amount of insulin? Yes No

Can student draw correct dose of insulin? Yes No

**Meals and Snacks Eaten at School** (The carbohydrate content of the food is important in maintaining a stable blood glucose level.)

	Time	Amount of Carbs (Number of Grams)
Breakfast	_____	_____
AM Snack	_____	_____
Lunch	_____	_____
PM Snack	_____	_____

***For Students with Insulin Pumps Only***

Type of Insulin Pump \_\_\_\_\_

Basal Rates:                    12 AM    to \_\_\_\_\_        =        \_\_\_\_\_  
   \_\_\_\_\_ to \_\_\_\_\_        =        \_\_\_\_\_  
   \_\_\_\_\_ to \_\_\_\_\_        =        \_\_\_\_\_  
   \_\_\_\_\_ to \_\_\_\_\_        =        \_\_\_\_\_

Type of Infusion set: \_\_\_\_\_

Insulin/ Carbohydrate ratio: \_\_\_\_\_

Correction Factor: \_\_\_\_\_

Student Skills with pump

Needs Assistance

- |  |           |          |
|--|-----------|----------|
| 1. Counting carbohydrates                              | _____ Yes | _____ No |
| 2. Can Bolus correct amount for carbohydrates consumed | _____ Yes | _____ No |
| 3. Can Calculate and administer corrective bolus       | _____ Yes | _____ No |
| 4. Can Calculate and set temporary basal rates         | _____ Yes | _____ No |
| 5. Able to Disconnect pump                             | _____ Yes | _____ No |
| 6. Able to Reconnect pump at infusion set              | _____ Yes | _____ No |
| 7. Able to Prepare reservoir and tubing                | _____ Yes | _____ No |
| 8. Able to Insert infusion set                         | _____ Yes | _____ No |
| 9. Can Troubleshoot alarms and malfunctions            | _____ Yes | _____ No |
| 10. Can Troubleshoot causes of high Blood Sugar        | _____ Yes | _____ No |

Snacks:    \_\_\_Mandatory    \_\_\_At student's discretion

Circumstances under which student should disconnect pump \_\_\_\_\_

Back-up battery given to School Nurse - Yes [ ] No [ ]

Supply of insulin, syringes, and ketone sticks available if pump fails - Yes [ ] No [ ]

Other information the school nurse needs to be aware of in dealing with pump \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Physical Education**

1. Time and Days P.E. Scheduled \_\_\_\_\_
2. Is snack needed before P.E. Class?            YES    NO    If Yes, give \_\_\_\_\_ gram of carbs
3. Is a snack needed before any other exercise? YES    NO    If Yes, give \_\_\_\_\_ grams of carbs
4. Is a snack needed after exercise?            YES    NO    If Yes, give \_\_\_\_\_ grams of carbs

A snack such as \_\_\_\_\_ should be available at the site of exercise or sports. Preferred snack foods: \_\_\_\_\_

Foods to avoid if any: \_\_\_\_\_

Restrictions on activity, if any: \_\_\_\_\_

Instructions for class parties: \_\_\_\_\_

Student should not exercise if blood glucose below \_\_\_ mg/dl or above \_\_\_ mg/dl or if ketones are present.

**Hypoglycemia (Low Blood Sugar)**

Usual symptoms of hypoglycemia? \_\_\_\_\_

**TO TREAT LOW BLOOD SUGAR:**

\_\_\_ Self treatment of mild lows    If Glucose \_\_\_\_\_ Give \_\_\_\_\_

\_\_\_ Assistance for all lows        If Glucose \_\_\_\_\_ Give \_\_\_\_\_

*Glucagon should be given if the student is unconscious, having a seizure(convulsion) or unable to swallow. If required, glucagon should be administered promptly and then Call 911, parents and School Nurse.*

**Glucagon Dose \_\_\_ 0.5mg \_\_\_ 1mg**

School personnel trained to administer glucagon and dates of training: \_\_\_\_\_

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**Hyperglycemia (High Blood Sugar)**

Usual symptoms of hyperglycemia? \_\_\_\_\_

**TO TREAT HIGH BLOOD SUGAR**

If Glucose \_\_\_ to \_\_\_ Give \_\_\_ units of \_\_\_\_\_ Check for Ketones if glucose above \_\_\_\_\_

If Glucose \_\_\_ to \_\_\_ Give \_\_\_ units of \_\_\_\_\_ If Ketones positive, call parent.

**Location of supplies:** Blood glucose monitoring equipment \_\_\_\_\_

Insulin administration supplies \_\_\_\_\_ Glucagon Emergency Kit \_\_\_\_\_

Ketone testing supplies \_\_\_\_\_ Snack Foods \_\_\_\_\_

Personnel trained in the symptoms and treatment of low and high blood sugar and dates of training: \_\_\_\_\_

Bus Transportation: \_\_\_\_\_ Blood glucose test not required prior to boarding bus \_\_\_\_\_

Test blood glucose 10-20 minutes before boarding bus. IF glucose is < \_\_\_\_\_ mg/dl give 15 gm of carbs.

**This Diabetes Medical Management Plan has been approved by:**

\_\_\_\_\_  
Student's Health Care Provider's Signature

\_\_\_\_\_  
Date

I give permission to the school nurse, trained diabetes personnel and other designated staff members to perform and carry out the diabetes care tasks as outlined by this medical management plan. I also consent to the release of the information contained in this Individual Health Plan to all staff members and other adults who have custodial care of my child and who may need to know this information to maintain my child's health and safety. I will notify the school nurse if there is any change in my child's health status and provide copies of any changes in doctor's orders.

**Acknowledged/received by:** \_\_\_\_\_

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

**Reviewed by:** \_\_\_\_\_

\_\_\_\_\_  
School Nurse

\_\_\_\_\_  
Date

\_\_\_\_\_  
School Principal

\_\_\_\_\_  
Date

I agree to allow the school nurse to communicate with my child's health care provider(s) regarding my child's diabetes.

\_\_\_\_\_  
Parent's Signature

\_\_\_\_\_  
Date

# HEALTH SERVICES CONTRACT

A copy of this contract will be attached to the Individualized Healthcare Plan

STUDENT: \_\_\_\_\_ DATE: \_\_\_\_\_

School \_\_\_\_\_

The initials of the parties signed below indicate specific individual responsibilities in agreement to:

\_\_\_\_\_ the student will:

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\_\_\_\_\_ the parent will:

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---

---

\_\_\_\_\_ the school nurse will:

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This contract is good for one year and will be reviewed for renewal. A review may occur if any party is non-compliance or there is a change in status. Any party may call for an immediate review.

The undersigned are in agreement of the above contract.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
School Nurse Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
School Administrator Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Designated Staff Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Designated Staff Signature

\_\_\_\_\_  
Date

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001*

## Individualized Education Plan (IEP) – Sample

STUDENT: Jane Doe SCHOOL: Sugar Pine Intermediate

DOB: 6-11-87 DATE: September 13, 2003

GOAL: Independent Health Care Maintenance with regards to diabetes

OBJECTIVE: By June 2004 STUDENT WILL be able to operate meter independently, lance finger and place blood onto strip.

ACHIEVED: 6/04 NOT ACHIEVED: \_\_\_\_\_

OBJECTIVE: By June 2004 STUDENT WILL: be able to make snack choice independently based on blood glucose level.

ACHIEVED: 6/04 NOT ACHIEVED: \_\_\_\_\_

OBJECTIVE: By: June 2004 STUDENT WILL: take responsibility for leaving weekly snacks in the health office refrigerator on Monday AM; including carrots, celery, juice, fruit, cheese and crackers.

ACHIEVED: 6/04 NOT ACHIEVED: \_\_\_\_\_

OBJECTIVE: By June 2004 STUDENT WILL: attend a peer support group meeting on a regular basis.

(Continue goal until June 2005)

ACHIEVED: \_\_\_\_\_ NOT ACHIEVED: X

PERSON RESPONSIBLE: Julie Smith (school nurse) DATE OF REVIEW: June 30, 2004

COMMENTS: Jane says she has refused to go to the meetings because she is embarrassed about sharing her feelings. A meeting will be scheduled with the school psychologist to assist Jane in dealing with these feelings and to facilitate attendance at the support group meeting. The school psychologist will contact the support group leader in an attempt to hook Jane up with another peer who attends these meetings.

# Section 504 Student Accommodation Plan

## THE LAW AND DIABETES

Any school receiving federal funds must accommodate the special health care needs of its students with disabilities in order to provide them with a free appropriate public education. Such accommodations should be documented in an appropriately developed Section 504 plan or, if the child also needs special education services, in an individualized education program (IEP). Diabetes is recognized as a disability under federal law. Students with diabetes may be referred to a 504 Team to determine whether they would be qualified under 504. These accommodations must be developed with parental input and cannot be implemented without parental consent. The school district has a legal obligation to ensure that these accommodations are provided as described in the plan. The Individual Health Plan and the 504 plan may be included in the same document. If a student with diabetes is found eligible, a 504 plan for that student would be developed to provide full accessibility to all activities, services, or benefits provided by public schools. If a student is found eligible for 504 the following apply.

Under Section 504 of the Rehabilitation Act of 1973, it is illegal to discriminate against a person with a disability. The 504 section of the Federal Registry indicates that “no qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program of activity which receives or benefits from Federal financial assistance”. Section 504 defines an individual with a disability as any person whom: “has a physical or mental impairment which substantially limits participation in one or more major life activities such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.”

Type 1 diabetes is a physiological disorder that affects the endocrine system, placing the individual at risk for hypoglycemic and hyperglycemic episodes related to this metabolic dysfunction. Potential fluctuations in blood glucose impact the individual’s major life activities as described in the 504 document. Historically, Section 504 and ADA have covered students with diabetes. Reasonable accommodations can be planned and documented in a 504 plan by a designated 504 coordinator in each school district.

If parents have concerns about the identification, evaluation, programming, placement, or the provisions of a free and appropriate education, there are procedural safe-guards that parents can access.

A sample 504 plan for a student with diabetes follows.

*“Helping the Student with Diabetes Succeed” a Joint Program of the National Institutes of Health and the Centers for Disease and Prevention, US Department of Health and Human Services, 2003.*



**Section 504 Student Accommodation Plan – Sample**

School: \_\_\_\_\_ Teacher: \_\_\_\_\_ Grade: \_\_\_\_\_

Student Name: \_\_\_\_\_ D.O.B.: \_\_\_\_\_

Parent Name: \_\_\_\_\_

Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_

Case Manager: \_\_\_\_\_ Date of Meeting: \_\_\_\_\_

1. **Describe the nature of the concern leading to this referral:**  
(Include a statement of the 504 eligible condition). Possible loss of cognitive ability if blood sugar is too low or too high. Possibility of seizure if blood sugar is too low. Long-term vascular implications if blood sugar remains high for extended periods.

2. **Describe the basis for the determination of disability:**  
Medical diagnosis Type I Diabetes. Is insulin dependent and is currently receiving X injections per day (as needed to keep blood sugar at optimal levels).

3. **Describe how the disability limits major life activity:**  
Blood sugar must be monitored and maintained at an optimal level to maintain above stated health status.

4. <b>Describe the reasonable accommodations that are necessary:</b>	<b>Providers</b>
Assistance with and privacy for blood glucose testing and insulin injections.	Health Clerk
Snacks and meals whenever/wherever necessary.	Teacher
Free access to water and toilet.	Teacher
Full participation in extra-curricular programs.	Coach
Scheduling physical education around meal times.	Teacher
Allowances for increased absences.	Administration
Implementation of the IHP.	School Nurse

Review/Reassessment Date: (must be completed): \_\_\_\_\_

Participants (Signature and Title):

_____	_____
_____	_____
_____	_____
_____	_____

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001*

## SUGGESTED ACCOMMODATIONS FOR THE STUDENT WITH DIABETES

The following is a list of suggested accommodations for students with diabetes:

1. School nurse, parents and student should mutually determine the most appropriate location for blood sugar (glucose) monitoring and insulin administration. Determining factors may include:
  - Student age, developmental level and possibility of negative effects in classroom.
  - Student desire for privacy.
  - Length of time since diagnosis.
  - Student knowledge of diabetes and degree of independence.
  - Student ability to demonstrate blood sugar (glucose) monitoring procedure and insulin administration, correctly, over time.
  - Awareness of safety issues surrounding needles, lancets, and blood, including proper disposal of waste and storage of diabetes equipment.
  - Any other special circumstances.
2. Student may have permission<sup>1</sup> to do blood sugar testing in the classroom. This procedure should take only a few minutes and not disrupt the class. Student may also need to check blood glucose on field trips or during special events. Blood glucose testing is usually done before meals per primary care provider's (PCP) order.
3. The school lunch menu for the week will be available to the student's family a week in advance. The carbohydrate content of school lunches may be made available on request.
4. Parents are responsible to supply snacks for school; students should have at least one additional snack readily available everyday for emergency consumption. Parents should be notified when the emergency snack is consumed if this is part of the student's Individual Health Plan (IHP).
5. Student needs to be allowed to snack when and where necessary (low blood sugar/hypoglycemia) to maintain adequate blood glucose levels. This includes school transportation as well as the classroom, gymnasium, etc.
6. A student who does not respond to a snack and/or exhibits signs of low blood glucose (hypoglycemia) needs to be accompanied to the health room, or a call for assistance should be made from the classroom. **DO NOT SEND ALONE** if dizzy, sweating, pale, trembling, crying, drowsy, nauseated, or if complaining of abdominal pain, blurred vision, headache, and/or displaying out of character behavior.
7. A student with a high blood glucose (hyperglycemia) is to receive insulin per PCP order. This may include going to the health room to self-inject insulin or notifying school nurse, parent, family member, or designated adult to administer. The student may be allowed to self-inject in the classroom or health room, if appropriate, and permission is given by the school nurse. (1)
8. A student must be allowed to drink water or other sugar free fluids in the classroom, as needed, to dilute high blood glucose.
9. A student needs to be allowed extra bathroom privileges as high blood glucose (hyperglycemia) results in increased urine output.
10. Optimally, parents should be given at least a three-day notice of extra events such as parties or field trips.

<sup>1</sup> Permission is granted to test or self-inject in the classroom after demonstrating to the school nurse appropriate procedure and disposal of waste. Amount of classroom disruption is also a consideration. Students wishing privacy, confidentiality, or supervision shall have permission to come to the health room for blood sugar testing or insulin injection.

*“Guidelines for Care of the Students with Diabetes: Washington State Task Force for Students with Diabetes”.*

# Delegation and Oversight of Health Tasks to LPN's and Unlicensed School Personnel

It is often difficult for school nurses to decide if it is safe to allow other school personnel to assume health tasks in caring for students with diabetes. This is particularly challenging for school nurses serving multiple schools, especially when they have young students with diabetes who require significant care. The **SCHOOL NURSING ROLE DEFINITION IN DELEGATION OR COORDINATION AND OVERSIGHT** assists the school nurse in understanding how the Maine Nurse Practice Act governs the nurse's ability to delegate task to a LPN or oversee a health task of a non-licensed person. That document can be found in the Maine School Health Manual at [www.state.me.us/education/sh/contents.htm](http://www.state.me.us/education/sh/contents.htm). Another tool to assist school nurses with decisions is the "Decision Tree for Nurse Delegation" (following frequently asked questions, below).

## Frequently Asked Questions

### About Roles and Responsibilities in Relation to Nursing Procedures and Health-related Activities for all Children in the School Setting

**1. What is the citation in law that relates to performing nursing task, including administration of medication to students requiring assistance with their care?**

Section 2102 (2) (C) of The Nurse Practice Act states that registered professional nurses may delegate selected nursing services to licensed practical nurses when the services use standardized protocols and procedures leading to predictable outcomes. The Maine Board of Nursing Rule Chapter 6, allows nurses to coordinate and oversee unlicensed health care assistive personnel for specific tasks for specific students consistent with student safety. The registered professional nurse may not coordinate or oversee unlicensed health care assistive personnel for health counseling, teaching or any task that requires independent, specialized nursing knowledge, skill or judgment.

Title 20-A § 254 (5) (B) requires schools to have a written local policy and procedure for administering medication, which must include that unlicensed personnel who administer medication receive training before receiving authorization to do so.

**2. Can a LPN provide school health services as long as supervision is provided?**

**Yes.** LPNs may be hired to perform nursing tasks permitted in the LPN scope of practice under the direction of a certified school nurse, physician or dentist. The tasks must be part of an individual nursing care plan that is developed, maintained and evaluated by a certified school nurse. Supervision need not be on site, but evidence of adequate supervision (which must include, at a minimum, availability of the school nurse, physician or dentist by telephone) is essential.

**3. What are the minimum criteria for considering a student to be able to provide self-care?**

Determination as to whether a student should be considered able to provide self-care should be based on the student's cognitive and/or emotional development rather than age or grade. Factors such as age of reason and mental/emotional disability are some additional considerations to be looked at in determining a child's ability to be self-managed. Guidelines for considering a student to be able to provide self-care are if he/she is consistently able to do all of the following:

- Identify the correct medication (e.g., color, shape, label)
- Identify the purpose of the medication (e.g., to maintain blood glucose in normal range)
- Determine that the correct dosage is being administered (e.g., amount of insulin to be injected)

- Identify the time the medication is needed during the school day (e.g., lunch time, before/after lunch)
- Describe what will happen if medication is not taken (e.g., increase in blood glucose resulting in feeling ill and unable to complete school work)
- Refuse to take medication, if student has any concerns about its appropriateness.

Student individualized health care plans should always address ways to make the student more independent in the management of their health needs. Goals should be established that would enable children to be able to provide self-care regardless of age or grade.

**4. How should school districts handle the issue of medications or needed health care procedures when students go on field trips or participate in after-school activities?**

Most students can be taught to administer their own medications. For procedures addressing the administration of medication, refer to the School Health Manual guidelines, Administration of Medications in Schools. For field trips or after-school activities, teachers or other school staff must be provided with instructions on medication administration or directions on the specific health care task. The responsible school staff should appropriately transport the student's medication and/or supplies and allow students to take their own medication at the appropriate time, administer medications or assist with the health care procedure for those students that need assistance, according to the student's health care plan. If it is determined that a student's need for health care is such that the task can not be given to an unlicensed school staff, the certified school nurse, other RN, or licensed practical nurse must accompany the student on the field trip (as identified on the 504 plan) to administer medication or carry out the nursing procedures. Alternatively, a parent may accompany the child if they so desired.

A student may not be prevented from participating in an educational activity, such as field trip, solely on the basis of a special health need.

**5. What if neither the certified school nurse nor the parent is available to attend a field trip with a student with special health needs who is not able to provide self-care?**

A district must provide appropriately licensed nurses to provide necessary nursing services if it is determined that the health task cannot be given to an unlicensed staff. This can be accomplished by reassigning school nursing staff from other sites within the district, contracting with neighboring school districts, contracting with nurses employed by outside agencies, or by actively recruiting an adequate nursing staff to serve as substitute.

**6. Must all children with special health needs have an individualized health plan (IHP)?**

An IHP, a plan of care for a child with health needs, is developed for students with special health needs. Schools are eligible to receive MaineCare reimbursement for skilled nursing services for MaineCare eligible students only if an IHP is a part of a student's cumulative health record and such services are included in the student's individualized education plan (IEP – an educational plan for students who have been identified by the Committee on Special Education as having a disability).

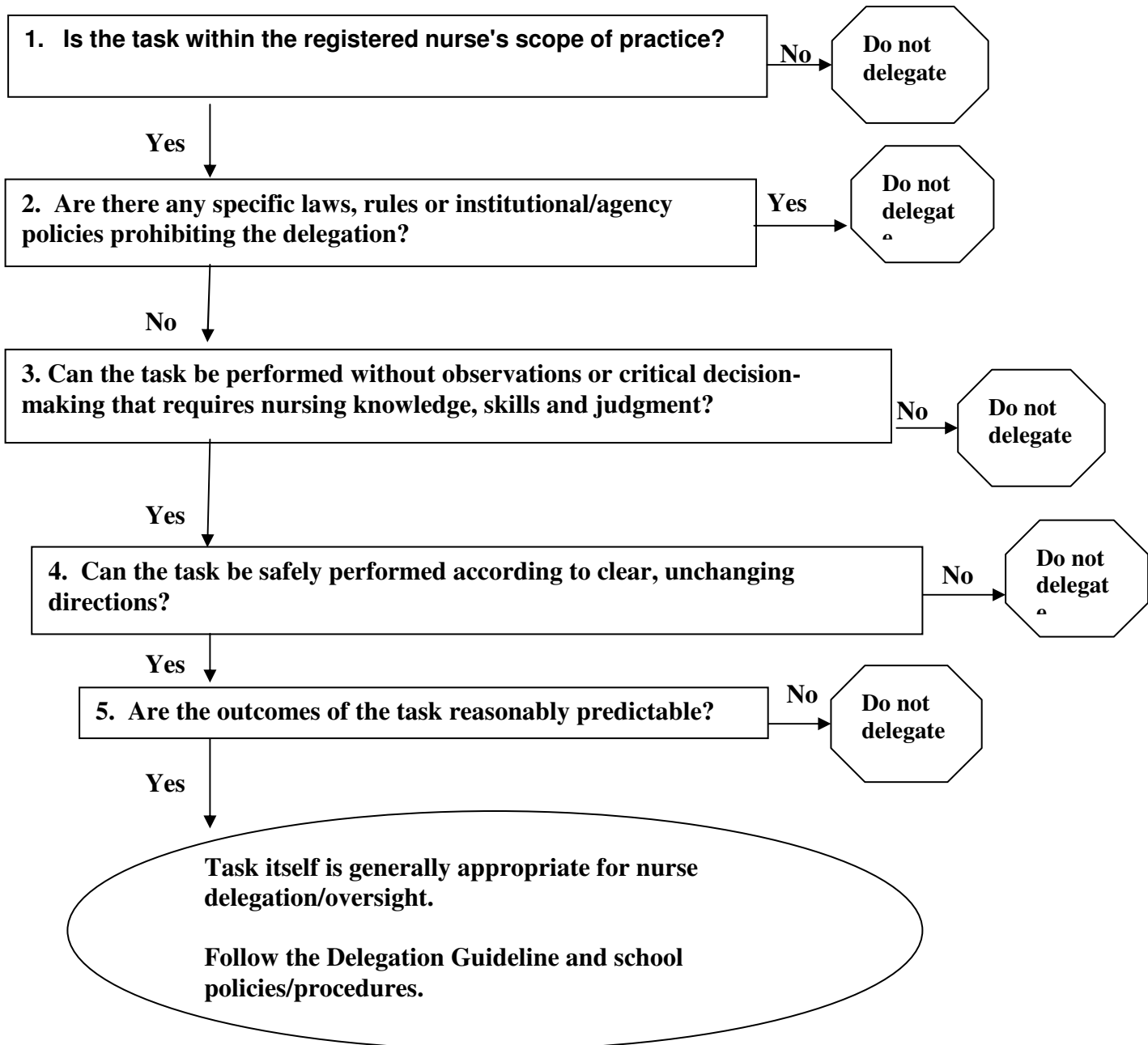
**7. What is the district's responsibility for ensuring that a school nurse has received appropriate training if he/she does not know how to perform certain procedures that a child will need? What is the nurse's responsibility?**

It is the school administrator's responsibility to ensure that staff, including nursing staff, is adequately trained and has updated skills. It is the registered nurse's responsibility to recognize additional training he/she may need to perform a particular procedure and to help determine where the appropriate training may be obtained.

# DECISION TREE FOR NURSE DELEGATION

This decision tree is to assist Registered Nurses in determining if it is appropriate to delegate a particular nursing task in a particular setting to an Unlicensed Assistive Personnel (UAP).

It is assumed that a nurse has assessed the student and situation completely in order to answer the questions in this decision tree.



## **Bus Driver Plan for Student with Diabetes**

Please notify student's parents if you are going to have a substitute bus driver.

Before student gets on the bus, parents/student should:

- Test blood sugar to make sure it is in normal range,
- Give a snack before boarding the bus if blood sugar is low.
- Assure student has necessary snack and glucose gel with him/her at all times.

If on the bus, student complains of feeling as if he/she is experiencing low blood sugar:

- Have student eat food right away and notify the school via radio; the school will notify student's parent,
- If you can, drive student directly home or to the school,
- Parent or other emergency contact person per IHP or emergency contact card will be at bus stop or school nurse or other school staff should be waiting at school.

ALLOW STUDENT TO EAT ANYTIME AND ANYPLACE.

### **Symptoms of Low Blood Sugar**

Sweating (beads of sweat on nose – sweaty forehead causing hair to become wet)

HUNGER	TIRED	BLANK STARES	SPACEY
PALE	WEAK	FLUSHED	DIZZY
DROWSY	WEEPY	REFUSES TO DO THINGS	
PERSONALITY CHANGES			

If student becomes confused, give instant glucose under tongue or in cheek and call 911.

Bus Driver should know where in student's backpack the glucose gel is kept.

If student becomes unconscious, call 911.

**If you need to evacuate the bus for ANY reason, student's backpack NEEDS to go with the student.**

## Training Agreement for School Staff

I \_\_\_\_\_ have read, been trained,  
(print name of trained personnel)  
and understand the following procedure for \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Initials in the space provided indicate agreement for the following:

\_\_\_\_ I understand I will need to maintain my skills and will be observed on an ongoing bases by the School Nurse.

\_\_\_\_ I have had the opportunity to ask questions and received satisfactory answers.

\_\_\_\_\_  
Signature of trained personnel

\_\_\_\_\_  
Date

Supervising signatures:

\_\_\_\_\_  
School Nurse signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Principal signature

\_\_\_\_\_  
Date

## Outline for the Level of Care Needed to Perform Diabetes Procedures In School

Complete in accordance with State laws - provide copy to school administrator

	<b>Procedure</b>	<b>Who Can Provide Care</b>	<b>Location</b>
<b>I.</b>	<p><b>INSULIN INJECTION</b>            Injections are given prior to meal(s) with Primary Care Provider authorization and parent consent as outlined in the student's IHP.</p> <p><b>A. SYRINGE</b></p> <ol style="list-style-type: none"> <li>1. Drawing up insulin in a syringe, validating correct dosage and administering injection.</li> <li>2. Pre-filling and labeling insulin syringe for student administration.</li> <li>3. Observation of task completion.</li> </ol>		Can occur at any pre-approved location as long as arrangements for Sharps disposal are made (must comply with OSHA standards).
	<p><b>B. PEN</b></p> <ol style="list-style-type: none"> <li>1. Loading cartridge, dialing correct dose, administering injection.</li> <li>2. Verifying number on an insulin pen.</li> <li>3. Observation of task completion.</li> </ol>		
	<p><b>C. PUMP</b></p> <ol style="list-style-type: none"> <li>1. Programming pump functions.</li> <li>2. Observation of task completion.</li> <li>3. Troubleshooting pump.</li> <li>4. Checking site for leakage, cannula dislodgement, redness, and/or tenderness.</li> </ol>		
<b>II.</b>	<p><b>LOW BLOOD GLUCOSE (HYPOGLYCEMIA)</b>            A. Glucose tablets/fast acting sugar            B. Glucagon Administration</p>		Treatment must be given "on-the-spot" (glucose source should be on or with person.)
<b>III.</b>	<p><b>HIGH BLOOD GLUCOSE (HYPERGLYCEMIA)</b>            This includes the provision of extra fluids and testing for ketones.</p>		Classroom (if appropriate), health office, designated bathroom, or other areas as appropriate.
<b>IV.</b>	<p><b>BLOOD GLUCOSE TESTING</b>            Includes piercing skin or assisting with piercing the skin, verifying number on the meter; interpreting results with predetermined written algorithms; and testing when symptoms of hypo/hyperglycemia are present.</p>		Can occur at any pre-approved location (i.e. classroom, health office) as long as arrangements for blood containment/clean up and sharps disposal are made (must comply with OSHA standards).

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001.*



## Checklist: Training School Personnel in Blood Glucose Testing

Instructor: \_\_\_\_\_ Person Trained: \_\_\_\_\_

Place date and code in the box:

Return Demonstrations \*

“+” = skill achieved

“-“ = skill not achieved

	Demo										
	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
A. States procedure name & purpose of test											
B. Preparation:											
1. Reviews Universal Precautions											
2. Identifies where procedure is done											
C. Identifies supplies:											
1. Meter											
2. Testing strips or cartridges, etc.											
3. Lancing device											
4. Gloves											
D. Procedure											
1. Washes hands											
2. Assembles supplies											
3. Prepares lancing device											
4. Turns meter on, checks codes (if applicable)											
5. Places strip into meter or prepares otherwise											
6. Puts gloves on											
7. Cleans selected skin area											
8. Lances area											
9. Places blood onto testing area											
10. Places tissue ball over lanced area											
11. Reads result accurately											
12. Turns meter off, removes strip											
13. Disposes of strip, gloves and other supplies appropriately											
14. Places spot bandage over lanced area if bleeding continues											
15. Cleans up testing area											
16. Washes hands											
17. Records results											

\* School nurse observed trained individual.

P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001.

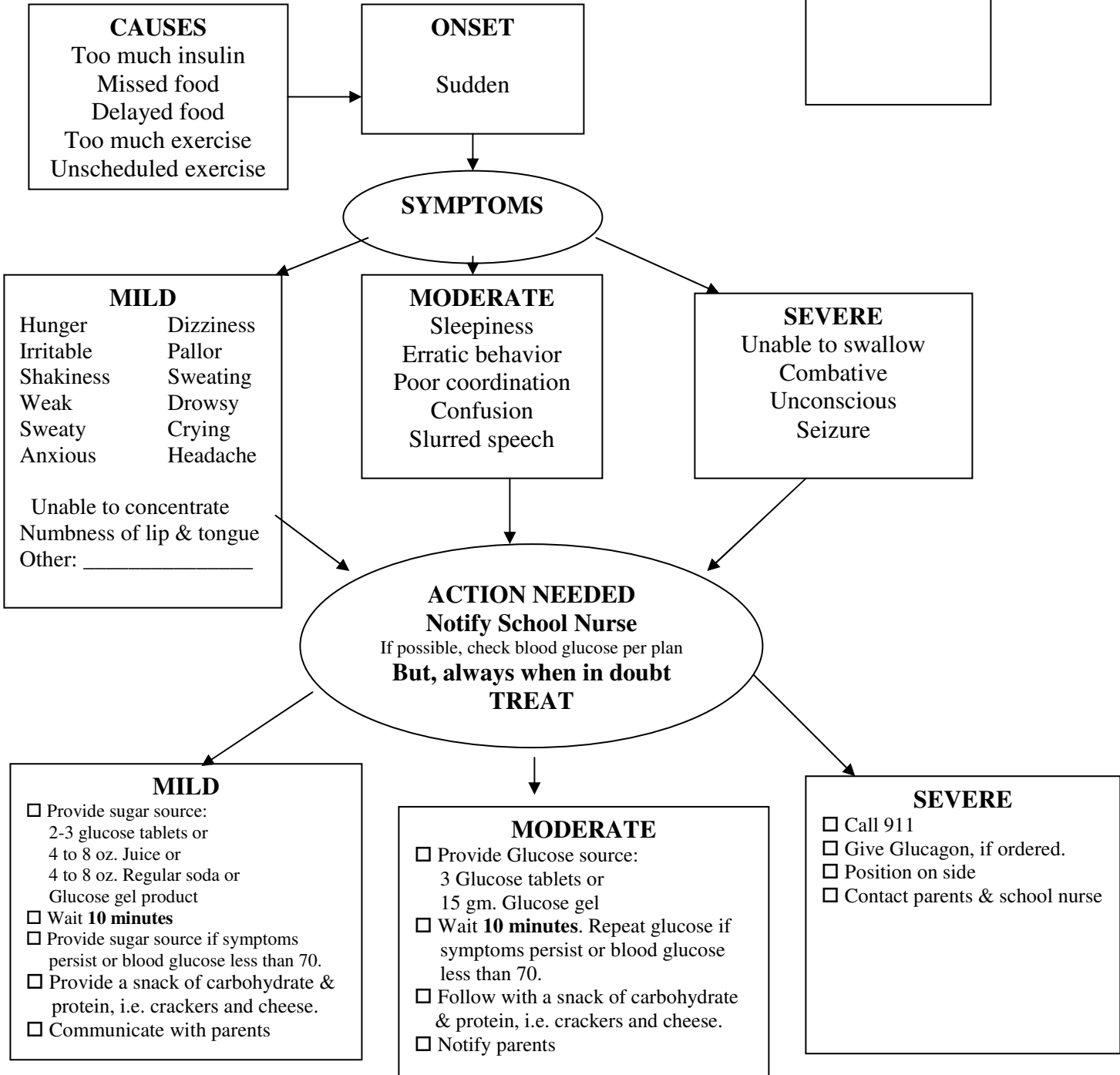
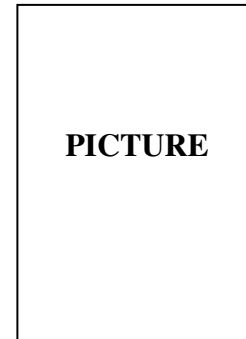
# Emergency Guide for School Staff

## LOW BLOOD GLUCOSE (Hypoglycemia) MANAGEMENT Algorithm

STUDENT NAME: \_\_\_\_\_

GRADE/TEACHER: \_\_\_\_\_

DATE: \_\_\_\_\_



School Name: \_\_\_\_\_

School Nurse: \_\_\_\_\_

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001*

## Procedure for Mild or Moderate Low Blood Glucose – For School Nurses (Hypoglycemia/Insulin Reaction)

<b>STUDENT:</b>	<b>School:</b>	<b>Grade:</b>	<b>Date:</b>
Essential Steps		Key Points & Precautions	
1. Observe/recognize signs/symptoms of low blood glucose; ask student to describe how he/she feels. (Student’s known signs/symptoms are checked.)			
Mild Symptoms	Moderate Symptoms	Key Points & Precautions	
<ul style="list-style-type: none"> <li>__ Headache</li> <li>__ Moist skin, sweating</li> <li>__ Shakiness</li> <li>__ Pale Skin</li> <li>__ Sudden hunger</li> </ul>	<ul style="list-style-type: none"> <li>__ Weakness, fatigue</li> <li>__ Numbness of lips/tongue</li> <li>__ Irritability</li> <li>__ Blurred vision</li> <li>__ Crying</li> <li>__ Stomachache</li> </ul>	<ul style="list-style-type: none"> <li>__ Droopy eyelids, sleepy</li> <li>__ Erratic behavior</li> <li>__ Slurred speech</li> <li>__ Loss of coordination</li> <li>__ Confusion</li> </ul>	<p>Unable to swallow Combative Uncooperative/Unconscious or Seizure. Proceed immediately to Procedure for Severe Low Glucose.</p>
2. <b>Test blood</b> (if testing equipment is available), If below 70, or symptomatic, proceed to #3.			
<p>3. Treatment for Hypoglycemia</p> <p>(a) <b>Treat with one (1) of the following fast acting carbohydrates:</b></p> <ul style="list-style-type: none"> <li>• 4 oz. (1/2 cup) apple juice or orange juice (or regular soda).</li> <li>• Glucose gel (i.e.: 15 gm. tube Insta-Glucose, or 15 gm. Monogel or Glucose).</li> <li>• 1 tube gel Cakemate™ (19 gm., mini-purse size).</li> </ul> <p>(b) <b>If below 45:</b></p> <ul style="list-style-type: none"> <li>• 22 gm fast acting glucose. (6 glucose tablets)</li> </ul> <p>(c) <b>Observe for 15 minutes, then check for improvement:</b></p> <ul style="list-style-type: none"> <li>• Student states symptoms are gone and appears OK.</li> <li>• Blood sugar over 70 - retest.</li> </ul> <p>(d) <b>If still no improvement, repeat</b> Step 2, (second attempt) <b>except</b> use the 15-30 gm. Glucose tablets – or glucose gel product, if available. - and - <b>If still no improvement, repeat</b> again (3<sup>rd</sup> attempt and if needed, 4<sup>th</sup> attempt).</p> <ul style="list-style-type: none"> <li>• If no improvement after <b>third</b> attempt, call parent and school nurse.</li> <li>• If no improvement after <b>fourth</b> attempt, call parent and paramedics.</li> </ul> <p>(e) <b>When student is feeling better:</b></p> <ul style="list-style-type: none"> <li>• If ordered, provide extra carb. and protein snack if over 1 hour until lunch or snack time, or provide lunch or snack, whichever is due within the hour.</li> <li>• Resume classroom activities if fully recovered, or have health officer call parent for assistance if not fully recovered.</li> </ul>		<p>If moderate symptoms, provide immediate adult supervision.</p> <p>Treat “on the spot”; do not send elsewhere, and, if none of the listed fast acting carbohydrates, are available use 2 tsps. of sugar or honey, or 4 ounces of milk or fruit punch, etc.</p> <p>Notify school nurse if results are contradictory with student symptoms for further advice.</p> <p>If in classroom and retest is needed, request health office assistance.</p> <p style="text-align: center;"><b>- and -</b></p> <p>If pupil becomes unable to participate in care, proceed immediately to Emergency Procedure for Severe Blood Glucose.</p> <p>School nurse will advise regarding further care.</p>	
4. <b>Document</b> – Blood glucose results and care provided on appropriate forms. Notify parent.			

*P.E.D.S. “Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools”, Mary Zombek, RN, MS, CPNP, published in 2001.*

**Emergency Procedure for Hypoglycemia**  
**Low Blood Sugar**  
**GLUCOSE GEL FOLLOWED BY GLUCAGON INJECTION**

**Student:** \_\_\_\_\_ **Grade** \_\_\_\_\_ **School** \_\_\_\_\_ **Date** \_\_\_\_\_

1. Verify signs of severe low blood glucose:
  - a. Have someone call 911, parents and school nurse.
  - b. Place on side or in upright position.
2. If **ABLE** to swallow and combative, uncooperative, unable to participate in care:
  - a. Place one of the following in cheek pouch closest to ground and massage:
    - i. 15 gms glucose gel: \_\_\_ 15 gm tube Insta-Glucose, or  
\_\_\_ 15 gm pkt. Monogel or Glutose  
(Maintain head position to side for aspiration prevention.)
3. If **UNABLE** to swallow, (**UNCONSCIOUS**, combative, uncooperative or seizures):
  - a. Give glucagon injection.
  - b. When able to swallow, give sips of regular soda till paramedic arrives.
4. Procedure for **SUBCUTANEOUS** Glucagon Injection (SN may give IM if desires).
  - a. Gather the Glucagon kit that should include alcohol swabs, emesis basin, syringe and medication.
  - b. Remove seal from the bottle.
  - c. Wipe the rubber stopper of the bottle with alcohol swab.
  - d. Remove the cap from the syringe, not touching the needle.
  - e. Plunge needle into bottle, pushing all the fluid from the syringe into the bottle. Without withdrawing the needle, gently shake the bottle until the powder is dissolved.
  - f. Turn the bottle upside down and withdraw the medicine as directed.
  - g. Remove the syringe from the bottle, remove the air from the syringe and recap the syringe.
  - h. Clean a 2-inch area on the upper arm with the alcohol swab.
  - i. Remove the syringe cap.
  - j. Gently grasp the arm around the cleaned area with the opposite hand from which you will administer the medication.
  - k. Insert the needle at a 90-degree angle and push in all the medication.
  - l. Count to 10 and remove the needle.
  - m. Have the student lie on side with emesis basin and expect the student to vomit.
  - n. Monitor for seizures and breathing.
  - o. When fully awake, feed fast acting foods such as regular soda.
5. Document in Individual Student Record.

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## Checklist: Training Unlicensed Staff in Hypoglycemia Low Blood Sugar

Person Trained: \_\_\_\_\_

Instructor: \_\_\_\_\_

Place date and code in the box:

Return Demonstrations\*

“+” = skill achieved “-” = skill not achieved	Demo Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
A. States procedure & purpose											
B. Preparation:											
1. Reviews Symptoms of Hypoglycemia											
• Mild											
• Moderate											
• Severe											
2. Identifies when procedure is needed											
C. Identifies supplies:											
1. Lists various glucose products											
2. Lists various sugar sources											
3. Identifies appropriate carb & protein snacks											
A. Procedure:											
1. Verbally recites appropriate response to a case scenario of hypoglycemia											
• test blood glucose if able											
• has school nurse called											
• provide appropriate glucose/sugar source											
• wait 15 minutes, retest, if blood glucose 70 or above and no symptoms, follow up with a carb & protein snack or meal (if scheduled within the hour) student may return to class											
• if below 70, treat again											
• after 3 <sup>rd</sup> attempt, call school nurse & parents											
• after 4 <sup>th</sup> attempt, call paramedics, notify parents											

\* School nurse observes trained individuals.

*P.E.D.S. “Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools”, Mary Zombek, RN, MS, CPNP, published in 2001*

## Checklist: Training Unlicensed Staff in Glucagon Injection

Person Trained: \_\_\_\_\_

Instructor: \_\_\_\_\_

Place date and code in the box:

Return Demonstrations\*

“+” = skill achieved “-” – skill not achieved	Demo Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
A. States procedure name & purpose											
B. Preparation:											
1. Reviews Universal Precautions											
2. Identified when procedure is needed											
3. Identifies accompanying steps:											
• Send someone to call 911, notify school nurse & parent											
• Maintain open airway											
• Position student on side											
• Give glucose source when student is able to swallow											
C. Identifies supplies:											
1. Glucagon kit											
2. Alcohol wipe											
3. Sharps container											
4. Gloves											
D. Procedure:											
1. Assembles supplies											
2. Identifies and withdraws sterile water											
3. Injects sterile water into glucagons powder											
4. Swirls gently till dissolved											
5. Withdraws entire solution											
6. Selects appropriate injection sites											
7. Cleanses area to be injected											
8. Inserts needle straight in & injects glucagon											
9. Disposes of sharps appropriately											
10. Washes hands											
11. Documents appropriately											

\* School nurse observes trained individual.

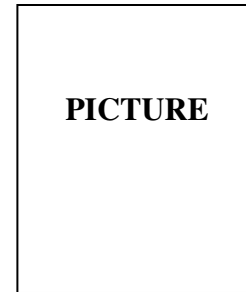
*P.E.D.S.” Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools”, Mary Zombek, RN, MS, CPNP, published in 200.1*

# HIGH BLOOD GLUCOSE (Hyperglycemia) MANAGEMENT For School Staff

STUDENT NAME: \_\_\_\_\_

GRADE/TEACHER: \_\_\_\_\_

DATE: \_\_\_\_\_



**CAUSES**  
Too much food  
Too little insulin  
Decreased Activity  
Illness, Infection  
Stress

**ONSET**  
Over-time several  
hours or days

**SYMPTOMS**

<p><b>Early symptoms:</b> Thirst/dry mouth Frequent urination Fatigue/sleepiness Increased hunger Blurred vision Lack of concentration</p>	<p><b>Symptoms progressively become worse:</b> Sweet breath Weight loss Facial flushing Dry, warm skin Nausea/stomach pains Vomiting Weakness Confusion Labored breathing Unconsciousness/coma</p>
--	--

**ACTION NEEDED**

**Check blood glucose (per IHP)**

**IF STUDENT IS FEELING OK**

- Provide water if student is thirsty
- Allow liberal bathroom privileges
- Provide additional treatment per IHP (ketone check, insulin as appropriate)
- May resume classroom activities
- Document action and provide copy to school nurse

**IF STUDENT IS NOT FEELING WELL**

- Call parents to pick up student
- Provide water if student is thirsty
- Provide additional treatment per IHP (ketone check, insulin)
- Notify school nurse if there are further immediate concerns or questions. Document action and provide copy to school nurse.

**FOR VOMITING WITH CONFUSION. LABORED BREATHING AND/OR COMA**

- call 911
- Contact school nurse
- Notify parents

School Name: \_\_\_\_\_

School Nurse: \_\_\_\_\_

PCP: \_\_\_\_\_

PCP Phone: \_\_\_\_\_

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001.*

## Procedure for High Blood Glucose Hyperglycemia

### Equipment and Supplies

1. Blood glucose meter kit
2. Water bottle
3. Insulin supplies (if indicated).

### Essential Steps:

1. Test blood glucose per procedure.
2. Initiate care per Authorized Health Care Provider as identified on student's IHP. This may include insulin administration and checking for ketones and possibly activity restriction.
3. If student is thirsty or has dry mucous membranes, provide water as tolerated.
4. If student is feeling OK resume classroom activities.
5. If student does not feel well (nausea, lethargy, headache) then the parents should be called to take the child home.
6. If student develops severe stomach pains, vomiting and/or rapid breathing, **call paramedics, school nurse and parent** immediately.
7. Document care on procedure log.

### Key Points & Precautions:

Exercising when ketones are present may elevate blood glucose levels even further.

Test for Ketones (see below).

If student resumes classroom activities, he/she may drink water in class for symptoms of thirst and/or dehydration.

Notify the school nurse so follow-up care can be ensured.

School nurse or parent will notify the healthcare provider.

Consider use of ketodia sticks for students 10 years and older.

## Standard Procedure for Testing Urine Ketones

### Essential Steps:

1. Saturate the test strip with urine by one of the following:
  - \_\_\_ Student to hold test strip in urine flow.
  - \_\_\_ Student to urinate in cup/jar, then strip is dipped into urine.
2. Wait for test strip to develop per directions on test strip bottle.
3. Compare color of strip to chart on bottle. Results will be read as negative, small, moderate, or large.
  - If results are moderate or large, call parent to take pupil home for observation and/or medical care.
4. Record results on Procedure Log.

### Key Points & Precautions

If assisting the student, wear disposable gloves during this procedure.

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## Procedure for Blood Ketone Testing

### GENERAL INFORMATION

- 1) Testing the blood for ketones is considered to be more accurate than urine testing for ketones. Blood ketone testing reflects time accuracy whereas urine ketones reflects a time delay. The monitoring of blood ketone levels can assist in proper management of diabetes.
- 2) Follow manufacturer's guidelines for ketone ranges (negative or "normal limits", moderate and large or "at risk for possible ketoacidosis").

### ESSENTIAL STEPS

#### EQUIPMENT AND SUPPLIES

- Alcohol prep pad
- Finger lancing device\*
- Blood ketone testing meter such as Precision Xtra with strips
- Blood testing strips for specific electronic meter
- Tissue or cotton balls
- Gloves
- Log Book
- Spot bandage

#### PROCEDURE

1. Wash hands with soap and water. Put gloves on. Student's hands must be washed as well. This is sufficient for prepping the site, however, alcohol may be used for further prepping. The site selected must be dry before pricking.
2. Place ketone testing strip into electronic meter according to manufacturer's instructions.
3. Prepare lancing device according to manufacturer's instructions.
4. Select a site on the top side of any fingertip. Hang the arm below the level of the heart for 30 seconds to increase blood flow.
5. Puncture the site with the lancing device. Gently squeeze the finger in a downward motion to obtain a large enough drop of blood to cover the test strip (3/16" to 1/32" in diameter).
6. Place blood onto testing strip and complete procedure according to manufacturer instructions.
7. Dispose of test strip and tissue or cotton ball in lined wastebasket. Dispose of lancing device in Sharps container.
8. Remove and dispose of gloves, wash hands.
9. If results are "small," notify school nurse and parent. If results are "moderate" or "large," call parent to take student home for close observation and/or medical care; notify school nurse.
10. Document results in Student Health Record.

#### KEY POINTS AND PRECAUTIONS

Alcohol may cause toughening of the skin or burning sensation. If moisture (water or alcohol) remains on the skin it may alter test results.

\*If school personnel are performing the procedure then a disposable lancing device should be used.

The tops of the fingertips may be more sensitive.

The sides of the fingers have less blood flow.

Compress lanced area with tissue or cotton ball until bleeding stops or apply spot bandage.

Refer to Standard Procedure for Hyperglycemia for specific treatment.

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## Hyperglycemia Skills Checklist & Training Record

Person Trained: \_\_\_\_\_

Instructor: \_\_\_\_\_

Place date and code in the box:

Return Demonstrations\*

“+” = skill achieved “-” = skill not achieved	Demo	Return Demonstrations*									
	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
A. States procedure & purpose											
B. Preparations											
1. Reviews symptoms of hyperglycemia:											
• Mild											
• moderate (spilling ketones)											
• ketoacidosis											
C. Identifies supplies:											
1. Water											
2. Insulin, if ordered											
3. Ketone strips											
D. Procedure											
1. Verbally recites appropriate response to a case scenario of hyperglycemia											
• test blood glucose											
• test urine or blood for ketones											
• give 1-2 glasses of water every hour											
• no exercise if ketones are present or blood glucose over 240											
• if feeling ill at any time immediately call school nurse & parents											
• if student vomits, becomes lethargic, or has labored breathing, call 911											

\*School Nurse observes trained individual.

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## Insulin Action Times

The chart below provides a range of when the insulins are working.  
Peak action times are when the student usually requires a snack or meal.

	<b>Timing of Action</b>		
<b>Preparation</b>	<b>Onset</b>	<b>Peak</b>	<b>Duration</b>
<b>Rapid-acting</b>			
Lispro (Humalog)	5-15 min	0.5-1.5 h	3 - 4 h (max 4-6)
Aspart (Novolog)	5-15 min	0.5-1.5 h	3 - 4 h (max 4-6)
<b>Short-acting</b>			
Regular (Humulin R, Novolin R, Velosulin BR)	0.5-1 h	2-3 h	3-6 h (max 6-8)
<b>Intermediate-acting</b>			
NPH (Humulin N, Novolin N)	2-4 h	6-10 h	10-16 h (max 14-18)
Lente (Humulin L, Novolin L)	3-4 h	6-12 h	12-18 h (max 16-20)
<b>Long-acting</b>			
Ultralente (Humulin U)	6-10 h	10-16 h	18-20 h (max 20-24)
<b>Glargine (Lantus)</b>	2 h	---	24 h (max 24)
<b>Mixtures</b>			
70/30 (Humulin, Novolin)	0.5-1 h	dual	10-16 (max 14-18)
50/50 (Humulin)			
75/25 (Humalog Mix)	5-15 min		

*Adopted from: P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001.*

## Insulin Pump Therapy

### Student Requiring Supervision

#### General Information

- A. Insulin Pump Therapy is also referred to as Continuous Subcutaneous Insulin Infusion (CSII). The pump is worn outside the body and is about the size and weight of a pager. It holds a reservoir of insulin inside the pump and is programmed to deliver the insulin through a thin plastic tube called an infusion set. The infusion set is inserted via a needle that is covered by a cannula just below the skin. Once inserted, the needle is removed and the cannula stays in place for two to three days. When it is time to change the infusion set, a new infusion set is inserted into a different site.
- B. The goal of Insulin Pump Therapy is to achieve near normal blood glucose levels over 24 hours per day. The use of insulin pumps has been shown to improve growth in children, decrease the incidence of hypoglycemia, and decrease the incidence of long-term diabetes complications.
- C. The advantages of insulin pumps are that it affords more flexibility of life-style with less variability of insulin absorption, more precise insulin administration matched with food intake and activity levels, and overall close attention to diabetes management.
- D. The pump uses short acting insulin as opposed to conventional injections, which combine short and long-acting insulin.
- E. Insulin Pump Therapy combines a continuous basal of insulin for 24 hours and a bolus dose for meal or snack times and times of high blood glucose.  
**Basal rate:** amount of insulin required when no food is eaten; a pre-programmed feature measured in units per hour (U/H); can be altered based on the pumper's daily needs; can be temporarily changed for alteration in schedule, activity, illness or food.  
**Bolus:** when the pump is programmed to give a dose of insulin for meals, snacks and/or for correction of elevated blood glucose.
- F. The specific pump manufacturer instructions must be followed. Manuals, booklets, and videos are usually available free of charge by calling the number listed on the back of the pump.
- G. If the supply of insulin is interrupted due to mechanical pump failure, dislodgment of the cannula, accidental severing of the tubing, or clogged or obstructed tubing, the blood glucose level can rise rapidly. In case one of these incidents should occur, it is necessary for extra supplies to be kept at school to prevent or limit the subsequent hyperglycemia and possible ketoacidosis (can occur in as little as 3 hours).
- H. The pump can be disconnected using a quick release set. This is usually done during water activities or contact sports.
- I. A 3x5 card with the student's name, pump model and serial number, and the pump manufacturer's help line phone number should be readily available in the health office for any problems that might occur.
- J. A wallet sized programming card and an alarm card or manufacturer's instructions should be available in the health office for reference.

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## Student Pump Skills Checklist

This form is to be completed by the school nurse with input from the parent/guardian/care provider. The school nurse must directly assess specific skills for competency if independent performance is desired. Document student competency on skills, which are in accordance with standard procedure and the student's IHP.

STUDENT:	DATE:	School:	Grade:
<b>Pump skill:</b>		<b>Requires Supervision</b>	<b>Performs Independently</b>
1. Appropriately counts carbohydrates. If supervision is required the parents are requested to provide calculations.			
2. Calculates appropriate correction dose based on Primary Care Provider's orders.			
3. Calculates total dose based on Primary Care Provider or specialist's orders for carbohydrate consumption and correction dose.			
4. Programs appropriate bolus.			
5. Adjusts temporary rate for exercise . (If supervision is required then parents are requested to pre-program a basal profile to account for scheduled exercise OR extra carbohydrates can be provided as detailed in the IHP.)			
6. Disconnects & reconnects tubing. (If supervision is required then it is not recommended that tubing be disconnected at school.)			
7. Inserts new infusion set. (If supervision required then parents are requested to provide this service or an emergency back-up plan for insulin administration is recommended.)			
8. Uses Universal Precautions for site insertion.			
9. Fills reservoir and primes tubing. (If supervision required then parents are requested to be responsible for filling and priming.)			
10. Trouble shoots alarms appropriately. (Child to report any alarm to teacher /school staff.)			
11. Appropriately identifies high & low blood glucose levels.			

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**Daily Blood Glucose Tests**

Student Name:

Month:

Year

Date:	Time/Glucose	#Carbs Am Snack	Time/Glucose	# Carbs Lunch	Time/Glucose	Time/Glucose	Time/Ketones	Time/Insulin	Time/Glucose
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
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30									
31									

From: Van Buren High School





# BLOOD GLUCOSE MONITORING LOG FOR THE YEAR

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

**School:** \_\_\_\_\_

**Grade:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Room** \_\_\_\_\_

Record blood glucose results and your initials in the box. Place initials and signature once on lines at bottom.  
Document treatment for low and high blood glucose results on the back or in student's health record.

	MON	TUE	WED	THR	FRI	MON	TUE	WED	THR	FRI	MON	TUE	WED	THR	FRI	MON	TUE	WED	THR	FRI	MON	TUE	WED	THR	FRI
July																									
Aug																									
Sep																									
Oct																									
Nov																									
Dec																									
Jan																									
Feb																									
Mar																									
Apr																									
May																									
Jun																									

**A = ABSENT      R = REFUSED      N = NO SCHOOL**

**Initials   Signature                      Initials                      Signature                      Initials                      Signature**  
 \_\_\_\_\_  
 \_\_\_\_\_

*P.E.D.S. "Pediatric Education for Diabetes in Schools, A Curriculum for Diabetes Care in Schools", Mary Zombek, RN, MS, CPNP, published in 2001*

REVIEW OF BLOOD GLUCOSE MONITORING PROCEDURE		
Date	Student/Staff	Reviewed by
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



## Checklist for School Nurse with New Student with Diabetes in School

1. \_\_\_\_\_ Meet with parent(s) and student to develop IHP (Individual Health Care Plan) – Have parent sign plan.
2. \_\_\_\_\_ Obtain parental release of information (HIPAA Compliance Release) to communicate with physician.
3. \_\_\_\_\_ Obtain parental release of information to provide information to school staff that ‘need to know’.
4. \_\_\_\_\_ Obtain physician orders.
5. \_\_\_\_\_ Parent signs consent form for glucagon and insulin as appropriate.
6. \_\_\_\_\_ Familiarize yourself with diabetes, insulin pump (if appropriate).
7. \_\_\_\_\_ Conduct school health team meeting with teacher(s), principal, and other school staff involved in the care of the student with diabetes.
8. \_\_\_\_\_ Evaluate eligibility for and complete a 504 Plan.
9. \_\_\_\_\_ Coordinate the development of a Quick Reference Emergency Plan that is to be placed in a confidential spot in the classroom. This plan should include when to contact the School Nurse, and signs/symptoms/treatment of hyper- and hypoglycemia.
10. \_\_\_\_\_ Plan and implement Diabetes Education Training for all staff including the child’s bus driver.
11. \_\_\_\_\_ Prepare Log Sheet for glucose testing monitoring.
12. \_\_\_\_\_ Train unlicensed staff in:
  - a. \_\_\_\_\_ hypoglycemia and hyperglycemia recognition,
  - b. \_\_\_\_\_ their actions and responsibility with hyper- or hypoglycemia,
  - c. \_\_\_\_\_ glucagon administration,
  - d. \_\_\_\_\_ standard procedure for ketone testing,
  - e. \_\_\_\_\_ insulin pump therapy (if appropriate),
  - f. \_\_\_\_\_ documentation.
13. \_\_\_\_\_ Obtain a book on Carbohydrate Counts (if needed).
14. \_\_\_\_\_ Prepare Health Services Contract for student and parent to sign as appropriate.
15. \_\_\_\_\_ Complete Outline for Level of Care Needed to Perform Diabetes Procedures in School.
16. \_\_\_\_\_ Continually monitor the diabetes care plan and make adjustments as needed.

From: Van Buren High School

## Resources

American Diabetes Association – [www.diabetes.org/home.jsp](http://www.diabetes.org/home.jsp)

The Center for Health and Health Care in Schools –  
[www.healthinschools.org/sh/diabetes.asp](http://www.healthinschools.org/sh/diabetes.asp)

Helping the Student with Diabetes Succeed –  
[www.ndep.nih.gov/diabetes/pubs/Youth\\_SchoolGuide.pdf](http://www.ndep.nih.gov/diabetes/pubs/Youth_SchoolGuide.pdf)

MCH Diabetes in Children and Adolescents –  
[www.mchlibrary.info/knowledgePaths/Kp\\_diabetes.html](http://www.mchlibrary.info/knowledgePaths/Kp_diabetes.html)

National Diabetes Information Clearinghouse –  
<http://diabetes.niddk.nih.gov/dm/pubs/type1and2/what.htm>

P.E.D.S – [www.pedsonline.org](http://www.pedsonline.org)