

# Students with Diabetes

# RESOURCES

A Resource Guide for Wisconsin Schools and Families



Information and tools for parents, students, teachers,  
coaches, bus drivers, school nurses, relatives and others.

March 2010

The *Students with Diabetes: A Resource Guide for Wisconsin Schools and Families* is available on the Wisconsin Diabetes Prevention and Control Program website (see below) and future updates and additional resources will be posted there. For questions or to order an additional hard copy or an electronic copy (on a CD) see inside of back page for an order form or contact:

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## Acronyms Frequently Used

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|      |   |
|------|---|
| ADA  | American Diabetes Association Americans with Disabilities Act |
| CGM  | Continuous Glucose Monitor                                    |
| DMMP | Diabetes Medical Management Plan                              |
| DPCP | Diabetes Prevention and Control Program                       |
| DPI  | Department of Public Instruction                              |
| eAG  | Estimated Average Glucose                                     |
| FPG  | Fasting Plasma Glucose  |
| IEP  | Individualized Education Program                              |
| IFG  | Impaired Fasting Glucose                                      |
| IGT  | Impaired Glucose Tolerance                                    |
| OCR  | Office of Civil Rights  |
| OGTT | Oral Glucose Tolerance Test                                   |
| TDP  | Trained Diabetes Personnel                                    |
| USDA | United States Department of Agriculture                       |

# Disclaimer

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The *Students with Diabetes: A Resource Guide for Wisconsin Schools and Families* (Guide) is a comprehensive resource that does not constitute specific medical care or legal advice. Users are strongly encouraged to consult directly with medical professionals regarding specific questions about care of students with diabetes and to seek legal counsel regarding questions pertaining to student rights and responsibilities under state and federal law.

The Guide is intended to provide health care providers, school personnel, parents, students, and others with information and resources to assist in caring for students with diabetes. The Guide presents images of specific medical devices, tools, medications, and products as examples only; the Guide in no way recommends or endorses specific products.

For young adults 18 years and older, please refer to the *Wisconsin Diabetes Mellitus Essential Care Guidelines* for specific diabetes care guidelines: <http://dhs.wisconsin.gov/health/diabetes/guidelines.htm>.



# Section 1: Introduction

Diabetes is one of the most common chronic diseases among children and adolescents in the United States. Students with diabetes and their families, health care providers, and school personnel face unique challenges when working and assisting students with diabetes. Students with diabetes, especially when young, require assistance in monitoring and managing their diabetes, not only to possibly prevent complications and medical emergencies, but also to maintain normal growth and development.

It is important to have a basic understanding of diabetes and know how to help a student manage diabetes safely at school. Learning more about diabetes overall and how it is managed can ensure a safe and positive learning environment for students. Tasks required to take care of diabetes at times will require school personnel assistance to help keep the student safe. This document is not meant to teach the user how to manage diabetes. Teaching a person how to manage diabetes is the responsibility of the individual's health care team.

The first publication of *Children with Diabetes: A Resource Guide for Wisconsin Schools and Families* was in 2002. Evaluation of the 2002 Guide provided information leading to improvements in this Guide. This updated 2010 *Students with Diabetes: A Resource Guide for Wisconsin Schools and Families* is a comprehensive resource providing current information for those who care for students with diabetes and includes specific tools and resources for parents/guardians, school nurses, school personnel, and others.

This Guide aims to provide clarity and consistency regarding the care of students with diabetes during school and all school-sponsored activities. This Guide provides a high degree of detail; it is designed as an educational and reference tool. This document is organized to assist users in locating information quickly and easily. The tabs and table of contents can be helpful in locating exact topics and information. For people who prefer basic information and quick, easy tips related to diabetes, *Section 2: Quick Tip Sheets* contains this information.

The Diabetes Medical Management Plan (DMMP), Section 504 Plan, Individualized Education Program (IEP), Healthcare Plan, and Emergency Action Plan are referenced throughout the Guide. These plans are sometimes referred to by other names, as shown in the graphic below. *Section 10: Life at School* provides additional information regarding these plans.

|  |                            |  |
|--|----------------------------|--|
| <b>Diabetes Medical Management Plan (DMMP)</b> | <b>Also referred to as</b> | <ul style="list-style-type: none"><li>▪ Health care provider order</li><li>▪ Diabetes care plan</li></ul>  |
| <b>Section 504 Plan</b>                        | <b>Also referred to as</b> | <ul style="list-style-type: none"><li>▪ 504 Accommodations Plan</li></ul>  |
| <b>Individualized Education Program (IEP)</b>  | <b>Also referred to as</b> | <ul style="list-style-type: none"><li>▪ Individualized Education Plan</li></ul>  |
| <b>Healthcare Plan</b>                         | <b>Also referred to as</b> | <ul style="list-style-type: none"><li>▪ Individual Care Plan</li><li>▪ Individual Health Care Plan</li><li>▪ Nursing Health Care Plan</li><li>▪ other health care plan</li></ul> |
| <b>Emergency Action Plan</b>                   | <b>Also referred to as</b> | <ul style="list-style-type: none"><li>▪ Emergency Plan</li><li>▪ Quick Reference Emergency Plan</li></ul>  |

## Section 1: Introduction

### Clinical Evidence

The following national and international research studies were instrumental in providing the clinical evidence contributing to the development of this Guide, as well as the *Wisconsin Diabetes Mellitus Essential Care Guidelines*. Each study is summarized below and cited in the References Section:

#### Diabetes Control and Complications Trial (DCCT)

The DCCT demonstrated that tight blood glucose control for people with type 1 diabetes delayed the onset of diabetes complications of the eyes, kidneys, and nerves and slowed progression of complications already present. The long-term benefits of lowering blood glucose levels were documented for all people regardless of age, sex, length of time with diabetes, or history of poor control. The enhanced management of this trial showed the value of a coordinated team approach to a complex chronic disease, with emphasis on preventive care, education, intensive monitoring, increased intervention, frequent follow-up, and access to consultation with specialists, such as endocrinologists, cardiologists, ophthalmologists, podiatrists, and dentists.

#### United Kingdom Prospective Diabetes Study (UKPDS)

The UKPDS, a study of newly diagnosed people with type 2 diabetes, showed significant reduction in complications with intensive control of blood glucose. Additional data from this study showed that control of blood pressure reduced eye, kidney, and nervous system complications, congestive heart failure (CHF), and cerebrovascular accident (CVA). Of further importance, the data from this study showed that nearly 50% of participants at diagnosis had one or more complications of diabetes, emphasizing the need for early diagnosis and treatment of diabetes.

#### Diabetes Prevention Program (DPP)

The DPP demonstrated that modest weight loss (5-7% of initial body weight) and regular physical activity can prevent or delay the development of type 2 diabetes in high risk individuals. In fact, these modest changes resulted in a 58% reduction in the development of type 2 diabetes in persons at risk for the disease. Moreover, these impressive results were obtained in all ethnic groups and especially for people over 60 years of age.

#### Studies to Treat or Prevent Pediatric Type 2 Diabetes (STOPP-T2D)

These studies address type 2 diabetes in children and adolescents. Two trials are currently supported under the STOPP-T2D consortium:

##### **Middle School-Based Primary Prevention Trial (HEALTHY)**

This primary prevention trial is conducted in 42 ethnically diverse middle schools at seven locations throughout the United States. The main objective of this study addresses risk factors for type 2 diabetes among adolescents.

##### **Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) Clinical Trial**

The TODAY study compares three treatment regimens: 1) metformin alone, 2) metformin plus rosiglitazone, and 3) metformin plus an intensive lifestyle intervention called the TODAY Lifestyle Program.



## Section 2: Quick Tip Sheets

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### SECTION OVERVIEW

- Diabetes: The Basic Facts
  - Blood Glucose Monitor Use
  - Signs and Symptoms of Low Blood Glucose (Hypoglycemia)
  - Low Blood Glucose (Hypoglycemia) Action Plan
  - Signs and Symptoms of High Blood Glucose (Hyperglycemia)
  - High Blood Glucose (Hyperglycemia) Action Plan
  - Giving Insulin Using a Vial and Syringe
  - Giving Insulin Using an Insulin Pen
  - Giving Glucagon in an Emergency
  - Checking for Urine Ketones and Tips for Understanding Results
- .....

**Quick Tip Sheets are only intended to provide a brief overview of important information. Use the Table of Contents to locate the detailed information on each of these topics.**

## Diabetes: The Basic Facts (page 1 of 3)

### What is diabetes?

Diabetes is a chronic disease that causes high blood glucose (sometimes referred to as high blood sugar) because a person's body does not produce enough insulin or the insulin does not work properly.

### What are the different types of diabetes?

There are four main types of diabetes: type 1 diabetes, type 2 diabetes, gestational diabetes, and pre-diabetes. Type 1 diabetes and type 2 diabetes are explained in brief below.

### What is type 1 diabetes?

Type 1 diabetes (formerly known as insulin-dependent or juvenile-onset diabetes) occurs when the pancreas produces little or no insulin. The body needs insulin to control the amount of glucose in the blood. People with type 1 diabetes must receive insulin to survive.

### How is type 1 diabetes managed?

Type 1 diabetes is managed by taking insulin, monitoring blood glucose levels, eating healthy foods, and engaging in regular physical activity to help maintain and control blood glucose levels.

### What is type 2 diabetes?

Type 2 diabetes (formerly known as non-insulin-dependent or adult-onset diabetes) occurs when the body makes some – but not enough – insulin, or the body is not able to use the insulin properly. Type 2 diabetes is becoming more common among younger people.

### How is type 2 diabetes managed?

Type 2 diabetes is managed by eating healthy foods, engaging in regular physical activity, and often taking oral medications and/or insulin to help maintain and control blood glucose levels.

### What is insulin?

Insulin is a hormone that is produced by the pancreas. Insulin is responsible for promoting growth and regulating blood glucose levels in the body. Insulin is used to treat diabetes.

### How is insulin given?

Insulin can be given (delivered) three ways: injection using a vial and syringe, insulin pen, or insulin pump.

### Why do students monitor their blood glucose levels?

Self-monitoring blood glucose levels is the best method available for checking the level of glucose in the blood. Checking glucose levels helps students know how to treat and manage their diabetes.

### What are common diabetes emergencies?

Four common diabetes emergencies may occur at school:

- Low blood glucose (hypoglycemia)
- Severe low blood glucose, requiring Glucagon administration
- High blood glucose (hyperglycemia)
- Diabetic ketoacidosis (DKA)

Diabetes emergencies can happen at school for students with type 1 diabetes and type 2 diabetes. Preventing these emergencies is ideal, but not always possible.

### What is low blood glucose (hypoglycemia)?

Low blood glucose (hypoglycemia) – also sometimes called an insulin reaction – occurs when a blood glucose level drops below 70 mg/dL. Low blood glucose episodes may happen in spite of careful attention to maintaining and controlling blood glucose levels. Low blood glucose can occur any time a student takes insulin and/or oral medication.

### What are the signs and symptoms of low blood glucose (hypoglycemia)?

Common signs and symptoms of **mild** low blood glucose include: hunger, shakiness/weakness, blurred vision/glassy eyes, dizziness/headache, sweatiness/clamminess, tiredness/drowsiness, feeling flushed/hot, and fast heartbeat. Common signs and symptoms of **moderate** low blood glucose include the above symptoms, mood or behavior change, anxiousness/irritability, numbness or tingling around the lips, slurred/garbled speech, inattentiveness/acting spacey, poor coordination, inability to concentrate, and personality change. Common signs and symptoms if **severe** low blood glucose include: inability to swallow, confusion, not following commands or directions, inability to wake up, loss of consciousness, seizures, and convulsions.

## Diabetes: The Basic Facts (page 2 of 3)

### How is low blood glucose (hypoglycemia) treated?

Mild and moderate low blood glucose is treated by giving a student food or liquid containing carbohydrates. Fast-acting carbohydrate sources include: milk, fruit juice, glucose gel, and glucose tablets. For severe low blood glucose (i.e., confusion, inability to swallow, seizures, or convulsions), Glucagon must be injected.

### What is Glucagon?

Glucagon is a hormone that causes the liver to release stored glucose into the bloodstream. Glucagon is used to raise blood glucose quickly in someone with diabetes who is unconscious or unresponsive. Glucagon is only administered by injection. Glucagon is a life-saving treatment for severe hypoglycemia.

### An injection of Glucagon cannot harm a student.

Glucagon is a necessary emergency treatment for any student with type 1 or type 2 diabetes who takes insulin and has a severe low blood sugar episode and is found unconscious and/or is unresponsive. In Wisconsin, (non-health care) school personnel can give Glucagon.

### What is high blood glucose (hyperglycemia)?

High blood glucose (hyperglycemia) is typically defined as a blood glucose level of  $> 250$  mg/dL. Students may have symptoms of high blood glucose (e.g., thirst, tiredness, headache), but they may also have no symptoms. Blood glucose levels change frequently; however, when blood glucose levels are consistently  $> 250$  mg/dL, health care provider notification is recommended.

### What are the signs and symptoms of high blood glucose (hyperglycemia)?

Common signs and symptoms of **mild** high blood glucose include: thirst/dry mouth; frequent urination/bedwetting; tiredness/fatigue; increased hunger; blurred vision; sweet, fruity breath; flushed skin; and lack of concentration. Common symptoms of **moderate** high blood glucose include the above symptoms, nausea/vomiting, and stomach pain. Common symptoms of **severe** high blood glucose include: labored breathing, weakness, and confusion.

### How is high blood glucose (hyperglycemia) treated?

For students with type 1 diabetes, insulin is required. Some students with type 2 diabetes may need oral medication and/or insulin to lower blood glucose levels.

### What is diabetic ketoacidosis?

Diabetic ketoacidosis (DKA) is a dangerous, life-threatening condition that may occur when blood glucose levels are high (usually  $> 250$  mg/dL) and ketones are detected. DKA is a medical emergency. The most common cause of DKA is not taking insulin or not taking enough insulin. DKA can also occur with undiagnosed diabetes or late diagnosis of type 1 diabetes (and in rare occasions, type 2 diabetes).

### What are ketones?

Ketones are produced in the body when fat is used for energy. The most common cause of ketone production is not enough insulin. A lack of insulin leads to the breakdown of fat. When this occurs, ketones form in the body and they can be detected either in the blood or more commonly in the urine.

### What can a student with diabetes eat?

Students with diabetes do not require any special diet. There are no forbidden foods. Healthy eating habits are recommended for all students. Students with diabetes need to pay more attention to balancing the types and amounts of food they eat.

### What is a meal plan for a student with diabetes?

A healthy meal plan is recommended for all students with or without diabetes; this includes balancing carbohydrates, proteins, and good fats eaten throughout the day. Carbohydrates are the main source of energy for the body and will cause blood sugar to rise quickly; therefore, students with diabetes must balance the amount of carbohydrates they eat. A student's meal plan is determined by considering current activity level, insulin regimen/oral medication, and weight goals.

## Diabetes: The Basic Facts (page 3 of 3)

### **What is carbohydrate counting?**

Carbohydrate counting is a specific method used to balance the amount of foods containing carbohydrates that are eaten throughout the day.

### **Why do students with diabetes use carbohydrate counting?**

Students with diabetes use carbohydrate counting to help match the amount of insulin they need to give to maintain and control blood glucose levels.

### **Why does a student with diabetes need to eat at certain times?**

It is important for students with diabetes to eat at the designated times indicated in their Diabetes Medical Management Plan (DMMP). Eating at scheduled times can reduce the risk of low blood glucose. Eating at certain times is most important for students giving insulin by injection. Students using an insulin pump can have more flexibility with regard to eating because of the technology used to deliver insulin.

### **What about physical activity for students with diabetes?**

Physical activity is a fundamental part of a healthy lifestyle. For students with diabetes, physical activity can reduce insulin/oral medication needs, improve cardiovascular fitness, assist with long-term weight control, increase social interaction, and can promote self-esteem. For all students, physical activity should be enjoyable and integrated into the day.

### **Can physical activity cause low blood glucose (hypoglycemia)?**

Physical activity can lower blood glucose levels and increase risk for hypoglycemia especially if a student takes insulin and/or oral medication to control blood glucose levels.

### **What are long-term complications of diabetes?**

Long-term complications of diabetes usually develop gradually and are usually the result of persistent, long-term high blood glucose levels. The most common complications are:

- Cardiovascular disease
- Nerve damage (neuropathy)
- Kidney damage (nephropathy)
- Eye complications
- Foot complications

# Quick Tip Sheet

## Blood Glucose Monitor Use

When a student is not able to check his/her own blood glucose level trained school personnel may need to perform and/or assist the student with blood glucose monitoring.

Below are key points to remember:

- Blood glucose monitor brand/name is: \_\_\_\_\_.
- The sides of fingers are commonly used; although, alternate sites (e.g., forearm, upper arm, base of the thumb, or thigh) are an option.
- Never use an alternate site if low blood glucose is suspected, low blood glucose symptoms are present, within two hours after a meal, after physical activity, during illness or stress, or if alternative site results don't match how student is feeling. Use a finger stick reading instead.
- Hand washing is recommended before and after testing.
- A toll-free number is commonly listed on every meter for problems or questions.

### Steps for Checking a Student's Blood Glucose

1. Gather testing supplies (blood glucose monitor, test strip container, lancet, and lancet device). Encourage student to wash hands. ♦
2. Insert new lancet into the lancet device and "cock" or load it. (Note: Students may choose to use a lancet more than once, but this is not recommended.)
3. Remove one test strip from container and recap container.
4. Insert test strip into blood glucose monitor to turn monitor on. Some monitors must be turned on manually.
5. Verify code displayed on monitor to ensure it matches code on test strip bottle (if required).
6. Put on clean, disposable gloves.
7. Poke side of finger (or alternate site) with lancet device (avoid using the fingertips).
8. Apply adequate drop of blood on top or to end of test strip (many test strips pull in the required amount of blood).
9. Use cotton ball or tissue to cover finger or alternate site and apply slight pressure if needed to stop bleeding.
10. Read blood glucose result displayed in monitor window.
11. Record blood glucose result and any other information requested per school policy/protocol.
12. Dispose of lancet, along with used test strip, in approved sharps disposal container.\*
13. Clean testing area per school district policy.
14. Follow student's Diabetes Medical Management Plan and/or Emergency Action Plan for next action steps.

♦ Alcohol wipes are sometimes used by an individual; if they are used, allow the alcohol to thoroughly dry prior to testing blood glucose.

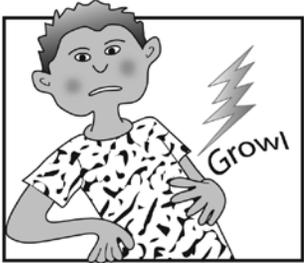
\* For more information on appropriate sharps disposal in Wisconsin, go to the following website from the Wisconsin Department of Natural Resources: <http://dnr.wi.gov/org/aw/wm/medinf/sharpscollection.htm>.

## Signs and Symptoms of Low Blood Glucose (Hypoglycemia)

# HYPOGLYCEMIA

## LOW BLOOD GLUCOSE KNOW THE SYMPTOMS

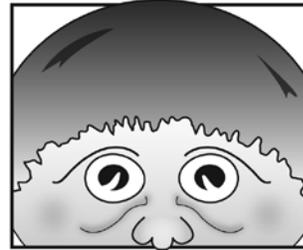
An individual may not always recognize symptoms of low blood glucose. These common symptoms, and others, may indicate low blood glucose.



**Hungry**



**Shaky/weak/clammy**



**Blurred vision/  
glassy eyes**



**Dizzy/headache**



**Sweaty/flushed/hot**



**Tired/drowsy**



**Mood/  
behavior change**



**Inattentive/spacey**



**Slurred/  
garbled speech**

**If individual is confused/unable to follow commands,  
unable to swallow, unable to awaken (unconscious),  
or is having a seizure or convulsion,  
GIVE GLUCAGON**

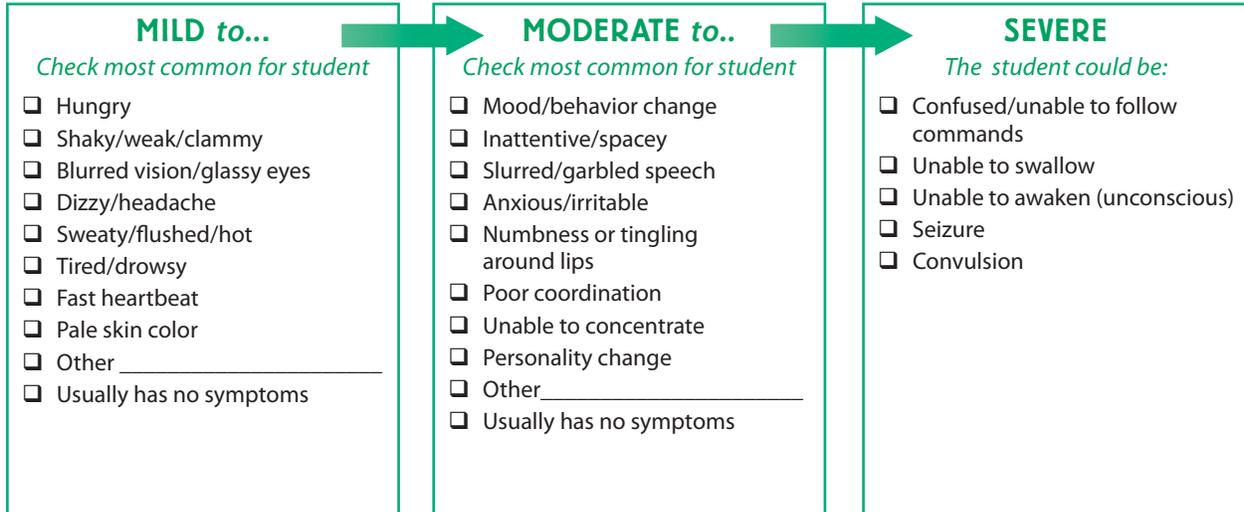
*Adapted from: Children's Diabetes Foundation at Denver*

# Quick Tip Sheet

## Low Blood Glucose (Hypoglycemia) Action Plan

*Hypoglycemia is a blood glucose less than 70 mg/dL*  
**Symptoms may develop suddenly and/or get worse quickly**

### SYMPTOMS OF LOW BLOOD GLUCOSE



- Notify school nurse or trained school personnel
- Follow student's Diabetes Medical Management Plan and/or Emergency Action Plan
- Check blood glucose if possible
- When in doubt, **TREAT low blood glucose**
- Intervening early may keep symptoms from getting worse

### TAKE ACTION

1. Give \_\_\_\_\_ grams carbohydrate of one of the following (*check*):
  - \_\_\_\_\_ oz milk
  - \_\_\_\_\_ oz fruit juice
  - \_\_\_\_\_ grams of glucose gel
  - \_\_\_\_\_ glucose tablets
  - Other \_\_\_\_\_
2. Recheck blood glucose in 15 minutes
3. If blood glucose is less than \_\_\_\_\_ mg/dL, give another \_\_\_\_\_ grams of carbohydrate food or liquid
4. Repeat above steps as needed
5. Troubleshoot cause(s) if possible

### TAKE ACTION

1. **Do not** give anything by mouth
2. GIVE **Glucagon**  
Dose (*check*)  
 0.5 mg or  1 mg
3. Position student on side, as there is risk of vomiting
4. Stay with student; do not leave student alone
5. Contact school nurse/trained school personnel
6. Call **9-1-1** per school district policies and procedures
7. Contact parents/guardian and/or health care provider
8. Check blood glucose if possible
9. Troubleshoot cause(s) if possible

### Possible Causes of Low Blood Glucose (Hypoglycemia)

- Mistakenly took too much insulin or oral medication
- Injected insulin and waited too long to eat
- Miscalculated carbohydrate intake
- Skipped or delayed meals and/or snacks
- Ate less than usual
- Increased emotions (e.g., anger, anxiety, excitement)
- Increased physical activity (planned or unplanned)
- Low blood sugar before eating
- Hormone fluctuations/growth spurts

## Signs and Symptoms of High Blood Glucose (Hyperglycemia)

# HYPERGLYCEMIA

## HIGH BLOOD GLUCOSE KNOW THE SYMPTOMS

An individual may not always recognize symptoms of high blood glucose. These common symptoms, and others, may indicate high blood glucose.



**Frequent urination**  
(bedwetting in children)



**Extreme thirst/  
dry mouth**



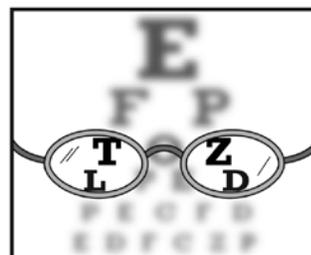
**Sweet, fruity breath**



**Tiredness/fatigue**



**Increased hunger**



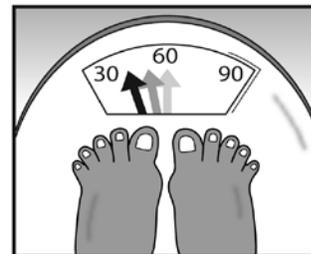
**Blurred vision**



**Nausea/vomiting**



**Stomach pain/  
cramps**



**Unusual weight loss**

**If individual has labored breathing, weakness,  
is confused or unconscious,  
SEEK MEDICAL ASSISTANCE**

Adapted from: Children's Diabetes Foundation at Denver

# Quick Tip Sheet

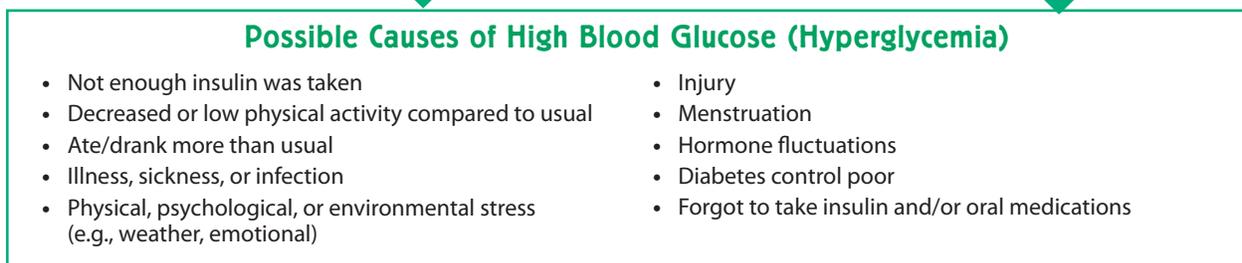
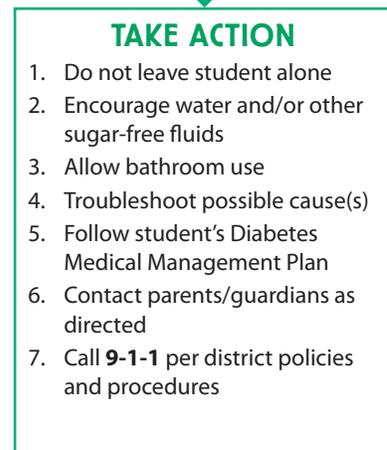
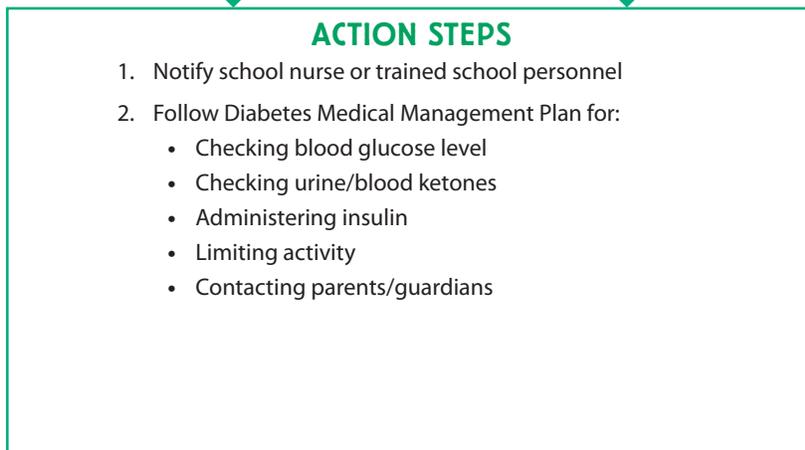
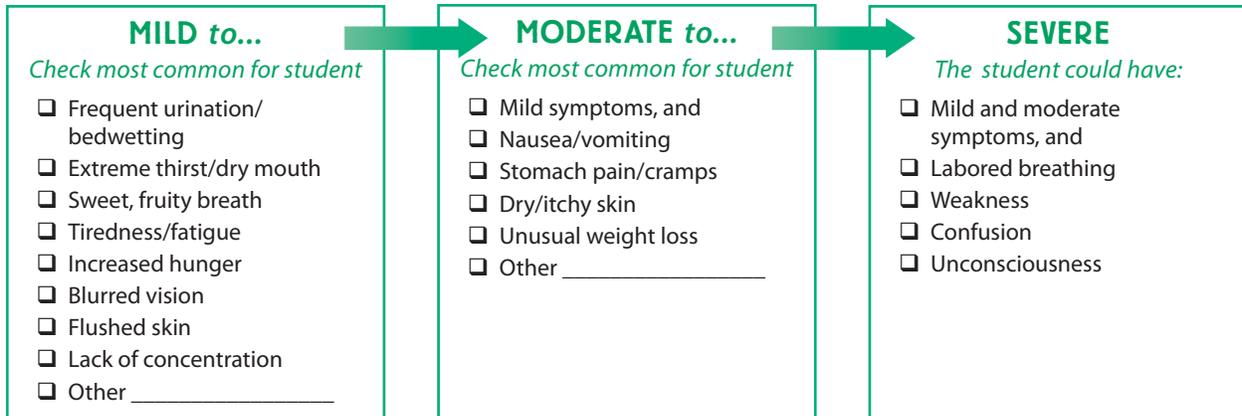
## High Blood Glucose (Hyperglycemia) Action Plan

*Hyperglycemia is a blood glucose greater than 250 mg/dL*

**Symptoms may develop over days, within hours, and/or get worse if not treated**

**Note: Diabetic Ketoacidosis (DKA) is an emergency. High blood glucose and positive ketones can lead to DKA. Early intervention and treatment can slow progression of or prevent DKA.**

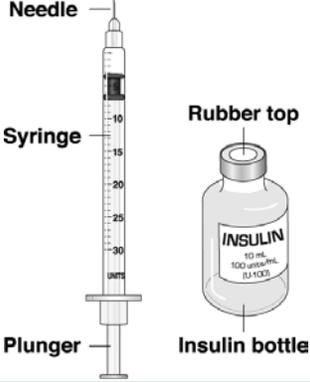
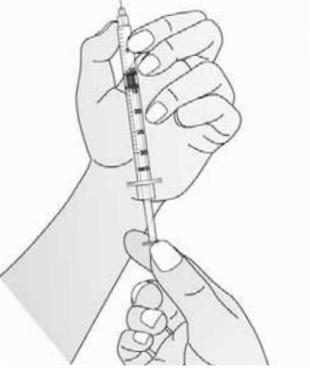
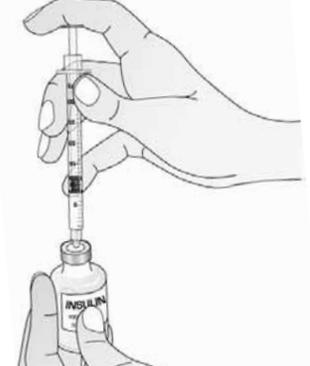
### SYMPTOMS OF HIGH BLOOD GLUCOSE



# Quick Tip Sheet

## Giving Insulin Using a Vial and Syringe\* (page 1 of 2)

Note: This information is for educational purposes only. For specific guidance on giving an insulin injection, talk with a health care provider.

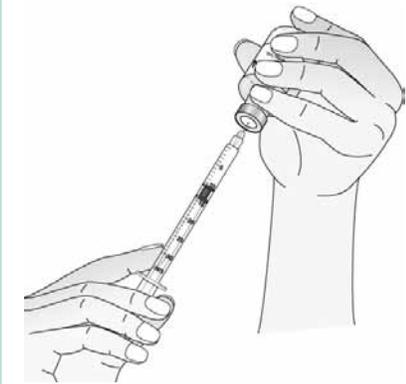
|   |   |
|---|---|
|  <p>Labels: Needle, Syringe, Plunger, Rubber top, Insulin bottle</p> | <ol style="list-style-type: none"><li>1. Gather supplies you'll need:<ul style="list-style-type: none"><li>▪ insulin vial/bottle</li><li>▪ syringe</li><li>▪ alcohol swabs</li><li>▪ container for the used syringe</li></ul></li><li>2. Wash your hands.</li><li>3. Check insulin vial/bottle to make sure it hasn't expired and is correct type of insulin.</li><li>4. Remove lid from insulin vial/bottle (if it is a new vial/bottle).<sup>o</sup></li><li>5. Wipe rubber top of the vial/bottle with alcohol swab.</li><li>6. Remove cap from syringe.</li></ol> |
|   | <ol style="list-style-type: none"><li>7. Pull air into syringe by pulling back on plunger until the black tip is even with line showing the exact units of insulin needed.</li></ol>  |
|    | <ol style="list-style-type: none"><li>8. Push needle through rubber top of vial/bottle.</li></ol>   |
|    | <ol style="list-style-type: none"><li>9. Push plunger so that air goes from syringe into vial/bottle.</li></ol>   |

\*This quick tip sheet is for the purpose of giving one type of insulin.

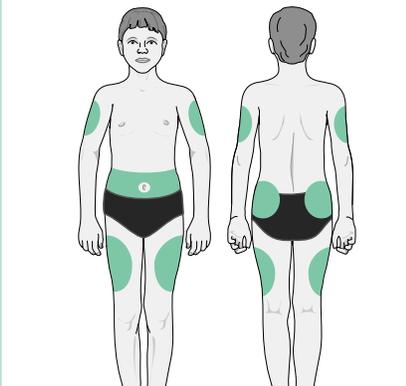
<sup>o</sup>If using a cloudy insulin (e.g., NPH), roll bottle gently to mix.

# Quick Tip Sheet

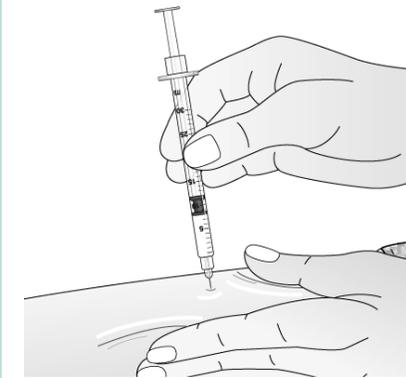
## Giving Insulin Using a Vial and Syringe (page 2 of 2)



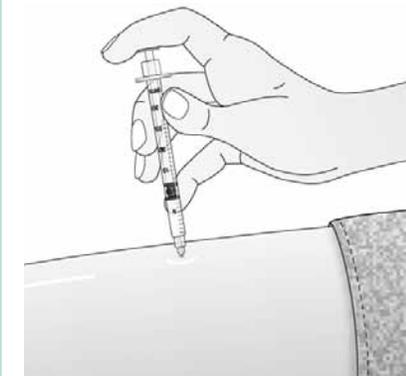
**10. Turn insulin vial/bottle (with syringe in bottle) upside down. Pull insulin into syringe by slowly pulling back on plunger until top of its black tip is even with line showing units of insulin needed. Remove any air bubbles if needed.**



**11. The most common places to inject insulin are the abdomen (belly), the back of the upper arms, the upper buttocks, and the outer thighs. Choose a place to inject insulin, and wipe skin with alcohol swab (optional) and allow skin to dry.**



**12. Gently pinch skin of chosen injection site. Hold syringe at a 90-degree angle to skin, and push needle all the way in.**



**13. Let go of pinched skin, and slowly push plunger to inject all of the insulin. Wait about 5 seconds before pulling out needle. School personnel assisting a student should never recap the needle after the injection to avoid a needle stick injury. Place used needle in approved sharps disposal container.\***

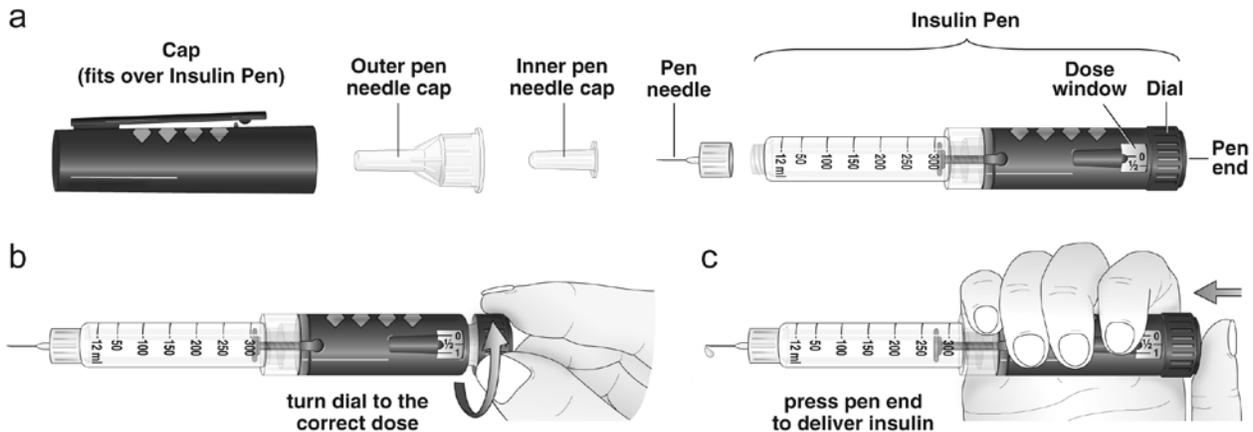
Adapted from: The Nemours Foundation, KidsHealth.

\*For more information on appropriate sharps disposal in Wisconsin, go to the following website from the Wisconsin Department of Natural Resources: <http://dnr.wi.gov/org/aw/wm/medinf/sharpscollection.htm>.

# Quick Tip Sheet

## Giving Insulin Using an Insulin Pen

An insulin pen allows a person to dial the dose of insulin needed. Some insulin pens use replaceable insulin cartridges and some pens are entirely disposable. All pens use a special replaceable pen needle (**Figure a**).



Source: Media Solutions, UW School of Medicine and Public Health

\*New disposable safety needles are now available to help reduce needle stick injuries. These needles have a safety lock mechanism that is activated automatically when the needle is removed from the skin.

### Steps for Using an Insulin Pen

1. Determine type of pen that student uses (non-disposable or disposable) and prepare insulin cartridge. To reduce errors, always check the label to ensure the correct type and dose of insulin are given.
  - **Pre-filled disposable pen:** A pre-filled insulin cartridge is already in pen.
  - **Reusable (non-disposable) pen:** Most of the time, the insulin cartridge will be in pen already. If not, load insulin cartridge into pen.
2. Wash hands, gather supplies, and put clean, disposable gloves on.
3. Check expiration date for insulin pen cartridge or disposable pen.
4. Attach pen needle by twisting it on end of insulin pen. (Wipe top of insulin pen with alcohol wipe if instructed to do so.)
5. Pull off and remove outer pen needle protective cap and set aside.
6. Holding pen upright, prime pen by dialing in 2 units. This checks insulin flow (this is sometimes called an “air shot”).
7. Push end of pen (plunger) to push out the 2 units. A small drop of insulin should be seen at end of the needle.
8. Dial in desired insulin dose (pens dial insulin in 1/2, 1, or 2 unit increments) (**Figure b**).
9. Assist student in choosing injection site. Cleanse skin with alcohol and allow to dry.
10. Pinch a small area of skin and insert pen needle through skin.
11. Push end of pen (plunger) button down completely to give (deliver) insulin (**Figure c**).
12. Wait five seconds while keeping pen and pen needle in place to ensure all insulin is given.
13. Withdraw and remove insulin pen and needle from skin. Wipe injection site with cotton ball if needed.
14. Unscrew and remove pen needle without replacing needle cap (If using safety needles, twist and remove).
15. Dispose of needle properly in approved sharps disposal container.\*

\*For more information on appropriate sharps disposal in Wisconsin, go to the following website from the Wisconsin Department of Natural Resources: <http://dnr.wi.gov/org/aw/wm/medinf/sharpscollection.htm>.

# Quick Tip Sheet

## Giving Glucagon in an Emergency

**Glucagon cannot harm a student.**

Note: Give Glucagon if student is confused/unable to follow commands, unable to swallow, unable to awaken (unconscious), having a seizure, or having a convulsion.

### Prepare Glucagon For Injection

Note: Glucagon should not be prepared for injection until the emergency arises.

1. If possible, wash hands and put clean, disposable gloves on.
2. Remove flip-off seal from vial (bottle) of Glucagon powder.
3. Remove needle protector from syringe, and inject entire contents of syringe into vial of Glucagon powder.
4. Remove syringe. Swirl vial gently until Glucagon dissolves and solution becomes clear.

**Glucagon should not be used unless the solution is clear and of a water-like consistency.**

### Giving Glucagon

Note: Use same technique as for injecting insulin.

1. Identify Glucagon dose as indicated in student's Diabetes Medical Management Plan.
2. Insert same syringe into vial, hold vial upside down, and remove all of the solution from vial into the syringe.
3. Cleanse injection site on buttock, arm, or thigh with alcohol swab if possible.
4. Insert needle at a 90 degree angle into selected injection site and give Glucagon solution. Withdraw needle and press gently at the injection site.
5. After injection, don't recap needle. Place used needle in approved sharps disposal container.\*

### After Giving Glucagon

1. Turn student on his/her side to prevent choking on vomit. A student may vomit after receiving Glucagon.
2. Stay with student; do not leave him/her alone.
3. Seek assistance from school nurse or trained school personnel.
4. Ask someone to call 9-1-1, as indicated by school district policies and procedures.
5. Ask someone to contact parent/guardian and/or health care provider.
6. Check blood glucose if possible.

*Adapted from: New York State Department of Health (2008). Children with Diabetes: A Resource Guide for Families and Schools.*

### Glucagon Kits



Glucagon Emergency Kit – Eli Lilly



GlucaGen® HypoKit® – Novo Nordisk

Source: [www.ChildrenWithDiabetes.com](http://www.ChildrenWithDiabetes.com)

\*For more information on appropriate sharps disposal in Wisconsin, go to the following website from the Wisconsin Department of Natural Resources: <http://dnr.wi.gov/org/aw/wm/medinf/sharpscollection.htm>.

## Checking for Urine Ketones and Tips for Understanding Results

### Checking for Urine Ketones

*(Checking blood ketones requires use of a special monitor.)*

1. Obtain urine sample from student.
2. Check expiration date of ketone strips.
3. Remove one ketone strip from container or individual foil package (recap container if using a container).
4. Locate color comparison chart on ketone strip container or box.
5. Dip ketone strip in urine and remove quickly.
6. Wait exactly 15 seconds or per manufacturer recommendations.
7. Compare ketone strip to the color chart on container or box.
8. Record result and any other information requested per school policy/procedure.

### CONSIDER THESE STEPS IF URINE KETONES ARE:

#### Negative

*Negative ketones may be a temporary situation.*

- Follow student's Diabetes Medical Management Plan
- Allow free bathroom access
- Encourage water and/or other sugar-free fluids
- Recheck blood glucose levels in 2 hours
- Recheck ketones in 2 hours or with next urination
- Attempt to identify possible cause of high blood glucose
- Call parents/guardians as directed

#### Trace or small

*Trace or small ketones are a sign that diabetic ketoacidosis (DKA) is less likely, but concern remains if blood glucose is high.*

- Follow student's Diabetes Medical Management Plan
- Allow free bathroom access
- Encourage water and/or other sugar-free fluids
- Recheck blood glucose levels in 2 hours
- Recheck ketones in 2 hours or with next urination
- Call parents/guardians and/or health care provider

#### Moderate or large

*Moderate to large ketones may be a sign of diabetic ketoacidosis (DKA).*

- Follow student's Diabetes Medical Management Plan
- Allow free bathroom access
- Encourage water and/or other sugar-free fluids
- Call parents/guardians
- Arrange for student to be taken home and/or to see his/her healthcare provider
- Seek guidance from health care provider if unsuccessful in reaching parents/guardians

#### *Note for students using an insulin pump:*

Blood glucose levels can rise quickly and ketones will likely be present if there is a pump malfunction or insulin delivery problem. If this occurs, follow student's Diabetes Medical Management Plan and/or Emergency Action Plan.



## Section 3: Diabetes Overview

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### SECTION OVERVIEW

- Prevalence of Diabetes in Children and Adolescents
  - Types of Diabetes
  - Risk Factors for Developing Diabetes
  - Diagnosis of Diabetes
  - Blood Glucose Control: Goals and Benefits
  - Complications
- .....

Diabetes is a chronic disease that causes high blood glucose (sometimes referred to as blood sugar). A person's body breaks down the food eaten into sugar. This sugar is commonly called glucose. Insulin is a hormone made by the pancreas that helps turn glucose into energy. People with diabetes are not able to use glucose because their pancreas no longer produces insulin or the insulin has trouble working, leading to high levels of glucose in the blood. High blood glucose is called hyperglycemia.

## Prevalence of Diabetes in Children and Adolescents

The 2008 Burden of Diabetes in Wisconsin estimates that approximately 6,000 (0.5%) children and adolescents in Wisconsin have diabetes. About 3,000 of these children are in the 0-9 year age group and the other 3,000 children and adolescents are in the 10-17 year age group. The majority of children and adolescents have type 1 diabetes, but clinically-based reports and regional studies suggest that type 2 diabetes, although still not as common as type 1 diabetes, is being diagnosed more frequently in youth, particularly American Indians, African Americans, and Hispanic/Latino Americans.

## Types of Diabetes

### Type 1 Diabetes

Type 1 diabetes (formerly known as insulin-dependent or juvenile-onset diabetes) is usually diagnosed before the age of 30. When a person has type 1 diabetes, the pancreas produces little or no insulin. The body needs insulin to control the amount of glucose in the blood. People with type 1 diabetes must give themselves insulin to survive. Type 1 diabetes is managed by taking insulin, monitoring blood glucose levels, eating healthy foods, and engaging in regular physical activity, all of which helps maintain and control blood glucose levels.

## Section 3: Diabetes Overview

### Type 2 Diabetes

Type 2 diabetes (formerly known as non-insulin-dependent or adult-onset diabetes) is usually diagnosed after the age of 40; however, a diagnosis of type 2 diabetes is becoming increasingly more common among younger people. In type 2 diabetes, the body makes some – but not enough – insulin, or the body is not able to use insulin normally. Type 2 diabetes is managed by eating healthy foods, engaging in regular physical activity, and taking oral medication and/or insulin to help maintain and control blood glucose levels. Insulin resistance is commonly found in people with type 2 diabetes.

### Gestational Diabetes

Gestational diabetes is a condition unique to pregnancy. Blood glucose levels become elevated because of insufficient insulin production by the mother or because the mother's body is unable to use insulin properly. Gestational diabetes may be managed by monitoring blood glucose levels, eating healthy foods, and engaging in regular physical activity. Insulin may be necessary. Women who had gestational diabetes, as well as the children born to them, are both at increased risk for developing type 2 diabetes later in life.

### Pre-diabetes

Pre-diabetes is a condition in which blood glucose levels are higher than normal but not high enough for a diagnosis of type 2 diabetes. People with pre-diabetes are 5 to 15 times more likely to develop type 2 diabetes compared to people without pre-diabetes. Other names used for pre-diabetes are impaired glucose tolerance and impaired fasting glucose. People with pre-diabetes may possibly prevent or delay development of type 2 diabetes by maintaining a healthy weight and getting regular physical activity.

## Risk Factors for Developing Diabetes

The risk for developing type 1 diabetes is not completely understood. People with type 1 diabetes are suspected to have a specific genetic makeup that increases their risk of developing the disease. Scientists believe that type 1 diabetes may be caused by exposure to one or more environmental triggers (e.g., viruses, foods, toxins). The risk of developing type 1 diabetes increases if a parent or sibling has type 1 diabetes.

The risk for developing type 2 diabetes is better understood. Common risk factors for type 2 diabetes include:

- Family history of type 2 diabetes or insulin resistance
- Low levels of physical activity
- Overweight or obesity (especially around the waist)
- Race and ethnicity: African-American, Hispanic/Latino, American Indian, Asian-American, and Pacific Islander
- High blood pressure (hypertension)
- Abnormal cholesterol (lipid) levels: HDL < 35 mg/dL and/or triglycerides > 250 mg/dL
- History of gestational diabetes
- Pre-diabetes

## Section 3: Diabetes Overview

### Diagnosis of Diabetes

The onset of type 1 diabetes usually develops suddenly and commonly with symptoms, such as frequent urination, thirst, and weight loss. Type 2 diabetes develops slowly, with or without symptoms.

In general, diabetes can be diagnosed using one of four tests:

- Fasting plasma glucose (FPG),
- Oral glucose tolerance test (OGTT),
- Random/casual plasma glucose (with symptoms),
- Hemoglobin A1C (A1C).

Table 1 provides basic information on four diabetes diagnostic tests. For more information on diagnosis of diabetes, refer to Section 13 of the *Wisconsin Diabetes Mellitus Essential Care Guidelines*: <http://dhs.wisconsin.gov/health/diabetes/guidelines.htm>.

**Table 1: Diagnosis of Diabetes (2010 Criteria)**

|                   | Fasting Plasma Glucose (FPG) | Oral Glucose Tolerance Test (OGTT)                | Random/Casual Plasma Glucose (with symptoms) | Hemoglobin A1C (A1C) |
|-------------------|------------------------------|---|--|----------------------|
| Diabetes Mellitus | ≥ 126 mg/dL (7.0 mmol/L) ❖   | 2-hour plasma glucose ≥ 200 mg/dL (11.1 mmol/L) ❖ | ≥ 200 mg/dL (11.1 mmol/L)                    | ≥ 6.5% ☒❖            |

*Adapted from: American Diabetes Association Clinical Practice Recommendations, 2010*

❖ Confirm test in absence of unequivocal hyperglycemia.

☒ Test should be performed in a laboratory using method that is NGSP certified and standardized to the DCCT assay.

### Blood Glucose Control: Goals and Benefits

Blood glucose control is fundamental to management of diabetes and to lowering the risk of diabetes-related complications. Blood glucose goals are determined by the student's diabetes primary care provider(s) and documented in the Diabetes Medical Management Plan (DMMP). Goals are based on individual needs and circumstances. Several key factors determine individual blood glucose goals. Some factors include:

- Age
- Severity and/or frequency of low blood glucose
- Inability to sense that blood glucose is low or going low (called hypoglycemic unawareness)
- Self-management skills and motivation
- Lifestyle factors
- Individual considerations (e.g., recent illness, family stress)
- Existing diabetes complications

Optimal blood glucose control is encouraged for all people with diabetes to assist with reducing the risk of developing diabetes-related complications. Despite this, individual circumstances, especially for children and adolescents, must be considered.

## Section 3: Diabetes Overview

### A1C

An A1C test measures how well diabetes is controlled over two to three months. The A1C test is the gold standard for assessing and monitoring overall blood glucose control in people with diabetes. The American Diabetes Association recommends testing A1C a minimum of two times per year if glucose control is stable and goals are being met. A1C testing is recommended a minimum of four times per year if treatment goals are not being met and/or if therapy changes are made frequently, such as with children and adolescents. The A1C test can be used to screen for and diagnose diabetes.

The American Diabetes Association developed recommendations for blood glucose goals for students with type 1 diabetes; these recommendations are provided in Table 2. A1C goals are identified for each age group; however, these A1C goals only serve as a guide. A1C goals must be individualized. Although national recommendations for children with type 2 diabetes do not exist, the values in Table 2 are reasonable to use as a guide. Note that experiencing frequent or repeated low blood glucose may have an effect on A1C measurement, making it falsely low and misleading.

**Table 2: Plasma Blood Glucose<sup>❖</sup> and A1C Goals for Type 1<sup>⌘</sup> Diabetes by Age Group**

| Values by age (years)                       | Plasma blood glucose goal range (mg/dL) |                   | A1C                              | Rationale for A1C Level   |
|---|---|-------------------|----------------------------------|---|
|   | Before meals                            | Bedtime/overnight |                                  |   |
| <b>Toddlers and preschoolers (0-6)</b>      | <b>100-180</b>                          | <b>110-200</b>    | <b>&lt; 8.5% (but &gt; 7.5%)</b> | <ul style="list-style-type: none"> <li>▪ High risk</li> <li>▪ Vulnerability to low blood glucose</li> </ul>   |
| <b>School age (6-12)</b>                    | <b>90-180</b>                           | <b>100-180</b>    | <b>&lt; 8%</b>                   | <ul style="list-style-type: none"> <li>▪ Risks of low blood glucose</li> <li>▪ Relatively low risk of complications prior to puberty</li> </ul>   |
| <b>Adolescents and young adults (13-19)</b> | <b>90-130</b>                           | <b>90-150</b>     | <b>&lt; 7.5%</b>                 | <ul style="list-style-type: none"> <li>▪ Risk of severe low blood glucose</li> <li>▪ May have developmental and psychological issues</li> <li>▪ A lower goal (&lt; 7.0%) is reasonable if achieved without excessive low blood glucose</li> </ul> |

Adapted from: *Diabetes Care* (2010). 33(1), S40.

❖ A plasma blood glucose level is obtained by a finger stick and a home blood glucose monitor.

⌘ Although there are no national recommendations for children with type 2 diabetes, using the values in this table as a guide is reasonable.

Key concepts in setting glycemic goals:

- Goals should be individualized and lower goals may be reasonable based on benefit-risk assessment.
- Blood glucose goals should be higher than those listed above in students with frequent low blood glucose or low blood glucose unawareness (inability to sense that blood glucose is low or going low).
- After-meal blood glucose values should be measured when there is a discrepancy between pre-meal blood glucose values and A1C levels and to help assess glycemia in those on basal/bolus regimens.
- During adolescence, the need for insulin will dramatically increase due to hormone changes and growth.
- For adults 18 years and older, please refer to the Wisconsin Diabetes Mellitus Essential Care Guidelines, found at: <http://dhs.wisconsin.gov/health/diabetes/guidelines.htm>.

## Section 3: Diabetes Overview

### Estimated Average Glucose

The estimated average glucose (eAG) is a way to report average glucose over time. The eAG is an alternative to using the more familiar A1C result. Health care providers may translate A1C results into an eAG. The eAG uses the same units of measure as people use for daily home blood glucose monitoring. Table 3 provides a comparison chart of A1C and eAG levels.

**Table 3: Comparison of A1C and eAG Levels**

| A1C (%) | eAG (mg/dL) |
|---------|-------------|
| 5.0%    | 97          |
| 5.5%    | 111         |
| 6.0%    | 126         |
| 6.5%    | 140         |
| 7.0%    | 154         |
| 7.5%    | 169         |
| 8.0%    | 183         |
| 8.5%    | 197         |
| 9.0%    | 212         |
| 9.5%    | 226         |
| 10.0%   | 240         |
| 10.5%   | 255         |
| 11.0%   | 269         |
| 11.5%   | 283         |
| 12.0%   | 298         |

*Adapted from: Diabetes Care (2008). 31(8), 1473-1478.*

## Complications

An essential aspect of diabetes management and care is screening for early detection of diabetes complications. The following information is based on the 2010 American Diabetes Association Clinical Practice Recommendations and the *Wisconsin Diabetes Mellitus Essential Care Guidelines* (available at: <http://dhs.wisconsin.gov/health/diabetes/guidelines.htm>). Screening and early detection must be individualized and based on clinical judgement.

### Retinopathy

Retinopathy is a disease of the eye where the small blood vessels are damaged, leading to changes in the retina. Although retinopathy most commonly occurs after the onset of puberty and after 5–10 years of diabetes duration, it has been reported in students prior to puberty and with diabetes duration of only 1–2 years. For students with type 1 diabetes, the first dilated eye exam should be obtained once the child is 10 years of age or older and has had diabetes for 3–5 years. For students with type 2 diabetes, the first dilated eye exam should be shortly after diagnosis. For both type 1 and type 2 diabetes, annual routine follow-up is generally recommended. Less frequent examinations may be acceptable on the advice of an eye care professional.

## Section 3: Diabetes Overview

### Nephropathy

Nephropathy is a word used to describe kidney disease. To reduce the risk and/or slow the progression of nephropathy, glucose and blood pressure control should be optimized. For students with type 1 diabetes, annual screening for microalbuminuria should be initiated once the child is 10 years of age and has had diabetes for five years. For students with type 2 diabetes, annual screening should be initiated at diagnosis. The screening test used is called a urine microalbumin test, which checks for tiny amounts of protein in urine.

### Neuropathy

Neuropathy is a disease that affects the nervous system causing damage to certain nerves in the body. One of the most common places that neuropathy occurs is in the hands and feet. Although it is unclear whether foot examinations are important in children and adolescents, annual foot examinations are painless, inexpensive, and provide an opportunity for education about foot care. The risk for foot complications is increased in people who have had diabetes over 10 years.

### Cholesterol (Lipids)

A fasting cholesterol (lipid) panel should be performed on children and adolescents older than two years soon after diagnosis of diabetes and when glucose control has been established if:

- There is a family history of total cholesterol > 240 mg/dL
- There is a family history of a cardiovascular event before age 55
- Family history is unknown

If family history is not a concern, then a fasting lipid panel should be performed at puberty ( $\geq 10$  years). If lipid values fall within the accepted risk levels (LDL-cholesterol < 100 mg/dL), the lipid panel should be repeated every five years.

### Blood Pressure

Careful control of high blood pressure (hypertension) in students is critical. Hypertension in childhood is defined as an average systolic or diastolic blood pressure >95th percentile for age, sex, and height measured on at least three separate days. Normal blood pressure levels for age, sex, and height, appropriate methods for measurement, and treatment recommendations are available online at: [http://www.nhlbi.nih.gov/health/prof/heart/hbp/hbp\\_ped.pdf](http://www.nhlbi.nih.gov/health/prof/heart/hbp/hbp_ped.pdf).



## Section 4: Type 1 Diabetes

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### SECTION OVERVIEW

- Definition and Symptoms
  - Insulin
  - Insulin Delivery
  - Sharps Disposal
  - Blood Glucose Monitoring
  - Healthy Eating
  - Physical Activity
- 

## Definition and Symptoms

Type 1 diabetes occurs when the pancreas produces little or no insulin. Our bodies break down the food we eat into sugar. This sugar is commonly called glucose. Insulin is a hormone made by the pancreas that helps turn glucose into energy. People with type 1 diabetes must give themselves insulin to survive. Students with type 1 diabetes monitor blood glucose levels at least four times per day and balance the amount of food eaten and physical activity with the amount of insulin required to maintain and control blood glucose levels. Type 1 diabetes can develop at any age but is found more commonly in children and young adults. Symptoms of high blood glucose (hyperglycemia) and type 1 diabetes include:

- Frequent urination/bedwetting in children
- Extreme thirst/dry mouth
- Sweet, fruity breath
- Tiredness/fatigue
- Increased hunger
- Blurred vision
- Flushed skin
- Lack of concentration
- Nausea/vomiting
- Stomach pain/cramps
- Dry, itchy skin
- Unusual weight loss
- Labored breathing
- Weakness
- Confusion
- Unconsciousness

## Section 4: Type 1 Diabetes

Awareness of symptoms of type 1 diabetes is important. Symptoms of high blood glucose can go unnoticed, therefore delaying the diagnosis of type 1 diabetes. Early recognition of symptoms, prompt diagnosis, and treatment can reduce the risk of life-threatening diabetic ketoacidosis. The tip sheet “Signs and Symptoms of High Blood Glucose (Hyperglycemia),” found in *Section 2: Quick Tip Sheets*, may be helpful in identifying symptoms of diabetes.

Students with a new diagnosis of type 1 diabetes commonly experience a “honeymoon period.” During the honeymoon period, a student’s insulin requirement may significantly decrease. The honeymoon period occurs because the student’s pancreas temporarily resumes some function and produces insulin. The length of time of the honeymoon period varies from student to student.

### Insulin

Insulin is a hormone produced in the pancreas which is essential for survival. Insulin is responsible for promoting growth and regulating blood glucose levels in the body. Insulin is used to treat diabetes and is taken either by injection or by an insulin pump. The amount and type of insulin required is determined by the student’s health care team. There are many different types of insulin. Table 4 provides detailed information on the types of insulin. Each type of insulin has a different onset of action, peak time, and duration of action in the body. To reduce errors, always check the label to ensure use of the correct type of insulin. Figure 1 provides a graph comparing the different activities of insulin types.

**Table 4: Types of Insulin**

| Types of Insulin   | Appearance | Onset of Action <sup>○</sup> | Peak Time <sup>*</sup> | Duration of Action <sup>⌘</sup> | Basal/<br>Bolus <sup>❖</sup> |
|--|------------|------------------------------|------------------------|---------------------------------|------------------------------|
| <b>Rapid-acting</b>  |            |                              |                        |                                 |                              |
| Lispro (Humalog)<br>Aspart (Novolog)<br>Glulisine (Apidra) | Clear      | 5-15 minutes                 | 1-2 hours              | 3-4 hours                       | Bolus                        |
| <b>Short-acting</b>  |            |                              |                        |                                 |                              |
| Regular (Humulin or Novolin)                               | Clear      | 30-60 minutes                | 2-4 hours              | 6-10 hours                      | Bolus                        |
| <b>Intermediate-acting</b>                                 |            |                              |                        |                                 |                              |
| NPH (Humulin or Novolin)                                   | Cloudy     | 1-2 hours                    | 4-8 hours              | 10-20 hours                     | Basal                        |
| <b>Long-acting</b>   |            |                              |                        |                                 |                              |
| Glargine (Lantus)  | Clear      | 1-2 hours                    | Nearly flat            | ~24 hours                       | Basal                        |
| Detemir (Levemir)  | Clear      | 1-2 hours                    | 6-8 hours              | 12-24 hours                     | Basal                        |

*Adapted from: 2008 Wisconsin Diabetes Mellitus Essential Care Guidelines*

<sup>○</sup> Onset of Activity: How long it takes for insulin to begin working after injection.

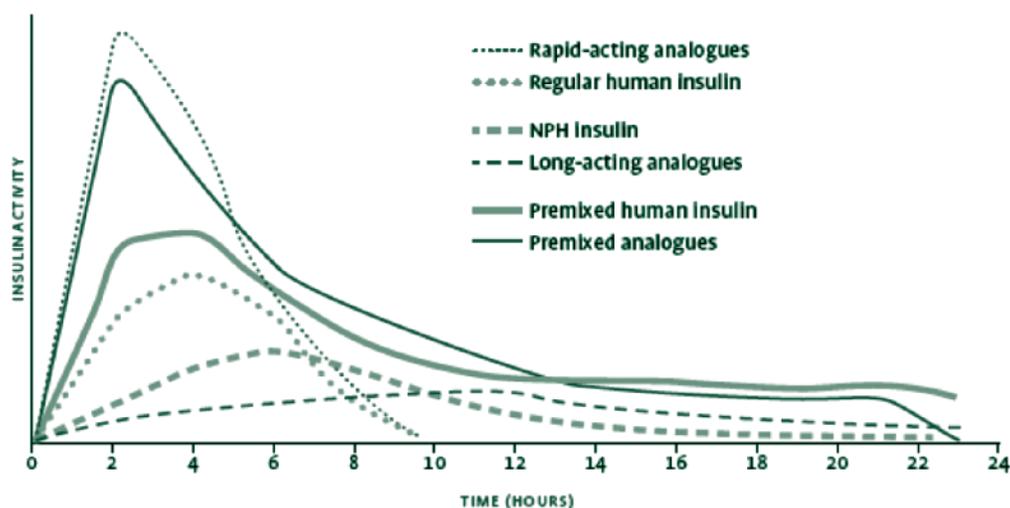
<sup>\*</sup> Peak time: The time during which a dose of insulin is most effective in terms of lowering blood glucose levels.

<sup>⌘</sup> Duration of Activity: How long the insulin actually works to lower blood glucose.

<sup>❖</sup> Basal/Bolus: The way insulin is used.

## Section 4: Type 1 Diabetes

Figure 1: Activity of Types of Insulin



Adopted from: AHRQ (March 2009). *Premixed Insulin Analogues*. *Effective Health Care*, 08 (09).

Students will need to take insulin during the school day. Schools must permit the administration of insulin either by an insulin pump and/or injection. To do otherwise would effectively exclude the student from school.<sup>1</sup>

If the student is not able to self-administer insulin during school, the school nurse or other trained school personnel must be available to administer the insulin,<sup>2</sup> including during field trips and/or other school-sponsored activities. If a student is unable to calculate the insulin required, the school must be prepared to assist the student, as accommodations indicate. These accommodations are commonly listed in a plan titled Section 504 Plan. Various plans, including the Section 504 Plan, are reviewed in *Section 10: Life at School*.

### Basal and Bolus Insulin

- **Basal** insulin keeps blood glucose steady when no eating takes place (between meals and during the night).
- **Bolus** insulin is used before meals to mimic normal insulin levels. Bolus is the best way to reduce after-meal blood glucose levels and is used to lower blood glucose at other times.

A correction dose of insulin is used to treat high blood glucose levels for meals. This correction dose is added to the meal dose of insulin. A correction dose is determined by using a correction scale or by using a correction factor for calculating the dose. At times a student may need extra insulin during non-meal times. Certain criteria must be followed before giving extra insulin. See the Diabetes Medical Management Plan for correction insulin and extra insulin plans.

### Insulin Storage

Storing unopened and unused insulin in the refrigerator is recommended. Insulin should never be frozen. Insulin is very sensitive and can become less effective when exposed to extreme temperatures.

<sup>1</sup> See e.g., *Prince George's (MD) County Schools*, Complaint No 03-02-1258, 39 IDELR 103 (OCR 2003); see also *Amarillo Indep. Sch. Dist.*, Complaint No. 06-02-1181 (OCR 2002).

<sup>2</sup> See *Wayne-Westland (MI) Community Schools*, Complaint 15-00-1130, 35 IDELR 14 (OCR 2000).

## Section 4: Type 1 Diabetes

Insulin should not be shaken, as shaking can affect the insulin's ability to work effectively. When opening a new vial, check the expiration date. Do not use expired insulin. Opened vials of insulin will stay fresh for up to 28 days without refrigeration when kept at room temperature and not exposed to extreme temperatures. Refer to the manufacturer's storage instructions for disposable insulin pens and insulin pen cartridges, as storage instructions differ between manufacturers.

### Insulin Regimens

Students use various insulin regimens if delivery is by insulin vial and syringe. An insulin regimen depends on individual circumstances such as a student's daily schedule, timing of meals, physical activity, age, history of hypoglycemia, frequency of blood glucose monitoring, and willingness to give more injections.<sup>3</sup> Many students use an intensive insulin regimen that closely mimics normal insulin secretion. An intensive regimen requires 3-5 or more injections per day, which can allow for flexibility regarding timing of meals, content of meal, and physical activity level.

## Insulin Delivery

The method of insulin delivery is determined by the student, family, and health care team in order to achieve the best possible blood glucose control. Three main ways to deliver insulin are:

- Vial and syringe
- Pre-filled (disposable or non-disposable) insulin pen with a disposable pen needle
- Continuous insulin pump/pod

Some students find it difficult to inject insulin (put the needle through the skin). Various products are available to make it easier for students to inject insulin without seeing the needles. These devices are called injection aids. More information on injection aids can be found at: <http://forecast.diabetes.org/files/images/InjectionAidsChart.pdf>.

### Insulin Vial and Syringe

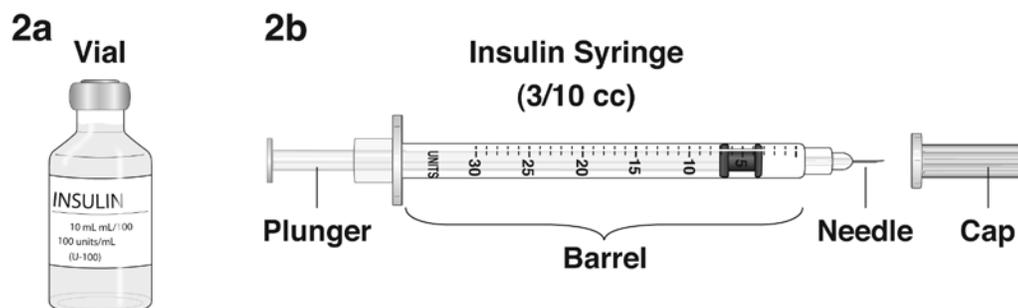
Insulin is measured in units. Figure 2 presents a picture of an insulin vial and syringe. A vial of insulin holds 1,000 units of insulin (Figure 2a). Insulin syringes have fine, short needles, allowing easy insertion through the skin (Figure 2b). Syringes are available in different sizes of needle gauge (thickness), needle length, syringe size and capacity, and measurement increments. Table 5 provides information on gauges and lengths of needles for insulin delivery. Table 6 provides information about insulin syringes. Reusing insulin syringes is not recommended. Trained school personnel may assist a student in giving insulin using a vial and syringe. Once trained to do this, school personnel may find the tip sheet called "Giving Insulin Using a Vial and Syringe," included in *Section 2: Quick Tip Sheets*, helpful.

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<sup>3</sup> In some instances, a specific type of insulin is used due to formulary restrictions; this may restrict which insulin regimen is used.

## Section 4: Type 1 Diabetes

Figure 2: Insulin Vial and Syringe



Source: Media Solutions, UW School of Medicine and Public Health

Table 5: Gauges and Lengths of Needles for Insulin Delivery

| Feature                         | Sizes  | Notes  |
|---------------------------------|--|--|
| Needle Gauge (needle thickness) | 28, 29, 30, 31, 32   | A larger gauge means a finer (smaller) needle.   |
| Needle Length                   | 3/16 inch (6 mm)<br>5/16 inch (8 mm)<br>1/2 inch (12.7 mm) | Needle length can affect absorption of insulin. Shorter needles may be more comfortable. |

Table 6: Insulin Syringe Information

| Sizes     | Capacity for Insulin | Measurement Increments                                 |
|-----------|----------------------|--|
| 3/10 cc * | 30 units or less     | The 3/10 cc syringe is available with 1 unit markings. |
| 1/2 cc    | 50 units or less     | The 1/2 cc syringe is available with 1 unit markings.  |
| 1 cc      | 100 units or less    | The 1 cc syringe is available with 2 unit markings.    |

\* See Figure 2b.

## Section 4: Type 1 Diabetes

### Insulin Pens

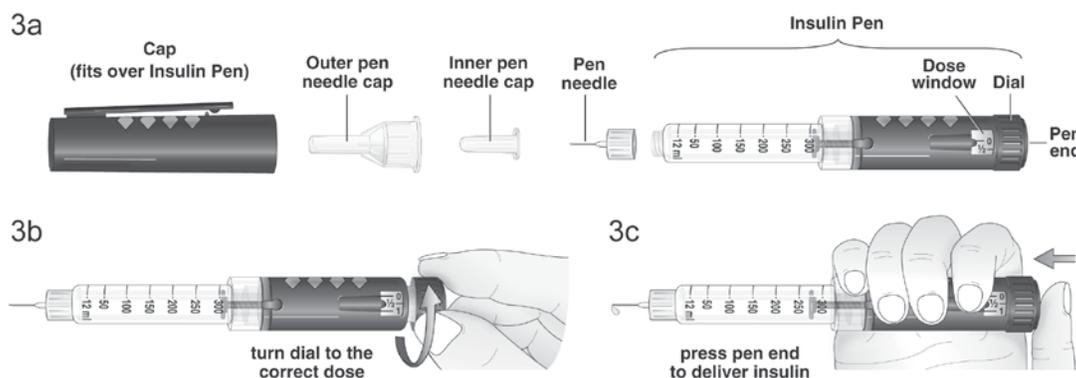
Insulin pens are widely used and are a convenient way to deliver insulin. Insulin pens are the size and shape of a large writing pen with insulin stored inside (Figure 3a). A fine, short, disposable needle is twisted on one end of the insulin pen before insulin is injected through the skin. The user dials the dose of insulin (Figure 3b) and then presses a plunger on the opposite end of the pen to give the insulin (Figure 3c).

Two types of insulin pens are:

- **Pre-filled disposable pens** – each pen is discarded after the insulin is used or outdated
- **Reusable (non-disposable) pens** – these pens hold insulin cartridges and each cartridge is discarded after the insulin is used or outdated

Both types of pens are packaged with five disposable pens or insulin cartridges in a box. Each disposable pen or cartridge has 300 units for a total of 1,500 units per box.

Figure 3: Insulin Pen



Source: Media Solutions, UW School of Medicine and Public Health

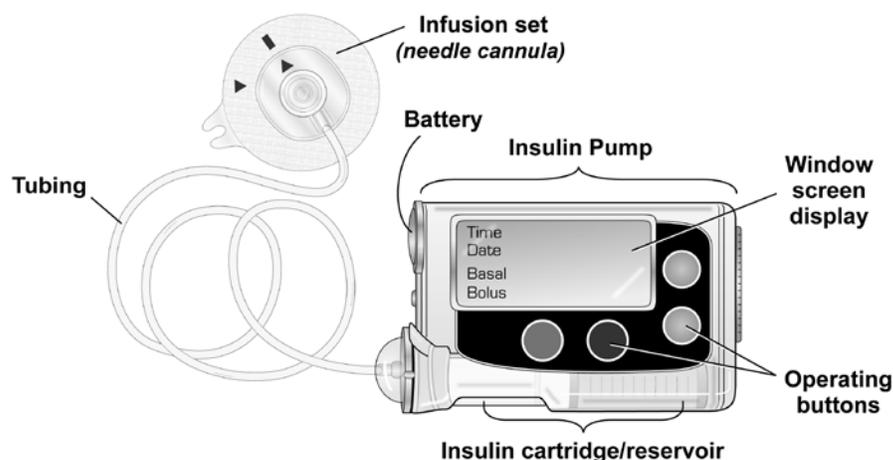
Storing an unused disposable pen or insulin pen cartridge in the refrigerator is recommended. Once the pen is used, it may be kept at room temperature. Each insulin pen and insulin pen cartridge is marked with an expiration date (pens and cartridges have different expiration dates, depending on the type of insulin). It is always best to check the insulin pen manufacturer insert for specific storage recommendations and expiration dates. To reduce errors, always check the label to ensure use of the correct type of insulin. Trained school personnel may need to assist a student in giving insulin using an insulin pen. Once trained to do this, school personnel may find the tip sheet “Giving Insulin Using an Insulin Pen,” included in *Section 2: Quick Tip Sheets*, helpful.

### Insulin Pumps

An insulin pump (also referred to as an insulin infusion pump) is a mini-computer about the size of a cell phone that continuously delivers insulin. A picture of an insulin pump, tubing, and infusion set is provided in Figure 4. Most insulin pumps use a battery. Battery size and type varies from company to company. An insulin pump can be worn in various places (e.g., clipped or attached to a belt, attached with Velcro to a bra, slipped in a pocket). Insulin pumps are usually water-resistant, or can be waterproof by using a special cover. The insulin pump usually allows the user to disconnect the tubing and pump from the insertion site during vigorous sports, showering, or other select activities. The student’s Diabetes Medical Management Plan should indicate whether this practice is allowed.

## Section 4: Type 1 Diabetes

**Figure 4: Insulin Pump, Tubing, and Infusion Set**



Source: Media Solutions, UW School of Medicine and Public Health

Insulin pump therapy is an effective and safe method of insulin delivery. Advantages of using an insulin pump include, but are not limited to:

- Pumps deliver insulin in tenths or hundredths of a unit allowing precise dosing and increased accuracy
- Improved blood glucose control through continuous flow of insulin
- Decreased number of needle sticks
- Decreased number of episodes and severity of low blood glucose (hypoglycemia)
- More flexibility and convenience with eating and physical activity
- Less insulin may be needed to control blood glucose
- Increased ability to address unique needs due to growth, lifestyle, and insulin requirements

Students who use an insulin pump require specific accommodations and may require assistance to operate the pump. Therefore, the school nurse or other trained school personnel must be able to perform or assist with basic insulin pump operations, such as changing infusion sets, changing batteries, setting temporary basal rates, administering boluses, and trouble-shooting alarms.<sup>4</sup> Schools must also accommodate the securing and storing of an insulin pump if the student disconnects the pump during physical education or for another approved reason.

A “pod” is like a conventional insulin pump. One such system is called OmniPod, which is a tubing-free insulin delivery system that uses a wireless Personal Diabetes Manager program to deliver and calculate doses of insulin. This system uses a built-in FreeStyle<sup>®</sup> blood glucose meter. The Pod can be placed securely by an adhesive almost anywhere on the body. Insulin delivery by an OmniPod is approved for anyone with diabetes.

<sup>4</sup> See e.g., *Henderson County (NC) Pub. Schools.*, Complaint No. 11-00-1008, 34 IDELR 43 (OCR 2000).

## Section 4: Type 1 Diabetes

### How an Insulin Pump Works

The insulin pump has a computer chip which acts as the pump's brain. Other important parts of an insulin pump system include the:

- Cartridge/reservoir: a small plastic vial filled with enough insulin for three days
- Infusion set: soft plastic tubing to deliver insulin from the pump to the body
- Needle or cannula: attached to the infusion set, inserted, and left under the skin

A student must change the cartridge/reservoir, infusion set, and needle/cannula every two to three days or more often if problems occur. An insulin pump is programmed for each individual student to provide insulin in two ways: basal and bolus.

- The **basal rate** of infusion provides a tiny amount of insulin continuously throughout the day and night. The pump is programmed to deliver different basal rates to meet the student's individual insulin needs at different times throughout the day. The basal rate remains the same from day to day, except if a family member or a health care provider changes the basal rate.
- The **bolus dose** of insulin provides a larger amount of insulin to cover carbohydrate intake for meals and snacks or to decrease a blood glucose level at other times. A bolus of insulin that treats high blood glucose is called a correction or supplemental bolus.

The health care team determines the rate and amount of insulin delivered by the insulin pump. The insulin pump is programmed to include the student's:

- Target blood glucose goals (these may vary throughout the day)
- Insulin-to-carbohydrate ratio(s) (ratios may vary for meals)
- Correction insulin to meet blood glucose goals
- Active insulin time
- Maximum bolus settings and basal amounts (these are safety features)

Only rapid-acting insulin is used in an insulin pump and serves as both the basal and bolus insulin.

### Calculating a Meal Bolus

The meal bolus is usually determined by using an insulin-to-carbohydrate ratio. This ratio can be different for different meals and will change as the student's insulin needs change. A feature called a "bolus calculator," which helps calculate an insulin bolus dose, is now commonly built into insulin pumps. The blood glucose reading and the amount of carbohydrates to be eaten are entered into the pump. Once this is done, the pump automatically calculates the insulin dose. Most pumps now account for "active insulin," which is insulin that may still be working in the body. Younger students may need assistance calculating bolus amounts and bolus delivery.

## Section 4: Type 1 Diabetes

### Special Functions of an Insulin Pump

Insulin pumps have many special functions. The available functions are either pump- or company-specific. Below are listed three common special pump functions older students may use:

#### *Suspend or Stop Mode*

This mode briefly stops insulin delivery. A student may use the suspend mode if he or she disconnects the pump for any reason (e.g., shower or high intensity physical activity).

#### *Temporary Basal Rate*

The basal rate may change to reduce the risk of high or low blood glucose during illness, physical activity (e.g., soccer game, 2 mile run), or long periods without eating. This basal rate change is called a temporary basal rate. A temporary basal rate is programmed into the pump for a specific time period. Once that specific time period has passed, the pump automatically returns to the original basal rate.

#### *Special Bolus Options*

Special bolus options (e.g., square, dual, multi-wave, extended) are commonly used when certain high-carbohydrate, high-fat foods are eaten (e.g., pizza, tacos), may be used when a student plans to eat for an extended time (e.g., banquet or holiday feast), or during extended snacking (e.g., reception or party).

### Insulin Pump Delivery Problems

When an insulin pump stops delivery of insulin for any reason, the student's blood glucose will rise quickly due to no delivery of insulin. High blood glucose may result in diabetic ketoacidosis (DKA), a serious complication of high blood glucose. Because the insulin pump uses only rapid-acting insulin and not long-acting insulin, the student is at risk of developing DKA if delivery of insulin stops. Blood glucose monitoring and ketone testing are required when a delivery problem is suspected. Responding quickly to any situation that interferes with the steady delivery of insulin from the insulin pump could prevent or slow the progression of DKA.

If an insulin pump stops or the pump malfunctions, school personnel must be prepared to give (or assist in giving) insulin using a syringe and vial. A written back-up plan (in the event of a pump becoming damaged, lost, or pump delivery fails) is essential.

Emergency supplies needed for an injection of insulin at school include:

- A vial (or pen and pen cartridge) of insulin
- Syringes or insulin pen needles
- Ketone testing supplies

## Section 4: Type 1 Diabetes

### Common Problems with Insulin Pumps

An insulin pump is a mechanical device; therefore, students may encounter problems with their pump at school. Some common insulin pump problems that school personnel may encounter are:

- Cartridge/reservoir problems: empty or bubbles present
- Infusion tubing problems: air bubbles present, blood present, or tubing kinked
- Needle/cannula problems: kinked, dislodged, or disconnected
- Site problems: red, swollen, or infected
- Pump malfunctions or alarms: low battery

Common pump problems require the attention of the student and/or school personnel. The tips included below are general considerations for addressing common insulin pump problems.

#### *Cartridge/reservoir problems*

Consider checking:

- If cartridge/reservoir is empty
- If cartridge/reservoir is damaged
- If insulin pump is disconnected

#### *Infusion tubing problems*

Consider checking:

- The insertion site to determine if connection at site is loose or leaking insulin
- The tubing for kinks, bubbles, or blood

#### *Needle/cannula problems*

Consider checking and/or inserting a new infusing set:

- If cannula is kinked
- If insulin is leaking from insertion site
- If needle or cannula is partially out or dislodged

#### *Site problems*

Consider checking and/or inserting a new infusion set:

- If signs of irritation or infection occur (e.g., redness, swelling, tenderness, or drainage)
- Inappropriate placement of infusion set (e.g., placed over a scar, placed less than 2 inches from navel, or placed in a hard lumpy area)
- If a site problem is under the skin and is not visible

#### *Pump functions or alarms*

Note: Most pump alarms will state the problem. Consider checking:

- If pump is turned on and not in “suspend mode”
- For possible pump damage
- The pump battery status; follow the pump manual for directions on changing battery if battery is low. As a safety measure, always have student disconnect from pump when changing the battery.
- The user’s guide for directions to clear alarm and correct problem

## Section 4: Type 1 Diabetes

For help in addressing specific problems with the pump itself – or alarms that cannot be cleared – consulting the pump manual or calling the manufacturer is an option. Insulin pump manufacturers offer assistance for non-clinical questions related to pump function. Table 7 provides a list of some pump manufacturers and their contact information. More information on insulin pumps can be found at: <http://www.forecast.diabetes.org/files/images/InsulinPumpChartREV.pdf>.

**Table 7: List of Insulin Pump Names, Manufacturers, and Contact Information**

| Product Name     | Manufacturer Name            | Phone and Website   |
|------------------|------------------------------|---|
| Accu-Chek Spirit | Disetronic Medical Systems ● | (800) 280-7801<br><a href="http://www.disetronic-usa.com">http://www.disetronic-usa.com</a>         |
| DANA Diabecare   | Sooil Development Co.        | (866) 747-6645<br><a href="http://www.sooilusa.com/">http://www.sooilusa.com/</a>                   |
| MiniMed Paradigm | Medtronic Diabetes           | (866) 948-6633<br><a href="http://www.medtronicdiabetes.com/">http://www.medtronicdiabetes.com/</a> |
| Nipro Amigo      | Nipro Diabetes Systems       | (888) 651-7867<br><a href="http://www.niprodiabetes.com/">http://www.niprodiabetes.com/</a>         |
| OmniPod          | Insulet Corporation          | (800) 591-3455<br><a href="http://www.myomnipod.com/">http://www.myomnipod.com/</a>                 |
| One Touch Ping   | Animas Corporation ❖         | (877) 937-7867<br><a href="http://www.animascorp.com/">http://www.animascorp.com/</a>               |

*Adapted from: American Diabetes Association (January 2010). Diabetes Forecast Resource Guide, 48-49.*

*Note: Smiths Medical MD, Inc. no longer manufactures Deltec Cozmo® insulin pumps, but is continuing to provide technical assistance to those still using the pump. Contact (800) 826-9703 or <http://www.cozmore.com> for more information.*

● Disetronic is a subsidiary of Roche, Inc.

❖ Animas is a subsidiary of Johnson & Johnson

The following checklist identifies critical insulin pump supplies and information needed at school for a student using an insulin pump.

### Checklist for Insulin Pump Supplies and Information Needed at School

This checklist includes but is not limited to:

#### Supplies

- Extra vial of insulin and syringe
- Extra insulin pump cartridge/reservoir and infusion set
- Insertion device (if used)
- Insulin pump batteries
- Antibacterial skin cleanser, alcohol wipes, or skin prep wipes (if recommended)

#### Information

- Copy of current pump settings (e.g., basal rates)
- Pump's serial number (likely on back of pump)
- Pump manual and alarm reference card (if available)
- Pump company's 24-hour toll-free number (likely on back of pump)

## Section 4: Type 1 Diabetes

### Sharps Disposal

State law requires the disposal of all sharps generated from insulin syringes, pen needles, infusion sets, and lancets in an approved sharps container – not in the regular trash. Schools will likely have varying policies and procedures for disposing of sharps; therefore, it is important for school personnel to be aware of their own school district’s specific policies and procedures.

Wisconsin has an active sharps collection program. This program is based on a state law that requires everyone to separate sharps from other waste. Free information and resources on sharps disposal resources and publications are available through the Wisconsin Department of Natural Resources (DNR). For additional information about sharps disposal in Wisconsin, go to the Wisconsin DNR web site: <http://dnr.wi.gov/org/aw/wm/medinf/>.

### Blood Glucose Monitoring

Blood glucose monitoring equipment includes the monitor, test strips, lancet device, and lancets. Students must have these supplies readily available and accessible for testing during school and school-sponsored activities.

Self-monitoring of blood glucose is currently the best method for checking blood glucose levels. Blood glucose monitoring is a powerful tool that allows students the opportunity to know exactly what their blood glucose level is at any time of day. Blood glucose monitoring helps assess how insulin is working to lower blood glucose levels throughout the day and provides useful data about patterns of high and/or low blood glucose levels. Data from blood glucose monitoring can enhance a student’s self-management skills and guide additional lifestyle changes. Monitoring also assists in detecting urgent problems requiring immediate attention from school personnel.

The following circumstances may factor into the frequency of recommended blood glucose monitoring at school:

- Type of diabetes
- Blood glucose fluctuations
- Type of treatment (e.g., oral medication, insulin, diet, and physical activity)
- Adjustments of medication/insulin
- Frequency of hypoglycemia
- Hypoglycemia awareness level
- Stress
- Illness

Students with type 1 diabetes usually test their blood glucose a minimum of four times per day – before each meal and before bedtime. The student’s Diabetes Medical Management Plan (DMMP) should indicate how often the student performs blood glucose checks or whether it is necessary to check blood glucose at school.

Many different blood glucose monitors are available for testing blood glucose levels. School personnel should familiarize themselves with the monitor used by the student. A toll-free phone number is commonly listed on the back of a blood glucose monitor should school personnel need technical assistance or have questions/problems with the monitor. A listing of monitors is located at: [http://www.diabeteshealth.com/media/pdfs/PRG1208/DH\\_Blood-Glucose-Meters\\_08-09.pdf](http://www.diabeteshealth.com/media/pdfs/PRG1208/DH_Blood-Glucose-Meters_08-09.pdf). A second or backup monitor for schools to use when a student’s personal monitor fails is beneficial. A local certified diabetes educator may have a spare home glucose monitor. If not, this person could provide information on where school personnel may obtain one at low cost or possibly free.

## Section 4: Type 1 Diabetes

### Blood Glucose Testing Times

In order to get a complete picture of blood glucose throughout the day, a student may check his or her blood glucose level at different times. Common testing times are listed below. Although these are common testing times, a student will test blood glucose at other times.

**Fasting blood glucose** (before breakfast) shows how well a student's basal insulin is working.

**Pre-meal blood glucose** (before lunch and dinner) shows the effectiveness of a student's breakfast and lunch insulin doses.

**Two hours after eating** (post-prandial) shows if the insulin taken before eating was enough to cover the carbs eaten.

**Bedtime blood glucose** (before bed) shows the effectiveness of a student's dinner insulin dose and determines if a bedtime snack is needed.

For older students, is it important to reinforce blood glucose testing prior to driving an automobile and before, during, and after any activity, as a low blood glucose level has the ability to impair judgement.

### Self-Monitoring Blood Glucose Levels

Older students are capable of testing their blood glucose levels independently, though students may require assistance on an emergency basis. School personnel may need to actually perform, assist, or supervise students with monitoring blood glucose at school if the student cannot monitor his or her own blood glucose or is incapable of doing so. Younger students typically require assistance with checking blood glucose, reading and interpreting the results, and taking appropriate steps to respond to particular blood glucose values. Trained school personnel who may assist a student in monitoring blood glucose levels may find the tip sheet "Blood Glucose Monitor Use," found in *Section 2: Quick Tip Sheets*, helpful.

The accuracy of home glucose monitors has improved significantly, leading to reduced errors and improved accuracy. Good hand washing can assist with reducing false readings and inaccuracy. The student may test his or her blood glucose in the classroom or may prefer a more private setting. Every student should have a safe and clean environment in which to test his or her blood glucose. Parents/guardians can provide input regarding their child's ability to test safely and accurately at school and during related events. Safe and appropriate lancet disposal is recommended and necessary for the safety of all students.

### Alternative Site Testing

Many blood glucose monitors measure blood glucose using blood from an alternative site, such as the forearm, upper arm, base of the thumb, or thigh. Blood glucose readings from these alternative sites are not as accurate as finger stick readings. Alternative site blood glucose results differ from finger stick results when blood glucose levels are changing rapidly, such as after a meal, after taking insulin, during physical activity, or during illness/stress. Never use alternative site testing (use finger stick instead):

- If a low blood glucose is suspected
- If low blood glucose symptoms are present
- Within two hours after a meal
- After physical activity
- During illness or stress
- If alternative site test result does not match how the student is feeling

## Section 4: Type 1 Diabetes

### Continuous Glucose Monitors

Continuous glucose monitors (CGM), also called sensors, are a newer technology that measure glucose levels in interstitial fluid. CGM systems do not provide blood glucose readings. CGM systems are a trending device which can assist with identifying glucose patterns and fluctuations. A CGM system is used with an insulin pump or with insulin injections.

CGM technology incorporates a small electrode inserted in the fatty tissue (also called subcutaneous tissue) under the skin, similar to an insulin pump cannula or needle. Common sites for placement of a CGM system are the abdomen, upper arm (tricep), hip, or buttock area. The electrode measures glucose levels which are displayed on either the insulin pump or pager-sized device worn on a belt or in a pocket. The CGM tracks glucose levels and trends throughout the day.

CGM systems are programmed to alert for too high or too low blood glucose levels. CGM systems may not alert for **all** high or low blood glucose levels; therefore, reverting to blood glucose monitoring by finger stick with any symptoms is essential. **A high or low alert must always be verified by a finger stick reading. A CGM reading must not be used to determine treatment. Only a glucose meter finger stick reading is used to determine treatment. While it may be tempting to treat a high or low blood glucose based on a CGM reading, it is not acceptable and is potentially dangerous.**

The CGM is a tool to assist students and those assisting in their care to the best time to perform a finger stick reading. A number of alerts will require action as indicated in Table 8. Knowing what to do when a CGM displays an alert is important.

**Table 8: Continuous Glucose Monitor Alerts\***

|                              |                 |  |
|------------------------------|-----------------|--|
| Glucose alerts (high or low) | Action Needed → | ▪ Finger stick required  |
| Repeat feature (high or low) | Action Needed → | ▪ Finger stick required  |
| Meter BG now                 | Action Needed → | ▪ Perform blood glucose monitoring by finger stick   |
| Sensor end                   | Action Needed → | ▪ Revert to blood glucose monitoring by finger stick   |
| Weak signal                  | Action Needed → | ▪ Move the pump closer to transmitter<br>▪ Attempt to reestablish signal if possible<br>▪ Revert to blood glucose monitoring by finger stick |
| Lost sensor                  | Action Needed → | ▪ Attempt to reestablish signal if possible<br>▪ Revert to blood glucose monitoring by finger stick  |
| Cal error                    | Action Needed → | ▪ Revert to blood glucose monitoring by finger stick   |
| Bad sensor                   | Action Needed → | ▪ Revert to blood glucose monitoring by finger stick   |
| Sensor error                 | Action Needed → | ▪ Attempt to clear alarm if possible<br>▪ Revert to blood glucose monitoring by finger stick   |

*\*The table specifically refers to the Medtronic CGM as this is the only CGM (as of date of publication printing) that is approved for those < 18 years old. In all instances, follow Diabetes Medical Management Plan/504 Plan and CGM manufacturer guidelines and recommendations.*

## Section 4: Type 1 Diabetes

Calibration of a CGM is necessary. Calibration must be done when glucose levels are steady and not changing quickly. Due to these special circumstances, calibration is typically performed at home.

A considerable amount of inexperience exists with the use of CGM. School personnel must work with the student's family, health care provider, and CGM company personnel (if possible) to become familiar with use of the CGM. Ongoing education and support for schools is needed as this technology is more frequently used.

Various types of continuous glucose monitors are available. Table 9 provides a list of types, manufacturers, and contact information of CGMs. More information on CGMs can be found at: [http://www.forecast.diabetes.org/files/images/v63n01\\_p44v2.pdf](http://www.forecast.diabetes.org/files/images/v63n01_p44v2.pdf).

**Table 9: Continuous Glucose Monitors**

| Product Name                       | Manufacturer         | Phone and Website                            |
|------------------------------------|----------------------|--|
| Seven Plus ●                       | DexCom               | (888) 738-3646<br>www.dexcom.com             |
| Freestyle Navigator●               | Abbott Diabetes Care | (888) 522-5226<br>www.freestylenavigator.com |
| Guardian Real-Time❖                | Medtronic Diabetes   | (866) 948-6633<br>www.medtronic-diabetes.com |
| MiniMed Paradigm Real-Time System❖ | Medtronic Diabetes   | (866) 948-6633<br>www.medtronic-diabetes.com |

Adapted from: American Diabetes Association (January 2010). *Diabetes Forecast Resource Guide*, 44-45.

● FDA approved for adults 18 years and older

❖ FDA approved for children 7 years and older

## Healthy Eating

Healthy eating is encouraged for all students, including those with type 1 diabetes. **There are no forbidden foods.** One key to good blood glucose control is regular intake of food, particularly carbohydrate foods that are spread evenly throughout the day (e.g., three meals a day).

Each student should have an established meal plan that is developed by the health care team and family. This meal plan may include time of meal or snack, type, and amount of food to balance the student's nutritional needs. A meal plan is determined by considering the student's current activity level, medication/insulin regimen, and weight goals. Meal plans help to ensure adequate energy for growth and development. Basic or advanced carbohydrate counting is a flexible meal approach used by students with type 1 diabetes. For more information on nutrition, refer to *Section 7: Nutrition for Students with Diabetes*.

## Section 4: Type 1 Diabetes

### Physical Activity

Physical activity is a fundamental part of a healthy lifestyle for all students, including those with type 1 diabetes. Having type 1 diabetes should not limit a student from participating in physical activity. Engaging in physical activity can reduce the amount of insulin needed to control blood glucose levels. However, physical activity also increases the risk for low blood glucose for up to 24 hours. Students participating in physical education classes and all school-sponsored sports should self-monitor their blood glucose before starting an activity to assist in prevention of low blood glucose (hypoglycemia). The result of this blood glucose test can serve as a guide for additional carbohydrate intake and/or reducing insulin needs. Knowing physical activity can cause low blood glucose, school personnel can promote strategies to reduce risk of low blood glucose episodes, such as inquiring if the student can:

- Reduce or adjust dose of insulin
- Eat additional carbohydrates prior to, during, and/or after activity
- Carry a fast-acting carbohydrate to treat low blood glucose

For more information on physical activity, refer to *Section 8: Physical Activity for Students with Diabetes*.

A low blood glucose level (< 70 mg/dL) can occur during or after a period of increased or unexpected physical activity. Self-monitoring of blood glucose before, during, and after participating in physical activity can assist in determining if additional carbohydrates are needed to sustain blood glucose levels. Students using an insulin pump may reduce their insulin amounts through a temporary basal reduction or by suspending the pump to stop insulin flow during high intensity sports or activities. Risk of hypoglycemia after physical activity can be reduced through frequent blood glucose monitoring, sufficient carbohydrate intake, and insulin adjustments.

Coaches and school personnel must be aware of a student's diabetes and make sure a trained person is present to provide necessary help if the student needs to eat additional carbohydrates to treat or prevent a low blood glucose (including administration of Glucagon if the student is on insulin). Examples of quick-acting carbohydrate options include: milk, fruit juice, glucose gel, or glucose tablets.

Students engaging in physical activity with a high blood glucose level ( $\geq 250$  mg/dL) may require testing for ketones prior to participation. Positive ketones must be taken seriously. A student with high blood glucose levels and positive ketones may not be able to participate in physical activity. For more information on high blood glucose, ketones, and physical activity, refer to the content on ketones in *Section 6: Diabetes Emergencies*.



## Section 5: Type 2 Diabetes

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### SECTION OVERVIEW

- Definition and Symptoms
  - Blood Glucose Monitoring
  - Healthy Eating
  - Physical Activity
  - Oral Medication
  - Insulin
  - Sharps Disposal
- .....

## Definition and Symptoms

Type 2 diabetes is occurring more frequently in children and adolescents. Type 2 diabetes develops when the pancreas does not produce enough insulin or when the body does not properly use insulin. Insulin is a hormone made by the pancreas that helps turn sugar (glucose) in the food we eat into energy. Type 2 diabetes usually develops slowly. Symptoms may or may not be present. Common symptoms of high blood glucose (hyperglycemia) and type 2 diabetes include:

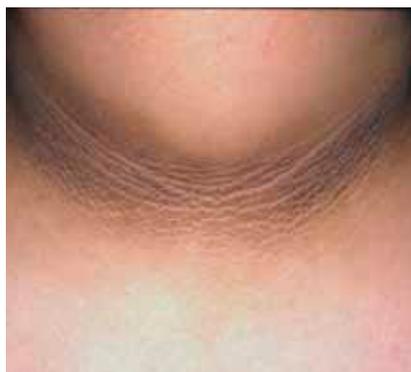
- Frequent urination/bedwetting in children
- Extreme thirst/dry mouth
- Sweet, fruity breath
- Tiredness/fatigue
- Increased hunger
- Blurred vision
- Flushed skin
- Lack of concentration
- Nausea/vomiting
- Stomach pain/cramps
- Dry, itchy skin
- Unusual weight loss
- Labored breathing
- Weakness
- Confusion
- Unconsciousness
- Acanthosis nigricans (specific to type 2 diabetes)
- Yeast infections or other infection

## Section 5: Type 2 Diabetes

A common symptom seen with type 2 diabetes is acanthosis nigricans, a dark, thick, velvety appearance to the skin in the major skin folds, such as around the neck and armpits. Many times these dark, thick areas are mistaken for dirty skin and at times hidden or covered with clothing. This type of skin change is often a sign of insulin resistance. A picture of a student with acanthosis nigricans is provided in Figure 5.

The cornerstone of treatment for students with type 2 diabetes is adopting a lifestyle that promotes healthy food choices and physical activity as the primary ways to control blood glucose levels. Use of oral medication and/or insulin is sometimes necessary to optimize diabetes control.

**Figure 5: Acanthosis nigricans.**



*Photo printed with permission from Irwin Braverman, MD, Department of Dermatology, Yale Medical School.*

## Blood Glucose Monitoring

Self-monitoring of blood glucose is a useful tool to assist with managing diabetes. Blood glucose monitoring can help determine patterns of high and/or low blood glucose and circumstances that might influence blood glucose levels at school and related activities. Monitoring also assists in detecting urgent problems requiring immediate attention from school personnel. Sometimes students with type 2 diabetes must take a blood glucose reading after a meal (postprandial) to determine the effectiveness of their oral medication. Students with type 2 diabetes who use an intensive insulin regimen will commonly monitor blood glucose levels before each meal. Additional information on blood glucose monitoring, blood glucose testing times, and self-monitoring blood glucose is included in *Section 4: Type 1 Diabetes*.

## Section 5: Type 2 Diabetes

### Healthy Eating

Healthy eating is encouraged for all students, including those with type 2 diabetes. **There are no forbidden foods.** One key to good blood glucose control is regular intake of food (particularly carbohydrate foods) spread evenly throughout the day (e.g., three meals a day and snacks). Skipping meals promotes a sluggish metabolism, fluctuating blood glucose levels, and the tendency to overeat later. Healthy eating guidelines and physical activity habits should focus on reducing insulin resistance, improving metabolic status, and promoting a healthy weight.

Students with type 2 diabetes who are overweight or obese will benefit from interventions that promote weight loss, weight management, and blood glucose control. Healthy eating guidelines must be individualized and can depend on a student's:

- Current oral medication and/or insulin regimen
- Current blood glucose and A1C levels
- Weight management goals

Each student should have an established meal plan developed by the health care team and family. A meal plan ensures adequate energy for growth and development. This meal plan may include times of meals and snacks, type, and amount of food to balance a student's nutritional needs. A meal plan is determined by considering a student's current activity level, medication/insulin regimen, and weight goals. For more information on nutrition, refer to *Section 7: Nutrition for Students with Diabetes*.

### Physical Activity

Physical activity is a fundamental part of a healthy lifestyle for all students, including those with type 2 diabetes. Having type 2 diabetes should not limit a student from participating in physical activity. Physical activity can reduce the amount of oral medication and/or insulin needed to control blood glucose levels.

For additional information on physical activity, refer to *Section 8: Physical Activity for Students with Diabetes*.

A low blood glucose level (< 70 mg/dL) can occur during or after a period of increased or unexpected physical activity because of decreased insulin resistance and increased use of glucose by the body in a student with type 2 diabetes if using oral medication and/or insulin. Self-monitoring of blood glucose before starting an activity can assist in determining if additional carbohydrates are needed to assist in preventing a low blood glucose reaction, as recommended by a health care provider.

Coaches and school personnel must be aware of a student's diabetes and make sure a trained person is present to provide necessary help if the student needs to eat additional carbohydrates to treat or prevent a low blood glucose (including administration of Glucagon if the student is on insulin). Examples of quick-acting carbohydrate options include: milk, fruit juice, glucose gel, or glucose tablets.

High blood glucose is not as likely to result in problems for students with type 2 diabetes who engage in physical activity. However, if blood glucose levels are  $\geq 250$  mg/dL, checking urine ketones prior to physical activity may be recommended for some students. Participating in physical activity with urine ketones present (although rare in students with type 2 diabetes) and high blood glucose levels may increase risk of diabetic ketoacidosis and dehydration. For more information on low blood glucose, high blood glucose, and ketones, refer to *Section 6: Diabetes Emergencies*.

## Section 5: Type 2 Diabetes

### Oral Medication

A student with type 2 diabetes may need to take oral medication if improved lifestyle changes (e.g., healthy food choices and increased physical activity) do not lower blood glucose levels. Metformin is an oral medication used in students with type 2 diabetes. Metformin helps the body use insulin and reduces the release of glucose stored in the liver. Students taking oral medication may need medication dose adjustments to optimize blood glucose control. Students on oral medication for diabetes should consult with their health care provider if using any other over-the-counter and/or prescription drug. This includes birth control, alcohol, or other illicit drugs. Table 10 provides information on common oral medications used to treat type 2 diabetes.

**Table 10: Common Oral Blood Glucose Lowering Agents for Type 2 Diabetes**

| Drug Class                  | Blood Glucose Most Affected | SMBG* Testing to Recommend            | Greatest Risk for Hypoglycemia                         | Examples  |
|-----------------------------|-----------------------------|---------------------------------------|--|---|
| Sulfonylureas               | Fasting and postprandial    | 2-3 times per day, especially fasting | 4-6 hr after meal and fasting                          | For common generic and brand names for each class, see the Wisconsin Diabetes Mellitus Essential Care Guidelines 2008 |
| Meglitinide                 | Postprandial                | 2 hr after meal                       | 2-3 hr after meal                                      |   |
| Biguanide▲                  | Fasting                     | Fasting                               | Unlikely if used as single agent                       |   |
| Alpha-glucosidase inhibitor | Postprandial                | 2 hr after meal                       | None if used as single agent                           |   |
| Thiazolidinedione           | Fasting and postprandial    | 2-3 times per day, especially fasting | After exercise when used with sulfonylureas or insulin |   |

Combination products also exist; see the Wisconsin Diabetes Mellitus Essential Care Guidelines 2008

Adapted from: Wisconsin Diabetes Prevention and Control Program, Department of Health Services (2008). Wisconsin Diabetes Mellitus Essential Care Guidelines, 4:18-19.

\*Self-monitoring of blood glucose

▲ Metformin is currently the only oral glucose lowering agent approved for use in students <18 years old.

### Insulin

When diet changes, increased physical activity, and the use of oral medication do not lower blood glucose levels into the optimal range, a treatment plan for students with type 2 diabetes may include insulin. Special circumstances may exist where insulin is required (e.g., illness, pregnancy) or temporarily needed to reduce blood glucose levels quickly. However, once blood glucose is under control, insulin may be stopped and oral medication started or resumed. For more information on insulin, refer to the insulin content in *Section 4: Type 1 Diabetes*.

## Section 5: Type 2 Diabetes

### Sharps Disposal

State law requires the disposal of all sharps generated from insulin syringes, pen needles, infusion sets, and lancets in an approved sharps container – not in the regular trash. Schools will likely have varying policies and procedures for disposing of sharps; therefore, it is important for school personnel to be aware of their own school district’s specific policies and procedures.

Wisconsin has an active sharps collection program. This program is based on a state law that requires everyone to separate sharps from other waste. Free information and resources on sharps disposal resources and publications are available through the Wisconsin Department of Natural Resources (DNR). For additional information about sharps disposal in Wisconsin, go to the Wisconsin DNR web site: <http://dnr.wi.gov/org/aw/wm/medinf/>.





## Section 6: Diabetes Emergencies

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### SECTION OVERVIEW

- General Overview
  - Low Blood Glucose (Hypoglycemia)
  - Glucagon
  - High Blood Glucose (Hyperglycemia)
  - Diabetic Ketoacidosis
  - Monitoring Ketones
  - Emergency Medical Services for Children Program
- 

### General Overview

Diabetes emergencies<sup>5</sup> can happen at school in students with type 1 diabetes and type 2 diabetes. Preventing these emergencies is ideal, but not always possible. Four common diabetes emergencies may occur at school:

- Low blood glucose (hypoglycemia)
- Severe low blood glucose, requiring Glucagon administration
- High blood glucose (hyperglycemia)
- Diabetic ketoacidosis (DKA)

These diabetes emergencies occur more often in students with type 1 diabetes. However, emergencies may occur in students with type 2 diabetes on oral medication and/or using insulin. Blood glucose levels can change quickly (especially in younger students), resulting in either low or high blood glucose levels. Many factors can cause high or low blood glucose level, including:

- Insulin action time (how fast insulin works)
- Time of insulin injection
- Type, amount, and time that food is eaten
- Activity level
- Illness and/or injury
- Climate changes
- Hormonal changes
- Growth and development
- Stress

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<sup>5</sup> School personnel should use sound professional judgement in deciding whether to call 9-1-1. This should be based on all relevant facts and circumstances.

# Diabetes Emergencies

As part of the school's emergency policies and guidelines, procedures must be established to ensure the implementation of medical accommodations, educational aids, and services during a diabetes emergency. Sole reliance on 9-1-1 and other emergency medical personnel are not a substitute for providing diabetes care as set forth therein.<sup>6</sup> The development of an Emergency Action Plan ensures appropriate action steps are in place to assist school personnel in knowing how to help a student during a diabetes emergency. Emergency medical alert bracelets or necklaces also help ensure people will know the student has diabetes and/or know how to assist during an emergency situation. *Section 10: Life at School* provides additional information on the Emergency Action Plan.

## Low Blood Glucose (Hypoglycemia)

Low blood glucose (also called hypoglycemia or insulin reaction) occurs when a blood glucose level drops below 70 mg/dL.<sup>7</sup> **Low blood glucose episodes may happen in spite of strict attention to controlling blood glucose levels.** Low blood glucose can occur at any time a student takes insulin and/or oral medication.

Sometimes symptoms of low blood glucose are mistaken for misbehavior. Unusual behavior, mood changes, or odd physical characteristics may indicate low blood glucose. **If a student with diabetes has a sudden change in behavior or is behaving differently than usual, treat the situation as a low blood glucose (hypoglycemic) emergency.** Some students may not recognize the signs and symptoms of low blood glucose. This can occur if the student is very young, was more recently diagnosed, or has hypoglycemia unawareness. Information contained in the Diabetes Medical Management Plan (DMMP) lists a student's most common or usual symptoms of low blood glucose.

Low blood glucose is a dangerous, life-threatening complication of diabetes. Low blood glucose is a complication of diabetes and often happens suddenly. If low blood glucose is suspected, it is important to treat immediately. If the blood glucose level cannot be checked, treat the student's symptoms as low blood glucose. **A student having a low blood glucose or suspected of having a low blood glucose must never be left alone or sent alone to another location, as a student who is experiencing symptoms and is unaccompanied is in a potentially dangerous situation. Symptoms of low blood glucose (e.g., shaky, weak, dizzy, confused) may cause a student to pass out/fall, causing a preventable injury. A student should always be accompanied, as the accompanying person would be able to get help for the student, leading to a quicker response to the emergency.**

Treat a low blood glucose that is mild or moderate with a fast-acting carbohydrate (e.g., milk, fruit juice, glucose gel, glucose tablets). The student's family typically provides the school with fast-acting carbohydrates that a student will use to treat low blood glucose levels. Keep fast-acting carbohydrates in several convenient locations (e.g., classrooms, locker, health office, physical education office, physical education teacher's clipboard, and school bus) and/or have fast-acting carbohydrates accessible at all times for students taking insulin.

Students with type 2 diabetes may also be at risk for low blood glucose (hypoglycemia) if they take oral medication and/or insulin. Medication and/or insulin may need adjusting to prevent low blood glucose if these students:

- Incorporate daily physical activity
- Reduce amount of food eaten and/or eat healthier foods consistently
- Are successful at losing > 5% of body weight if overweight

For more information on low blood glucose (hypoglycemia), including the symptoms and actions to take, refer to the tip sheet "Low Blood Glucose (Hypoglycemia) Action Plan" in *Section 2: Quick Tip Sheets*.

<sup>6</sup> See *Silsbee Independent School Dist.*, 25 IDELR 1023 (Tex. SEA 1997).

<sup>7</sup> Some organizations will use a higher number to define low blood glucose (i.e., 80 mg/dL); however, for purposes of this document, consensus determined low blood glucose to be defined as < 70 mg/dL.

## Glucagon

Glucagon is a hormone that causes the liver to release stored glucose into the bloodstream. Glucagon is used to raise blood glucose quickly in someone with diabetes who is found unconscious and/or unresponsive. Glucagon is only administered by injection. Glucagon is a life-saving treatment for severe hypoglycemia. **An injection of Glucagon cannot harm a student.** In Wisconsin, (non-health care) school personnel can give Glucagon.<sup>8</sup> If Glucagon is given, 9-1-1 must be called as indicated by school district policies and procedures. Give Glucagon if student is:

- Unable to take liquids or solids by mouth safely
- Confused or unable to follow commands or directions
- Unresponsive or unconsciousness (cannot wake up or arouse)
- Having a seizure or convulsion

According to the Wisconsin Good Samaritan Law, “any person who renders emergency care at the scene of any emergency or accident in good faith shall be immune from civil liability for his or her acts or omissions in rendering such emergency care.”<sup>9</sup> School personnel must know what a Glucagon kit looks like, where the kit is kept, and when and how to give Glucagon. A Glucagon kit contains 1 mg of freeze-dried Glucagon (in a vial) and 1 ml of water (in syringe) to combine with the Glucagon before use. The two companies that supply Glucagon kits are Novo Nordisk and Eli Lilly. Figure 6 shows the two Glucagon kits available in the United States.

**Figure 6: Glucagon Kit Examples**



*Glucagon Emergency Kit – Eli Lilly*

Source: [www.ChildrenWithDiabetes.com](http://www.ChildrenWithDiabetes.com)



*GlucaGen® HypoKit® – Novo Nordisk*

Designated school personnel should be trained to give Glucagon in case of a severe low blood glucose (hypoglycemic) emergency. For more information on Glucagon administration, refer to the tip sheet titled “Steps for Giving Glucagon,” in *Section 2: Quick Tip Sheets*. There is also an educational webcast on Glucagon injection, available at: <http://media2.wi.gov/DPI/Viewer/?peid=c5642169-b6e9-4452-a64f-d0ccfa60dfed>. A “Delegating Glucagon Administration” form is available in *Section 14: Tools*.

<sup>8</sup> Wis. Stat. §118.29(2)(a)(2r).

<sup>9</sup> Wisconsin Good Samaritan Law, §895.48(1)

## High Blood Glucose (Hyperglycemia)

Hyperglycemia is a high blood glucose level, typically defined as a blood glucose  $> 250$  mg/dL. Students may have symptoms of high blood glucose (e.g., thirst, tiredness, headache), but they may also have no symptoms. Blood glucose levels change frequently; however, when blood glucose levels are consistently  $> 250$  mg/dL, there is cause for concern. High blood sugars can be caused by:

- Inadequate insulin/oral medication
- Stress
- Illness/sickness
- Certain behaviors (e.g., poor self-management due to rebellion/defiance)

Regardless of the cause of high blood glucose, action is required (e.g., checking for ketones). High blood glucose resulting from lack of insulin can lead to diabetic ketoacidosis (DKA), a life threatening complication of diabetes. Persistent high blood glucose levels can lead to short-term concerns for students (e.g., growth and development), as well as long-term diabetes complications (e.g., eye, nerve, and kidney problems). Both short- and long-term complications could affect a student's ability to learn and benefit from education.

The most common immediate treatment of a high blood glucose level is a supplemental dose of rapid-acting insulin. This supplemental insulin is usually called a correction bolus or correction dose of insulin. A student's Diabetes Medical Management Plan (DMMP) should indicate whether supplemental insulin injection or bolus between meals will be needed during school for students with type 1 diabetes and students with type 2 diabetes taking insulin.

Concerns of persistent high blood glucose should be shared with parents/guardians so adjustments to a student's treatment regimen can be made. For more information on high blood glucose (hyperglycemia), refer to the tip sheet "High Blood Glucose (Hyperglycemia) Action Plan" in *Section 2: Quick Tip Sheets*.

## Diabetic Ketoacidosis

Diabetic ketoacidosis (DKA) is a dangerous life-threatening condition that may occur when **blood glucose levels are high or persistently high (usually  $\geq 250$  mg/dL) and ketones are present**. A **single** high blood glucose reading of  $\geq 250$  mg/dL **without** the presence of ketones should be monitored and rechecked in 2 hours to assess if the condition is worsening and/or to ensure blood glucose level is improving. **DKA is a medical emergency**. A common cause of DKA is not taking enough insulin. Illness can also increase the risk of DKA. DKA can also occur with late diagnosis of type 1 diabetes (and in rare occasions, type 2 diabetes). With not enough insulin to help the body use glucose, the body uses fat as a source of energy. When the body uses fat for energy, toxic by-products called ketones are released. Buildup of ketones in the body can lead to DKA. Common symptoms associated with DKA include:

- Nausea and/or vomiting
- Stomach cramps/pain
- Sweet/fruity odor to breath
- Sleepiness and/or lethargy, weakness
- Confusion, inattentiveness, or other behavior change
- Dehydration
- Thirst/dry mouth
- Deep, fast, labored breathing

# Diabetes Emergencies

The risk of DKA is high if the student has a blood glucose level of  $\geq 250$  mg/dL<sup>10</sup> and/or moderate to large ketones; therefore, school personnel must follow the student's Diabetes Medical Management Plan and contact the parent/guardian to arrange for the student to go home and/or seek medical attention. Students with DKA appear very ill and frequently require hospitalization. School personnel should use sound professional judgement in deciding whether to call 9-1-1. This should be based on all relevant facts and circumstances.

DKA is not a common condition for students with type 2 diabetes, but it can occur. DKA may be more likely to occur in a student with type 2 diabetes when the student:

- Is ill
- Has an infection
- Was recently diagnosed with diabetes

Another potential complication for students with type 2 diabetes is Hyperosmolar Hyperglycemic Nonketotic Coma. This condition occurs less frequently than DKA and typically occurs in people with type 2 diabetes over age 50; however, it can occur in children and adolescents. Infection and poorly-controlled diabetes are the most common causes.

## Monitoring Ketones

Testing for ketones is recommended during periods of illness, infections, injury, or when blood glucose levels are  $\geq 250$  mg/dL.<sup>9</sup> High blood glucose levels with positive ketones can lead to diabetic ketoacidosis (DKA). Checking for ketones can assist with early detection of DKA. Ketones are produced when the body burns fat for energy due to lack of insulin. A lack of insulin may lead to the breakdown of fat. When this occurs, ketones form and can be detected in the blood and the urine.

Checking for ketones is done one of two ways: a simple urine test using a special strip or by obtaining a blood sample from a fingerstick. (A special monitor is needed to test for ketones in the blood.) There are several products available for urine ketone testing and they can be obtained at any pharmacy without a prescription (e.g., Ketostix). A ketone test result will be either negative or positive. Positive results can range from small to moderate to large amounts of ketones. Students with high blood glucose and moderate to large ketones should have their parents/guardians called and arrangements made to be excused from school. Schools are not positioned to manage this pending diabetes emergency situation.

The Quick Tip Sheet "Checking for Urine Ketones and Tips for Understanding Results" provides information on ketones and action steps to consider and is found in *Section 2: Quick Tip Sheets*. Situations do occur when a student may have positive ketones but does not have a high blood glucose level and other situations when a student has a high blood glucose level but negative ketones. The presence of ketones could mean:

- Not enough insulin was taken
- Insulin delivery was interrupted
- Student requires more insulin
- Illness, infection, or injury
- Weight loss is occurring

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<sup>10</sup> This level may be different for a particular student. Refer to the student's Diabetes Medical Management Plan for additional information.

## Emergency Medical Services for Children Program

The Emergency Medical Services for Children (EMSC) Program is focused on improving the quality of emergency care for children in Wisconsin by ensuring the availability of appropriate resources and trained school personnel to effectively meet the emergency care needs of a critically ill and injured child. Children have special needs and require a different approach to care than adults. The EMSC Program goals are to:

- 1.** Ensure the availability of state-of-the-art emergency medical care for an ill or injured child and adolescent when needed
- 2.** Ensure pediatric services are well integrated into the existing state emergency medical services (EMS) system and backed by optimal resources
- 3.** Ensure emergency services include primary prevention of illness and injury, acute care, and rehabilitation, to children and adolescents at the same level as adults

Maintaining medical records and emergency information forms are essential for ensuring care coordination for students with special health care needs. The Emergency Information Form for Children with Special Needs can assist with coordination of care. A copy of this form is available in *Section 14: Tools* and is at: [http://www.medicalhomeinfo.org/tools/emmer\\_med.html](http://www.medicalhomeinfo.org/tools/emmer_med.html). For more information on emergency services, refer to *Section 15: Resources*.



## Section 7: Nutrition for Students with Diabetes

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### SECTION OVERVIEW

- General Overview
  - Nutrients Found in Food
  - Daily Calorie Needs
  - MyPyramid for Kids
  - Carbohydrates and Carbohydrate Counting
  - Insulin-to-Carbohydrate Ratio
  - Healthy Snacks
  - Portion Control and the Plate Method
  - Nutrition Labels
  - Healthy Weight Management
  - Cholesterol
  - School Parties and Special Occasions
  - School Lunch Accommodations
- .....

### General Overview

The United States 2005 Dietary Guidelines describe a healthy diet as one that promotes fruits, vegetables, whole grains, and nonfat or low-fat milk or dairy products. A healthy diet is also low in saturated fat, cholesterol, salt (sodium), added sugars, and minimal amounts of trans fat.

Proper nutrition can help ensure adequate vitamin and mineral intake, essential for healthy growth and development of all children and adolescents. A poor diet and inactive lifestyle are major causes of health problems and death in the United States. Specific diseases and health problems linked to poor diet can include:

- |  |                           |
|--|---------------------------|
| ■ High blood pressure (hypertension)               | ■ Digestive disease       |
| ■ High cholesterol or triglycerides (dyslipidemia) | ■ Iron-deficiency anemia  |
| ■ Type 2 diabetes                                  | ■ Oral disease            |
| ■ Overweight and obesity                           | ■ Malnutrition            |
| ■ Osteoporosis                                     | ■ Some cancers            |
| ■ Constipation                                     | ■ Low levels of Vitamin D |

## Section 7: Nutrition for Students with Diabetes

Schools are an ideal place for all students to learn and practice good nutrition; the classroom is a good place to start. Good nutrition helps students grow, learn, and succeed in school. Well-nourished children are known to have higher test scores, better school attendance, and fewer problems during school.

Healthy eating guidelines for students with diabetes must ensure adequate calories to promote growth and development, including a proper balance of food, insulin and/or medication, and physical activity to achieve optimal blood glucose control.

Healthy food choices are the foundation of diabetes management. There are no forbidden foods for students with diabetes. Special planning to balance good nutrition with treatments (insulin and/or medication) and physical activity allows students with diabetes to participate safely in any activity as students without diabetes. Nutrition recommendations for all students take into account the many factors that can impact eating habits and blood glucose management, including:

- Food preferences
- Cultural influences
- Family eating patterns and schedules
- Physical activity level
- Insulin activity time, type of insulin, and how quickly the insulin works
- Caloric needs based on weight and growth patterns
- Special diet and nutritional needs

### Nutrients Found in Food

Food is the main source of energy for the body. The three major nutrients found in food are: carbohydrates, proteins, and fats. Eating a balance of foods containing these three nutrients is important.

#### 1. Carbohydrates

- Supply the main energy and fuel for the body
- Assist with proper brain and organ function
- Food sources include:
  - Complex carbohydrate foods: breads, cereals, pasta, rice, and starchy vegetables (e.g., potatoes, peas, corn, and lima beans)
  - Simple carbohydrate foods: sugar, honey, syrup, candy, soft drinks, icings, fruits, milk, and fruit juice
- Carbohydrates break down quickly into sugar and are a quick source of energy for the body
- Carbohydrates produce a quick rise in blood glucose levels
- Whole grain carbohydrates are a good fiber source

#### 2. Proteins

- Build and repair body tissues
- Help fight infection
- Promote normal growth and development

## Section 7: Nutrition for Students with Diabetes

- Provide a feeling of fullness and satisfaction
- Food sources include: meat, poultry, fish, eggs, milk, yogurt, cheese, dried beans and peas, nuts, and nut butters
- Proteins eaten as part of a meal may slow absorption of carbohydrates, producing a slower rise in blood glucose levels

### 3. Fats

- Supply a high calorie energy source for the body
- Assist with absorption of fat-soluble vitamins A, D, E, and K
- Provide a feeling of fullness and satisfaction
- Slow the time it takes food to empty from the stomach
- Food sources include: oils, shortening, butter, margarine, mayonnaise, salad dressings, table cream, and sour cream
- Fats eaten as part of a meal may slow absorption of carbohydrates, producing a slower rise in the blood glucose levels

## Daily Calorie Needs

In the United States, a “calorie” is defined as a unit of energy. Daily calorie needs vary from student to student. Requirements are based on the student’s usual intake and growth status. Table 11 provides estimated daily calorie needs for a student based on gender, age, and level of activity.

**Table 11: Estimated Daily Calorie Needs by Sex, Age, and Level of Activity**

|                              | Calorie Range |        |
|------------------------------|---------------|--------|
|                              | Sedentary     | Active |
| <b>Children</b><br>2-3 years | 1,000         | 1,400  |
| <b>Females</b><br>4-8 years  | 1,200         | 1,800  |
| 9-13 years                   | 1,600         | 2,200  |
| 14-18 years                  | 1,800         | 2,400  |
| <b>Males</b><br>4-8 years    | 1,400         | 2,000  |
| 9-13 years                   | 1,800         | 2,600  |
| 14-18 years                  | 2,200         | 3,200  |

Adopted from: United States Department of Agriculture, Center for Nutrition Policy and Promotion (2005). *Estimated Daily Calorie Needs*. Retrieved from: [http://mypyramid.gov/downloads/MyPyramid\\_Food\\_Intake\\_Patterns.pdf](http://mypyramid.gov/downloads/MyPyramid_Food_Intake_Patterns.pdf)

**Sedentary** means a lifestyle that includes only the light physical activity associated with typical day-to-day life.

**Active** means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

## Section 7: Nutrition for Students with Diabetes

### MyPyramid for Kids

MyPyramid for Kids is a guide to healthy eating and physical activity developed by the United States Department of Agriculture. MyPyramid provides information and recommendations for a healthy, well-balanced diet tailored to the needs of children and adolescents. MyPyramid helps students identify what foods and how much food he or she should eat for optimal health. Table 12 provides the recommended daily amount of food from each food group, based on the number of calories consumed. More information on MyPyramid can be found at: [www.mypyramid.gov](http://www.mypyramid.gov). The “MyPyramid for Kids” is included in *Section 14: Tools*.

**Table 12: Daily Amount of Food from Each Food Group**

| Calorie Level                    | 1,200    | 1,400    | 1,600    | 1,800    | 2,000     | 2,200   | 2,400     | 2,600     | 3,200    |
|----------------------------------|----------|----------|----------|----------|-----------|---------|-----------|-----------|----------|
| Fruits                           | 1 cup    | 1.5 cups | 1.5 cups | 1.5 cups | 2 cups    | 2 cups  | 2 cups    | 2 cups    | 2.5 cups |
| Vegetables                       | 1.5 cups | 1.5 cups | 2 cups   | 2.5 cups | 2.5 cups  | 3 cups  | 3 cups    | 3.5 cups  | 4 cups   |
| Grains                           | 4 oz–eq  | 5 oz–eq  | 5 oz–eq  | 6 oz–eq  | 6 oz–eq   | 7 oz–eq | 8 oz–eq   | 9 oz–eq   | 10 oz–eq |
| Meat & Beans                     | 3 oz–eq  | 4 oz–eq  | 5 oz–eq  | 5 oz–eq  | 5.5 oz–eq | 6 oz–eq | 6.5 oz–eq | 6.5 oz–eq | 7 oz–eq  |
| Milk                             | 2 cups   | 2 cups   | 3 cups   | 3 cups   | 3 cups    | 3 cups  | 3 cups    | 3 cups    | 3 cups   |
| Oils                             | 4 tsp    | 4 tsp    | 5 tsp    | 5 tsp    | 6 tsp     | 6 tsp   | 7 tsp     | 8 tsp     | 11 tsp   |
| Discretionary calorie* allowance | 171      | 171      | 132      | 195      | 267       | 290     | 362       | 410       | 648      |

Adopted from: United States Department of Agriculture, Center for Nutrition Policy and Promotion (2005). *Food Intake Patterns*. Retrieved from: [http://www.mypyramid.gov/downloads/MyPyramid\\_Food\\_Intake\\_Patterns.pdf](http://www.mypyramid.gov/downloads/MyPyramid_Food_Intake_Patterns.pdf).

eq means equivalent

\* Discretionary calories: “extra” calories that can be consumed in small amounts, but are not necessary for health or nutrition (e.g., butter and other solid fats, added sugars, alcohol, or more food from any group). Each calorie level has an allowance for some discretionary calories. These calories may be eliminated if weight loss is a goal.

## Section 7: Nutrition for Students with Diabetes

### Carbohydrates and Carbohydrate Counting

Carbohydrates are the body's main source of energy and have the greatest effect on blood glucose levels. Balancing the amount and the type/source of carbohydrate foods throughout the day is one key to controlling blood glucose levels. The amount of carbohydrates per meal is individualized, based on nutrition and weight goals, eating habits, and physical activity level. A registered dietitian assists students with diabetes in selecting a meal plan to help keep blood glucose in the goal range, including matching doses of insulin to carbohydrate content in each meal.

For a list of common foods and their carbohydrate content, refer to the tip sheet titled "Common Carbohydrate Servings and Amounts" in *Section 14: Tools*. Less healthy carbohydrate foods are high in sugar and/or fat and provide poor amounts of vitamins and minerals. Table 13 provides some examples of healthy and less healthy carbohydrate foods.

**Table 13: Healthy and Less Healthy Carbohydrate Foods**

| Healthy Carbohydrate Foods  | Less Healthy Carbohydrate Foods   |
|---|---|
| <ul style="list-style-type: none"><li>▪ Whole grains</li><li>▪ Vegetables</li><li>▪ Fresh or naturally-sweetened fruits</li><li>▪ Dried beans</li><li>▪ Low-fat milk and dairy products</li></ul> | <ul style="list-style-type: none"><li>▪ Soda and juice/juice drinks</li><li>▪ Candy</li><li>▪ Fast foods</li><li>▪ Donuts</li><li>▪ Dessert</li><li>▪ Chips</li></ul> |

Carbohydrate counting is the most common meal planning method. A meal plan typically suggests a specific number of carbohydrate servings or a specific number of grams of carbohydrates for each meal and snack.

|   |  |  |
|---|--|--|
| <b>Carbohydrate</b><br>(Measured in grams)                                  | <b>Also referred to as</b>  | <ul style="list-style-type: none"><li>▪ Carbs</li><li>▪ Carb</li><li>▪ Grams of carbohydrate</li></ul> |
| <b>Carbohydrate serving</b><br>(1 serving = about 15 grams of carbohydrate) | <b>Also referred to as</b>  | <ul style="list-style-type: none"><li>▪ Carbohydrate choice</li></ul>                                  |

Students commonly count carbohydrate grams, rather than servings. The Nutrition Facts food labels (required by law for most food products sold) can assist in determining the serving size and the amount of total carbohydrates (in grams) in one serving of food. Many younger students are not able to count carbohydrates; in these cases, the school must designate someone to assist.

Two common meal plans for students with diabetes are fixed and flexible. A fixed meal plan provides the same amount of carbohydrates at each meal and snack. A flexible meal plan provides the ability to vary the amount of carbohydrates at each meal and snack. The type of insulin regimen and overall weight and nutrition goals will determine the best meal plan for a student. For resources on carbohydrate counting, refer to *Section 15: Resources*.

## Section 7: Nutrition for Students with Diabetes

### Insulin-to-Carbohydrate Ratio

An insulin-to-carbohydrate ratio is used to determine the amount of insulin needed to match the amount of carbohydrate consumed at a meal or snack. Insulin-to-carbohydrate ratios are highly individualized and can change frequently. As students with diabetes grow, insulin needs increase. Younger students may have an insulin-to-carbohydrate ratio of 1:30 (1 unit of insulin for every 30 grams of carbohydrate) and older students may have an insulin-to-carbohydrate ratio of 1:5 (1 unit of insulin for every 5 grams of carbohydrate). The student's Diabetes Medical Management Plan (DMMP) will commonly indicate the insulin-to-carbohydrate ratio to be used during school. Two examples of an insulin-to-carbohydrate ratio for hot lunch are provided below.

#### Example: Hot Lunch Meal (using carbohydrate choices)

Note: for this particular student, the insulin-to-carbohydrate ratio is one unit of insulin for one carb choice (1:1).

Lunch includes:

- 1 slice wheat bread = 1 carb choice
- 3 slices turkey = 0 carb choice
- 1 cup chocolate milk = 2 carb choices
- Fruit cup = 1 carb choice

The total carbohydrate choices for lunch equal 4 carb choices (1 + 0 + 2 + 1).

This student's insulin-to-carbohydrate ratio is 1:1. The total insulin meal bolus is 4 units (4:4).

#### Example: Hot Lunch Meal (using grams of carbohydrate)

Note: for this particular student, the insulin-to-carbohydrate ratio is one unit of insulin for every 15 grams of carbohydrate (1:15).

Lunch includes:

- 1 slice wheat bread = 18 grams of carbohydrate
- 3 slices turkey = 2 grams of carbohydrate
- 1 cup chocolate milk = 28 grams of carbohydrate
- Fruit cup = 22 grams of carbohydrate

The total carbohydrate choices for lunch equal 70 grams (18 + 2 + 28 + 22).

This student's insulin-to-carbohydrate ratio is 1:15. The total insulin meal bolus is 4.7 units ( $70 \div 15 = 4.7$ ).

## Section 7: Nutrition for Students with Diabetes

### Healthy Snacks

Snacks often satisfy hunger between meals. Snacking on healthy food is an excellent way to get the required daily vitamins and minerals. For a list of healthy snack options, refer to the tool titled “Super Healthy Snacks” in *Section 14: Tools*.

Students with diabetes may require snacks between meals (mid-morning and/or mid-afternoon), during school, or during school-sponsored activities to help sustain blood glucose levels. Snacks between meals should be part of a student’s meal plan. Snacks are sometimes a parent’s/guardian’s preference. Snacks are commonly dependent upon the student’s insulin regimen, age, and/or physical activity level. Between-meal snacks that involve carbohydrate foods, especially if the carbohydrate amount is greater than 15 grams, may require insulin. A student’s Diabetes Medical Management Plan should document insulin coverage for snacks, including timing of snacks and snack alternatives in the case of unforeseen circumstances. On occasion, school personnel may need to monitor snack consumption of a student with diabetes.<sup>11</sup>

### Portion Control and the Plate Method

Portion control consists of eating a measured amount of food to promote healthy growth, weight, and balanced nutrition. Students with type 1 diabetes can use portion control to keep track of carbohydrate foods eaten and to count carbohydrates accurately. Students with type 2 diabetes can use portion control to reduce the amount of food eaten to promote or assist with weight loss/weight management.

The Plate Method is a tool used for meal planning that provides a healthy amount of carbohydrates, a lower fat intake, and an increased amount of fruits and vegetables. The tool provides a visual of how much space each type of food should occupy on a plate. This tool can assist some students with diabetes in controlling portion sizes and consuming an appropriate amount of all food groups. The Plate Method is easy to use and may be used in conjunction with other healthy eating tools to monitor carbohydrate intake, assess portion sizes, and assist with weight management for anyone interested in healthy eating.

A typical meal on a standard 9-inch plate includes:

- 1/2 plate: Non-starchy vegetables (e.g., salad, green beans, beets)
- 1/4 of plate: Whole grains or starchy vegetables (e.g., bread, rice, pasta, corn, peas, potatoes)
- 1/4 of plate: Lean meat or another form of lean protein

To the side of the plate:

- 1 small piece of fruit
- 1 cup milk, yogurt, or other low-fat dairy

For more on the Plate Method, refer to the Tip Sheet titled “Meal Planning with the Plate Method: Lunch/Dinner” in *Section 14: Tools*.

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<sup>11</sup> *Renton (WA) School Dist.*, Complaint No. 10-93-1079, 21 IDELR 859 (OCR 1994).

## Section 7: Nutrition for Students with Diabetes

### Nutrition Labels

The Nutrition Labeling and Education Act of 1990 required the majority of food packaging to include a “Nutrition Facts” label that provides information on serving size and number of servings per container. The label also includes information such as: calories, fat, saturated fat, trans fat, cholesterol, sodium, carbohydrates (including fiber and sugar), and protein. For information on how to read a food label, see “How to Use a Food Label to Select Foods” in *Section 14: Tools*.

### Healthy Weight Management

Overweight and obesity in children and adolescents is an increasing concern in Wisconsin, as well as across the United States. In general, overweight and obesity leads to higher risk of premature death, type 2 diabetes, high blood pressure (hypertension), high cholesterol (dyslipidemia), heart disease, stroke, gall bladder disease, breathing difficulties, gout, osteoarthritis, and certain kinds of cancers.

Potential contributing factors to overweight and obesity in students with diabetes are:

- Overeating
- Unhealthy carbohydrate food choices
- Eating foods with high fat, sugar, and carbohydrates that are low in fiber
- Decreased physical activity
- Frequent low blood glucose requiring treatment (fast-acting carbohydrates)
- Over-treating low blood glucose by eating high-calorie carbohydrate foods (e.g., candy bars and cookies)

### Cholesterol

Despite a lack of data on children and adolescents, data from studies in adults demonstrate that when considering risk, having diabetes is equivalent to having had a heart attack, making diabetes a key risk factor for future cardiovascular disease. Therefore, it is important to reduce cardiovascular risk for students with diabetes through lifestyle changes to improve cholesterol (lipid) levels. Children under age eight with elevated cholesterol levels are encouraged to work with a registered dietitian. Medication is an option if lifestyle changes are unsuccessful in lowering cholesterol levels into a safe range.

The goal for LDL-cholesterol in children and adolescents with diabetes is < 100 mg/dL. If LDL-cholesterol is 100 mg/dL or greater, the student should implement a physical activity plan and reduce saturated fat in the diet through support of a registered dietitian. If the student is 10 years or older, the addition of a statin is recommended in students who, after medical nutrition therapy and lifestyle changes, have LDL-cholesterol > 160 mg/dL or LDL-cholesterol > 130 mg/dL and one or more cardiovascular disease risk factors.

Treatment recommendations change as data on the safety and effectiveness of medications for high cholesterol in young people becomes available. For a complete detailed summary and discussion of lipid screening, refer to the 2008 article “Lipid Screening and Cardiovascular Health in Childhood,” available online at: <http://pediatrics.aappublications.org/cgi/content/full/122/1/198> or refer to the current American Diabetes Association Clinical Practice Recommendations, available online at: [http://professional.diabetes.org/CPR\\_search.aspx](http://professional.diabetes.org/CPR_search.aspx).

## Section 7: Nutrition for Students with Diabetes

### School Parties and Special Occasions

Schools often have special occasions throughout the school year that involve extra food besides the usual lunch. School parties and special occasions provide an opportunity to share and celebrate important events in daily life, are an important part of social learning at school, and are an important opportunity to introduce students to new foods and improve nutrition. Many schools offer healthier selections during special events at school. Providing and encouraging more nutritious alternatives in place of traditional high-sugar, high-fat treats is a healthful approach for schools and students. Healthy foods can taste good and be presented in a fun way. Figure 7 provides a few examples on making healthy foods fun.

**Figure 7: Examples of How to Make Foods Fun**



Some healthy school treats include:

- Fruit and cheese kabobs
- Sugar-free Jell-O with fruit in it
- Apple slices and peanut butter (or other nut butter to avoid peanut allergy)
- Homemade trail mix: dried fruit, unsweetened cereal, nuts, and sunflower/pumpkin seeds
- Whole grain banana, zucchini, or pumpkin bread
- Baked apples and cinnamon mixed with plain yogurt
- Pita chips with low-fat flavored cream cheese

Students with diabetes can have special occasion treats unless their parents object. However, high sugar treats are often high in fat and low in nutritional value. Schools are beginning to promote non-food rewards and incentives and offer sugar-free treats. **Although sugar-free, these items may still contain carbohydrates that can raise a student's blood glucose.** Planning ahead and providing advance notice to families offers the family time to choose an alternate food, designate the amount of the food the student may have, or to arrange for an additional bolus or insulin injection to reduce blood glucose levels resulting from additional carbohydrates eaten.

## Section 7: Nutrition for Students with Diabetes

### School Lunch Accommodations

Students with diabetes must have the same opportunities as other students to receive education and education-related benefits (e.g., school meals). Students will either bring lunch from home or receive school hot lunch. Accommodations may require substitutions to standard meals where a substitution is medically needed or required. The U.S. Department of Agriculture (USDA), the Americans with Disabilities Act and regulations governing the National School Lunch and School Breakfast Programs, require substitutions in regular meals for students unable to eat the usual school meals because of their disability. A physician must certify the substitution modifications and complete the Children with Special Health Care Needs Eating and Feeding Evaluation form. For more information, see “Accommodating Children with Special Dietary Needs in the School Nutrition Programs: Guidance for School Food Service Staff” from the USDA Food and Nutrition Service:

[http://www.fns.usda.gov/cnd/Guidance/special\\_dietary\\_needs.pdf](http://www.fns.usda.gov/cnd/Guidance/special_dietary_needs.pdf)

Other accommodations for meals/snacks for students with diabetes may include:

- Allowing adequate time to eat a meal or snacks
- Keeping food or snacks available in the classroom
- Availability of fast-acting carbohydrate sources
- Obtaining a school menu in advance (including carbohydrate content)
- Advance notice for special parties or school events

Schools must provide a clear distinction between “as prepared” and “as purchased” when providing information on carbohydrates, protein, or fat content of foods. This assists the student and/or family to accurately pre-count the carbohydrate in the meal to ensure the correct amount of insulin is given. Pre-planning is an excellent strategy to accommodate students with less flexibility, especially those with fixed insulin doses at each meal. Students may need assistance with counting carbohydrates and obtaining nutrition information, including standard portion size of each food item available at school (determined by federal regulations).



# Section 8: Physical Activity for Students with Diabetes

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## SECTION OVERVIEW

- General Overview
  - Physical Activity and Diabetes
  - Supporting Physical Activity at School
- .....

## General Overview

Physical activity is fundamental to a healthy lifestyle for all children and adolescents. Participation in physical education class and school-sponsored activities promotes a healthy lifestyle and preserves health. Physical activity is essential for students with diabetes and critical in assisting with diabetes management. Benefits of regular physical activity for students with diabetes include:

- Improved blood glucose control
- Increased insulin sensitivity
- Decreased heart disease risk factors (e.g., high blood pressure, high cholesterol)
- Effective weight management (if needed)
- Increased physical endurance
- Reduced stress

Numerous studies show long-term consequences of inactivity lead to health problems in students. Overweight and obesity, influenced by inactivity and poor diet, are increasing. Children and adolescents do not usually develop chronic diseases, such as heart disease, high blood pressure, type 2 diabetes, or osteoporosis. However, risk factors for these diseases can begin to develop early in life. Regular physical activity can reduce risk for developing chronic disease.

## Section 8: Physical Activity for Students with Diabetes

Children and adolescents can achieve substantial health benefits by participating in moderate- and vigorous-intensity physical activity consisting of 60 minutes (1 hour) or more of daily physical activity. The 60 minutes do not have to be all at one time. Activity can be divided into several shorter periods of physical activity. Physical activity includes aerobic activity as well as muscle- and bone-strengthening activities. Encouraging children and adolescents to participate in physical activities that are appropriate for their age, enjoyable, and offer variety is important.

- **Aerobic:** Most of the 60 or more minutes a day should include moderate- or vigorous-intensity aerobic and vigorous-intensity general physical activity at least 3 days a week (e.g., running, hopping, skipping, jumping rope, swimming, dancing, and bicycling).
- **Muscle-strengthening:** Part of the 60 or more minutes of daily physical activity should include muscle-strengthening physical activity on at least 3 days of the week. Unstructured muscle-strengthening activities, such as playing on playground equipment, climbing trees, and playing tug-of-war, are acceptable. Structured activities can also be structured, such as lifting weights or working with resistance bands, are also acceptable.
- **Bone-strengthening:** As part of their 60 or more minutes of daily physical activity, students should include bone-strengthening physical activity on at least 3 days of the week. Running, jumping rope, basketball, tennis, and hopscotch are all examples of bone-strengthening activities illustrating that bone-strengthening activities are also aerobic and muscle-strengthening.

For more information on physical activity guidelines for children and adolescents, refer to *Section 15: Resources*. An activity pyramid for children and adolescents can help teach strategies for becoming more physically active on a regular basis. This “MyActivity Pyramid” is included in *Section 14: Tools*.

## Physical Activity and Diabetes

Participation in physical activity or school-sponsored activities is safe for all students with diabetes. In general, physical activity (exercise) lowers blood glucose levels. Participating in school-sponsored physical activities is exciting and rewarding. Diabetes must not keep a student from participating. Pre-planning is essential to prevent low blood glucose from interfering with any activity. Physical education teachers and coaches can prepare for assisting a student with diabetes by having fast-acting carbohydrates readily available at all times (e.g., tape glucose tablets to clipboard). Students may be at risk for post-exercise low blood glucose (also known as delayed hypoglycemia) after engaging in physical activity. Strategies to reduce risk of low blood glucose include:

- Increasing frequency of self-monitoring of blood glucose (before, during, and after physical activity)
- Decreasing amount of insulin taken for planned physical activity
- Increasing carbohydrate intake for planned physical activity
- Keeping fast-acting carbohydrates readily available for treatment of low blood glucose
- Knowing risk for low blood glucose episodes can last for up to twenty-four hours after participating in physical activity, especially in students with type 1 diabetes

## Section 8: Physical Activity for Students with Diabetes

The student's Diabetes Medical Management Plan (DMMP) should provide the guidance necessary to implement accommodations needed for full participation in activities. Advance planning can include adjustments to insulin/oral medication and adjustments to food intake. During scheduled or school-sponsored physical activity, any student with diabetes on insulin or oral medication should have fast-acting carbohydrates, glucose monitor, insulin (when appropriate), and water available. It is essential to inform and train coaches and others to ensure that they are aware of the student's diabetes. **Due to increased risk for low blood glucose during physical activity, school personnel must know how to assist in the event of low blood glucose levels.** School personnel must be trained to provide the necessary assistance when a low blood glucose occurs. *Section 4: Type 1 Diabetes* and *Section 5: Type 2 Diabetes* provide more specific information on physical activity as it relates to the type of diabetes.

### Supporting Physical Activity at School

A school can enhance the physical education (PE) curriculum beyond the minimum standards to emphasize active time versus classroom activities. This could include using a PE curriculum that has proven benefits and using PE homework and extra credit to supplement PE time. Schools should encourage active recess and allow access to recreation facilities after school and during evening hours.

School districts, parent-teacher organizations, local nutrition and physical activity coalitions, and other community groups can work together to encourage safe walking and biking to school. For resources on incorporating physical activity lessons into the school day, refer to the "Supporting Healthy Lifestyles in the Schools" area in *Section 15: Resources*.





# Section 9: Special Circumstances for Students with Diabetes

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## SECTION OVERVIEW

- Planning for School-Sponsored Activities
- Disaster Planning
- Eating Disorders
- Celiac Disease
- Illegal Drugs, Alcohol, and Tobacco Use
- Emotions
- Depression in Students with Diabetes
- Teen Pregnancy
- Sick-Day Management
- Medical Home
- Diabetes Across the Life Span
- Transitioning to Adulthood/Life After High School

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## Planning for School-Sponsored Activities

School-sponsored activities (e.g., field trips, overnight trips, bus trips) require advanced planning. Parents/guardians must work with the school nurse and school personnel to preplan for these events and determine how the needs of the student with diabetes will be met. The following checklist identifies diabetes supplies that should be available during all school-sponsored activities:

### Checklist for School-Sponsored Activities

- A copy of the student's Diabetes Medical Management Plan (DMMP), Section 504 Plan, Emergency Action Plan, and Healthcare Plan
- Blood glucose monitor and test strips
- Fast-acting carbohydrate source (e.g., milk, fruit juice, glucose gel, glucose tablets)
- Bag lunch or snack (optional)
- Injection/insulin pump supplies and insulin with appropriate storage to prevent spoilage of insulin (if using insulin)
- Continuous glucose monitor (CGM) information
- Glucagon kit (if using insulin)

## Section 9: Special Circumstances for Students with Diabetes

Schools need to ensure trained school personnel are available to assist and protect a student's health and safety during school-sponsored activities. For students with diabetes, school districts are required to send a chaperone who is a school district appointee. This designated person must be trained to assist the student in routine and emergency care. A school district appointee or family member of the student, if the family member is willing and able to accompany the student, can serve as a chaperone. Parental attendance at a field trip can not be required for the student to participate. This person must be informed of and provided with instructions regarding the student's diabetes care in a confidential manner.

Emergency Glucagon administration may be necessary in the event of a severe low blood glucose episode during any school-sponsored activity. If a school nurse is not available during a school-sponsored activity, designated and trained school personnel must be identified as the primary contact for questions or concerns, and be capable of responding to an emergency.

Field trips and bus trips require advance planning. Federal law states that students with diabetes can eat a scheduled or additional meal/snack on the bus if necessary. Parents/guardians should work with the school nurse or designated school personnel to determine special instructions and needs of the student and how to meet these needs during travel.

Arriving before and/or staying after school requires planning in advance. Blood glucose monitoring, after-school snacks, changes in physical activity, and/or insulin injections are routine for students with diabetes and must be accommodated in any school-sponsored activity. These before- and after-school diabetes routine needs are commonly identified in the Section 504 Plan.

### Disaster Planning

Schools, parents/guardians, and students need to plan ahead and prepare in the event of a disaster or other event (e.g., lock-down). Regardless of the type of disaster, disruption to the diabetes plan of care may occur. Disasters and other events, including ice storms, blizzards, tornados, fires, earthquakes, or more recent concerns about terrorist attacks, have increased awareness of the need to be prepared in the event of a disaster.

Students and their parents/guardians need to take time to plan ahead and prepare for an emergency of any kind, including an evacuation or lock-down at school. Having adequate diabetes care supplies available in the event of an emergency is important. Wearing medical identification enables colleagues, school personnel, and emergency medical personnel to identify and address medical needs of students with diabetes.

Parents/guardians can work with schools to identify school personnel who will assist in the event of a disaster or other event. Students living away from home should consider informing their colleagues, friends, and extended family members about their diabetes and where their emergency supply kit is kept. These strategies can make a difference in maintaining blood glucose control in an emergency situation. For more resources on emergency and disaster planning, refer to *Section 16: Resources*.

## Section 9: Special Circumstances for Students with Diabetes

### Eating Disorders

Anorexia nervosa and bulimia nervosa are two eating disorders that can cause long-term negative health outcomes for any student, including those with diabetes. Anorexia nervosa involves a severe, self-imposed restriction of food often accompanied by excess levels of physical activity. Bulimia nervosa involves binge eating followed by purging (vomiting). Bulimia may also involve the use of diuretics and laxatives.

Eating disorders can contribute to both short- and long term medical and health consequences. Eating disorders occur more frequently in females; however, eating disorders are being identified in males. Students with type 1 or type 2 diabetes may show warning signs of eating disorders (e.g., eat tiny amounts, deny hunger, eat in private, leave room immediately after eating).

Students with an eating disorder may manipulate their insulin regimens or may purposefully not take their insulin. Some students with type 1 diabetes (especially those with weight concerns) may intentionally eliminate insulin to cause weight loss. This dangerous behavior can result in poor blood glucose control, lead to the presence of ketones in urine/blood (with unusually high occurrences), and possibly lead to DKA, or even death. Eating disorders require specialized treatment and intervention. Early detection and referral to a specialist who works with eating disorders is essential.

### Celiac Disease

Celiac disease is an autoimmune disorder that results in inflammation in the upper small intestine when gluten (e.g., wheat, barley, or rye) is eaten. With celiac disease, the lining of the small intestine becomes inflamed and flattens out, making it hard for food and nutrients to be properly absorbed. Celiac disease is more common in people with type 1 diabetes. About 10% of children and 2% of adults with type 1 diabetes have celiac disease, compared to just 1% of the general population. Celiac disease is commonly diagnosed between two and five years after the diagnosis of type 1 diabetes. Celiac disease is also referred to as gluten-sensitive enteropathy, nontropical sprue, or celiac sprue.

People with celiac disease often have common gastric symptoms (e.g., diarrhea, abdominal pain, and bloating); however, some people may not have any of these symptoms. Undiagnosed or untreated celiac disease poses increased risk of developing low blood glucose due to poor absorption of food in the small intestine. Adjusting insulin regimens and careful blood glucose monitoring is required. The only known treatment for celiac disease is a strict, lifelong, gluten-free diet. To remove gluten entirely from the diet is very difficult, as hidden sources of gluten are in many processed foods, non-food items, and medications. Seeking support from a registered dietitian with expertise in celiac disease is critical. Helpful resources for those with celiac disease can be found at: [www.celiac.com](http://www.celiac.com).

## Section 9: Special Circumstances for Students with Diabetes

### Illegal Drugs, Alcohol, and Tobacco Use

For students with diabetes, use of illegal drugs and alcohol can complicate diabetes management.<sup>12</sup> Increased alcohol can be associated with episodes of depressive disorders, disruptive behavior, illegal drug use, and daily tobacco use.

Like alcohol, use of drugs such as marijuana, amphetamines, ecstasy, and cocaine can affect diabetes self-management and blood glucose control. Data indicate that student drug use can lead to poor choices and increased risk-taking behaviors. Illegal drug use and/or alcohol use may increase the risk of diabetes emergencies. Low blood glucose risk is increased if a student uses alcohol and/or illegal drugs and/or skips a meal after taking insulin.

Tobacco use is commonly associated with alcohol and illicit drug use, acting as a “gateway drug.” Students with diabetes who use tobacco increase their risk of diabetes-related complications. In Wisconsin, a total of 21% of high school students and 4% of middle school youth are current cigarette smokers. Furthermore, 7% of high school students and 2% of middle school youth are current users of smokeless tobacco.

Cigarette smoking during childhood and adolescence produces significant health problems among young people, including an increase in the number and severity of respiratory illnesses and decreased physical fitness.

Resources to help students and families quit smoking are available in *Section 16: Resources*. Resources are also available in *Section 16* for students on dealing with peer pressure and for parents on how to talk with your child about difficult topics.

### Emotions

Dealing with various emotions and feelings are sometimes a challenge for a student with diabetes and his or her family. Understanding how different feelings and emotions can impact diabetes self-care and management is important. Positive self-management and attention to diabetes self-care can be related to emotional and psychological health. Students with diabetes will vary in their ability to cope with the demands of diabetes. Negative feelings and emotions must be taken seriously and carefully monitored. Poor coping strategies can lead to low self-esteem, low self-worth, lack of confidence, poor self-image, and other emotional and psychological disorders, including depression.

The diagnosis of diabetes can have a major impact on the entire family. Each family member may be affected and may deal with the diagnosis individually. Emotions and feelings can change as the student goes through different stages of development. Dealing with feelings openly can help the student with diabetes and his or her family learn to adapt to the daily challenges of diabetes. Feelings and emotions experienced by students with diabetes and/or their family members may include:

#### Denial

*“This can’t really be happening.”*

*“I don’t need to take my insulin today.”*

*“It’s not that serious.”*

<sup>12</sup> Disclaimer: The legal drinking age in Wisconsin is 21 and illicit drug use is illegal. While authors of this Guide do not condone underage drinking or illicit drug use, we understand the reality that young adults may choose to drink alcohol and/or use illicit drugs.

## Section 9: Special Circumstances for Students with Diabetes

*"No one has to know I have diabetes."*

*"Maybe it will go away."*

Students with diabetes and/or family member(s) at times may find it difficult to talk about having diabetes. At times, the student or parent/guardian may try to hide his or her feelings to be "strong" or not to upset their family. Denial can interfere with the student's ability to adjust to the daily tasks needed for optimal self-management.

Asking a student how he or she is feeling about having diabetes and encouraging the student to talk about how he or she is feeling can assist in addressing denial. If denial is suspected, securing help from a professional is essential. School counselors, social workers, school nurses, pediatricians, child psychologists, or behaviorists are examples of professionals that can assist a student and/or family.

### Sadness

*"I don't want to think about my diabetes."*

*"Yesterday I did not want to go out and play."*

*"I cry in my bedroom."*

Students with diabetes or family members may feel sad, down, depressed, or hopeless. Sadness lasting for more than just a brief period can lead to depressed or hopeless feelings and prevent a student from attending school or participating in activities he or she once enjoyed. Changes in sleep or eating patterns, increased isolation, or decreased social interaction are signs of depression. Sadness, like any other emotion, must be acknowledged. Sharing feelings about how sad one feels is important. If sadness continues or appears to increase, seeking help from an experienced professional is essential.

### Anger

*"Why did this happen to my child?"*

*"I don't care about my blood sugars!"*

*"This isn't fair!"*

*"I don't want to take any more shots."*

*"I hate having diabetes."*

Anger is a normal feeling and coping strategy. Anger can interfere with self-management of diabetes. Anger can be turned inward (targeted toward self) or outward (targeted toward someone else, such as health care providers, friends, siblings, or teachers). Prolonged and/or unresolved anger can have negative consequences when it is not managed or expressed appropriately or effectively.

Finding healthy ways to address and resolve anger is essential. Physical activity is a positive coping strategy that may help a student or family member feel less anger. Practicing relaxation techniques can also help to decrease anger. Seeking support from others or from a professional can assist a student in learning healthy ways to cope.

### Fear

*"What will this mean for my daughter's life?"*

*"What's going to happen when I go to school?"*

*"I am so scared to ever leave him alone."*

*"I'm afraid to go on an insulin pump."*

## Section 9: Special Circumstances for Students with Diabetes

Fear is a normal, natural, and, many times, healthy response. Fear is usually a perceived feeling in response to a stressful situation or event. A student and/or family member may feel or express fear from time to time. Parents'/guardians' fears are sometimes related to responsibility and expenses, while a student's fears may be about the future and his or her ability to manage diabetes.

Fear should never keep a student with diabetes from joining an activity or event. Professional support and counseling can help students learn how to address their fears, as well as gain faith and trust in themselves while learning positive ways to cope.

### Guilt

*"I ate too much, and that is why my blood sugar is high."*

*"I did not eat the right food."*

*"I didn't exercise."*

*"I gave myself too much insulin and caused the low blood sugar."*

*"I am overweight, and it is all my fault."*

Guilt is commonly a feeling of responsibility or remorse for a wrongdoing that is either real or imagined. For example, students may feel that they overate with friends, causing their blood glucose to rise too high. Parents/guardians may feel their action or lack of action caused the diabetes or a high blood glucose. A student may feel guilty if he or she sneaks extra candy, skips testing blood glucose, or lies about blood glucose results. Parents/guardians may feel guilty when they have to enforce the "rules" of self-management or limit a treat for their child. These examples are common and may lead to guilt and blame.

Talking about feelings of guilt is important. Giving students permission to "let go" of their guilt is positive, especially if a positive behavior results. Seeking help from an experienced professional can assist a student in learning healthy ways to cope with guilt.

## Depression in Students with Diabetes

Depression is common in people with diabetes, including students. Depression in children younger than six years is rare. Approximately 2 percent of elementary-school-aged children experience depression. Rates of depression dramatically increase during adolescence, affecting up to eight percent of U.S. teenagers.

Depression can lead to poor self-management (e.g., adherence to meal plans, blood glucose testing schedules, decreased physical activity), which can lead to high blood glucose levels and increased risk of short- and long-term complications. Depression can be mild, moderate, or severe. Typical symptoms of depression are:

- Decreased ability to cope with changes or challenges of growing up
- Crying spells for no apparent reason
- Changes in sleep patterns
- Changes in weight or appetite
- Fatigue or loss of energy
- Changes in ability to concentrate
- Increased promiscuity

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- Increased negative attitude
- Loss of interest in normal daily activities or things once enjoyed
- Feeling sad and down
- Feeling guilt, hopelessness, or worthlessness
- Thoughts of death or suicide

Awareness of the potential for depression in students with diabetes is important. Often, lack of essential diabetes self-care is seen as “non-compliant” when, in fact, it can be a sign of depression. Early recognition of depression symptoms, appropriate referral, and prompt treatment can lead to improved diabetes self-care and quality of life. Depression may involve recurrent periods; therefore, ongoing assessment and monitoring is essential.

### Teen Pregnancy

Teen pregnancies are commonly unintentional. It is critical that teens with diabetes who are of childbearing years be counseled on effective birth control and contraception to prevent unintended pregnancy. Teen pregnancy for a student with type 1 or type 2 diabetes presents multiple health risks for the baby and mother. Optimal blood glucose control is essential prior to conception and/or at conception and/or during pregnancy to reduce risk of complications to the fetus and mother. Early prenatal care is critical.

### Sick-Day Management

Sick-day management is critical to reduce high blood glucose (hyperglycemia) and prevent diabetic ketoacidosis (DKA). Most families have been given a sick-day plan from their health care provider and should be familiar with this plan. This sick-day plan commonly includes information regarding increasing fluids and insulin amounts during sick days. Sickness or illness, whether physical or emotional, places stress on the body and raises the body’s energy requirements. Therefore, any illness or stress could raise blood glucose levels. The presence of high blood glucose should be a signal to initiate ketone testing should a student come to school sick or becomes sick during school. An important aspect of diabetes management and care during sickness or illness is to assess the presence of ketones either in the blood or urine. Ketones should be checked at the onset of the flu, a cold, sore throat, or any other illness.

Flu-like illness with nausea, vomiting, or diarrhea can increase the risk of dehydration. Therefore, students may be at higher risk of DKA and dehydration during periods of illness. Maintaining or increasing sugar-free fluid intake is essential during illness.

The student’s Diabetes Medical Management Plan (DMMP) should provide sick-day guidelines and recommendations during school. Managing diabetes during sickness and/or illness requires special care and management usually including guidance from the student’s health care team. A student’s parents/guardians will likely need to be notified and the student sent home. The family commonly follows the student’s at-home sick day treatment plan and communicates frequently with the health care team to assess and monitor status and tailor the needs of the student.

## Section 9: Special Circumstances for Students with Diabetes

### Medical Home

All children and adolescents with special health care needs should receive coordinated, ongoing, comprehensive care within a medical home. A medical home is an approach to providing comprehensive primary health care in a high quality and effective manner to children, adolescents, and adults.

The ideal medical home includes a primary care provider or specialist and diabetes team who work in partnership with parents. This partnership expands to school once the child is of school age. This partnership can assist in maximizing coordination of services in transitioning to school. The Wisconsin Division of Public Health's Children and Youth with Special Health Care Needs Program offers information and resources on medical home for children and adolescents in Wisconsin. For more information, see: <http://dhs.wisconsin.gov/health/children/>.

### Diabetes Across the Life Span

Taking care of diabetes is a lifelong process. Experts have identified core messages for maintaining health at every stage of life. The diagram "Healthy People at Every Stage of Life Framework: Core Messages," found in *Section 14: Tools*, provides an overview of one model that lists important messages to provide to people at every stage of life. Diabetes care and management can be incorporated into this model for each of the various life stages. Children and adolescents start this process early through care and guidance provided by parents/guardians in an attempt to start strong and grow safely and strongly. As children and adolescents with diabetes grow and develop, they will learn to adapt to the day-to-day task of managing and controlling their diabetes, attempting to achieve healthy independence. Diabetes care needs change across the life span. Table 14 provides age-related developmental responsibilities and provides potential diabetes-related responsibilities and abilities across the life span (0-18 years old).

## Section 9: Special Circumstances for Students with Diabetes

Table 14: Age-Related Responsibilities and Traits

| Age         | Non-diabetes-related  | Diabetes-related  |
|-------------|---|---|
| < 3 years   | <ul style="list-style-type: none"> <li>• Developing gross motor skills</li> <li>• Developing speech skills</li> <li>• Learning to trust</li> <li>• Responding to love</li> </ul>  | <ul style="list-style-type: none"> <li>• Parents/guardians must do all care</li> <li>• Acceptance of diabetes care as part of daily life</li> <li>• Inconsistent with food choices; often give shots after seeing what is eaten</li> </ul>  |
| 3-7 years   | <ul style="list-style-type: none"> <li>• Imaginative/concrete thinkers</li> <li>• Cannot think abstractly</li> <li>• Self-centered</li> </ul>   | <ul style="list-style-type: none"> <li>• Parents/guardians must do all care</li> <li>• Gradually learns to cooperate for blood glucose tests and insulin injections</li> <li>• Inconsistent with food choices; may still need to give injections after meals</li> <li>• Gradually learns to recognize low blood glucose</li> <li>• Undeveloped concept of time</li> <li>• Adult needs to do all insulin pump management</li> </ul>  |
| 8-12 years  | <ul style="list-style-type: none"> <li>• Concrete thinkers</li> <li>• More logical and understanding</li> <li>• More curious</li> <li>• More social</li> <li>• More responsible</li> </ul>  | <ul style="list-style-type: none"> <li>• Can learn to test blood glucose</li> <li>• At age 10 or 11, can draw up and give injections, although may still need supervision</li> <li>• Can make own food choices; can learn initial carbohydrate counting</li> <li>• Does not appreciate that doing something now (e.g., controlling blood glucose levels) can help prevent problems later (e.g., diabetes complications)</li> <li>• Can recognize and treat low blood glucose</li> <li>• By 11 or 12 years, can be responsible for remembering snacks, but may still need assistance of alarm watches or parent/guardian reminders</li> <li>• Can do own insulin pump boluses, but needs adult help to remember and calculate</li> </ul> |
| 13-18 years | <ul style="list-style-type: none"> <li>• More independent</li> <li>• Behavior varies</li> <li>• Body image important</li> <li>• Away from home more</li> <li>• More responsible</li> <li>• Abstract thinking</li> <li>• Able to understand the importance of doing something now to prevent problems in the future</li> </ul> | <ul style="list-style-type: none"> <li>• Capable of doing the majority of injections or insulin pump management and blood glucose testing, but still needs parental involvement and review to make decisions about dosage</li> <li>• Knows which foods to eat; can do carbohydrate counting</li> <li>• Gradually recognizes the importance of good blood glucose control to prevent later complications</li> <li>• May be more willing to inject multiple injections per day</li> </ul>   |

Adopted from: Chase, H. Peter (2006). *Understanding Diabetes*, 11th Edition. Denver: Children's Diabetes Foundation at Denver.

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Diabetes camps are one excellent way to assist students in learning how to adapt to living with diabetes and help children and adolescents prevent diabetes from interfering with anything they hope and dream to do someday.

In Wisconsin, the Wisconsin Lions Foundation and the American Diabetes Association sponsor two, one-week sessions of camp for children and adolescents with diabetes. For more information on this camp, refer to the Diabetes Camp Flyer in *Section 14: Tools*.

Many additional resources and educational tools are available for students and families in *Section 16: Resources*.

### Transitioning to Adulthood/Life After High School

The year after high school graduation is full of change. Students may face diabetes challenges whether they continue their schooling or enter the work world. Independence is exciting and at the same time very frightening. To prepare for life after high school, students are encouraged to evaluate their current self-management skills. Below are tips students may find helpful:

- Make a list of diabetes supplies and stock up to keep from running out
- See current health care provider, diabetes educator, and dietitian prior to leaving home
- Ensure immunizations are current (including flu, meningitis, and hepatitis B)
- Obtain new prescriptions from health care provider
- Identify a pharmacy located near school or residence
- Locate health care services in the new area and inquire about their costs (e.g., student health, urgent care, emergency room)
- If attending school away from home, set up a visit with the student health center to discuss diabetes care and treatment plan; provide a copy of medical records
- Purchase a medical ID bracelet or necklace and wear it
- Identify where to properly dispose of sharps
- Contact the new school's disability office to secure a Section 504 Plan and Americans with Disabilities Act accommodations

For prescription mail order service, communicate the new mailing address to the prescription service to ensure supplies are sent to the correct address.

Wisconsin Statute §632.885 outlines insurance options to dependents age 18 to 27. Dependents under age 27 qualify, provided that:

- They are unmarried
- They are not eligible for coverage under a group plan offered by their employer where the premium contribution would be less than the premium amount for his or her coverage as a dependent (i.e., it is cheaper to insure them as a dependent than for them to get coverage through their own employer)

Parents/guardians should seek guidance and clarification in interpreting Wisconsin Statute §632.885, related to coverage of their dependent student, including general eligibility status and rules that may apply for adult dependents 27 years and older. Talking with an employer benefit specialist in advance of the student turning 27 may be a helpful option.

## Section 9: Special Circumstances for Students with Diabetes

### Social Life

Social life with peers may center around drinking.<sup>13</sup> Some young adults choose not to drink alcohol and, therefore, seek out events that do not involve drinking. However, other young adults choose to drink alcohol; these young adults should know that alcohol increases the risk for low blood glucose levels for six to 36 hours after drinking has ended. Alcohol interferes with recognizing low blood glucose symptoms (hypoglycemia).

Young adults choosing to drink should remember to:

- Eat before and while drinking
- Set limits ahead of time and stop drinking when limits are reached
- Make sure someone with them knows they have diabetes and can help them if they develop low blood glucose (hypoglycemia)
- Test blood glucose levels while drinking and carefully monitor for at least 24 hours after drinking alcohol
- Never drink and drive

### Sick Days

Sick-day management is critical to reduce high blood glucose (hyperglycemia) and prevent diabetic ketoacidosis (DKA). Managing diabetes during sickness and/or illness requires special care and management usually including guidance from the student's health care team. Young adults should consider the following to prepare for sick-day management:

- Create a sick-day plan; if a young adult does not have a sick-day plan, he/she should work with his/her health care team to create one before leaving home.
- Stock up on cold/flu remedies to take when sick.
- Know how to adjust insulin.
- Be aware of symptoms that should prompt a call to a health care provider.
- Keep sick-day foods on hand (e.g., regular and sugar-free caffeine-free soft drinks, regular and sugar-free pudding and gelatin mixes, juice, instant soup mix, and crackers).
- Keep ketone strips and a thermometer on hand and in a convenient place.

### Telling Friends about Diabetes

Telling people about having diabetes is a personal choice. In the event of an emergency, a friend should know how to help. A young adult's life is at risk if a severe low blood glucose episode happens and no one knows what to do. Things to consider:

- Inform roommate(s), resident advisor, neighbor(s), co-workers, or new friends about having diabetes
- Explain low blood glucose (hypoglycemia) to key people, its symptoms, and actions to take
- Direct friends to call 9-1-1 in the event of a severe low blood glucose episode
- Select someone to be trained to give Glucagon
- Inform coach and teammates about how to treat low blood glucose (hypoglycemia)
- Wear emergency identification

For more resources on transitioning out of high school, refer to *Section 16: Resources*.

<sup>13</sup> Disclaimer: The legal drinking age in Wisconsin is 21. While authors of this Guide do not condone underage drinking, we understand the reality that young adults under age 21 may choose to drink alcohol. The information below pertains to both young adults 21 years and above, as well as young adults under age 21 who choose to drink alcohol.





## Section 10: Life at School

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### SECTION OVERVIEW

- The Building Blocks: Forms Needed for School
    - Diabetes Medical Management Plan
    - Section 504 Plan
    - Individualized Education Program
    - Healthcare Plan
    - Emergency Action Plan
  - Getting Ready for Life at School
  - Notifying School When a Student Has Diabetes
  - The Diabetes Care Planning Meeting with the School
  - Working with the School Nurse
  - Other School Personnel Designated to Help Your Child
  - Training School Personnel
- .....

### The Building Blocks: Forms Needed for School

The standard forms: Diabetes Medical Management Plan (DMMP), Section 504 Plan, Individualized Education Program (IEP), Healthcare Plan, and the Emergency Action Plan serve as critical building blocks to ensure each student with diabetes receives the support and safe care needed during school. **A partnership between all people (e.g., parents/guardians, students, school personnel, health care team) is critical in the development of all forms for students with diabetes in school.** These forms are used to obtain and document a student’s diabetes care and accommodations needed during school and all school-sponsored activities. Table 15 lists the standard forms used by families and schools in Wisconsin.

School districts vary in their policies and procedures. School personnel should consult with their school district for specific policies and procedures and use this Guide in conjunction with these district specific policies and procedures. School personnel should always apply sound judgement in implementing all school forms.

## Section 10: Life at School

**Table 15: Standard Forms Used in Wisconsin Schools**

| Form   | Purpose of Form   | Target Timeline for Completion/Updates  |
|--|---|---|
| <p><b>Diabetes Medical Management Plan (DMMP) ❖</b></p> <p>Also referred to as:</p> <ul style="list-style-type: none"> <li>▪ physician order</li> <li>▪ diabetes care plan</li> </ul>                      | <p>The DMMP is completed by the student's health care providers and family to communicate the student's medical needs. This form contains information used to prepare other plans. This form should be reviewed and updated as changes in diabetes needs occur.</p>   | <ul style="list-style-type: none"> <li>▪ Prior to first day of school or as soon as possible after diagnosis</li> <li>▪ Update as diabetes care changes</li> </ul>                |
| <p><b>Section 504 Plan ❖</b></p> <p>Also referred to as:</p> <ul style="list-style-type: none"> <li>▪ 504 Accommodations Plan</li> <li>▪ Health Care Plan with Accommodations</li> </ul>                   | <p>The Section 504 Plan for students with diabetes is developed by the school nurse/ school personnel and parent/guardian. A Section 504 Plan explains what accommodations, education aids, and services are needed. In many cases, the Section 504 Plan will also contain the student's Healthcare Plan.</p>   | <ul style="list-style-type: none"> <li>▪ Within 30 days after parents or guardians provide DMMP to school*</li> <li>▪ Update as diabetes care changes</li> </ul>                  |
| <p><b>Individualized Education Program (IEP)</b></p>   | <p>The IEP is written by school personnel with parent/guardian input. The IEP documents a student's educational program based on an identified disability.</p>  | <ul style="list-style-type: none"> <li>▪ Within 60 days after consent for the evaluation*</li> </ul>  |
| <p><b>Healthcare Plan</b></p> <p>Also referred as:</p> <ul style="list-style-type: none"> <li>▪ Individual Care Plan</li> <li>▪ Individual Health Care Plan</li> <li>▪ Nursing Health Care Plan</li> </ul> | <p>The Healthcare Plan is developed by the school nurse with input from other school personnel and parents/guardians. The Healthcare Plan provides information outlining the student's specific diabetes treatment and care during school and school-sponsored events. The Healthcare Plan cannot be a Section 504 Plan by itself, as it usually does not include accommodations contained in a Section 504 Plan.</p> | <ul style="list-style-type: none"> <li>▪ To ensure safety of student, it is best to complete before the first day of school</li> <li>▪ Update as diabetes care changes</li> </ul> |
| <p><b>Emergency Action Plan❖</b></p> <p>Also referred to as:</p> <ul style="list-style-type: none"> <li>▪ Emergency Plan</li> <li>▪ Quick Reference Emergency Plan</li> </ul>                              | <p>The Emergency Action Plan is written by the school nurse to document and describe a short, detailed plan for handling a student's diabetes treatment care plan during an emergency such as low blood glucose or high blood glucose.</p>  | <ul style="list-style-type: none"> <li>▪ To ensure safety of student, it is best to complete before the first day of school</li> <li>▪ Update as diabetes care changes</li> </ul> |

❖ A sample form is included in Section 13: Forms.

\* See Section 12: Student Rights for more information on laws.

### Diabetes Medical Management Plan

A student's individual diabetes treatment plan is documented in the Diabetes Medical Management Plan (DMMP), which is filled out and signed by a student's health care provider(s) and parents/guardians. The DMMP outlines and identifies specific diabetes management and care information about a student's daily diabetes routine in the school setting. This specific information from a student's health care provider(s) and parents/guardians ensures that schools have the most up-to-date and accurate information on a student's diabetes needs. The information contained in the DMMP is used by the school nurse and other designated school personnel to write additional plans.

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Various DMMP forms exist (e.g., National Diabetes Education Program, American Diabetes Association). Use of a specific DMMP depends on provider preference, familiarity, or availability of the form. To encourage form standardization in Wisconsin, it is recommended to use the Wisconsin Department of Health Services' DMMP form, which is included in *Section 13: Forms*.

The DMMP form must be updated any time a student's diabetes management or treatment changes. Updates allow schools to make appropriate decisions concerning accommodations and academic modifications, as well as the details of implementing the most current diabetes medical regimen. Parents/guardians must take an active role to inform the school of any necessary changes in their child's diabetes management throughout the school year.

Key elements in the DMMP include, but are not limited to:

- Emergency contacts and phone numbers of parents/guardians and health care provider(s)
- Individualized diabetes management and care schedule
- Diabetes knowledge and skill level of student
- Blood glucose monitor supplies, typical testing times and frequencies, and instructions for additional testing
- Blood glucose goals and levels requiring a specific response
- List of current oral medication(s)
- Details of insulin administration, including amounts of insulin
- Corrective actions to take for high or low blood glucose
- Common symptoms of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia)
- Instructions for diabetes emergencies (e.g., hyperglycemia, hypoglycemia)
- Instructions for administration of Glucagon
- Emergency supplies needed at school
- Instructions for ketone testing with instructions for excusing student
- Typical carbohydrate amounts and timing of meals/snacks
- Special considerations for physical activity and special events or school-sponsored activities

### Section 504 Plan

Under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, parents/guardians of students with diabetes have a legal right to have a Section 504 Plan developed within a reasonable period of time based on the specific facts, circumstances, and needs of each student.<sup>14</sup> In many cases, the Section 504 Plan will also include and/or have the student's Healthcare Plan as an addendum. The school should hold a planning meeting within 30 calendar days after parents/guardians provide the school with a student's Diabetes Medical Management Plan (DMMP).

A Section 504 Plan explains what accommodations, education aids, and services are needed for the student with diabetes in order to ensure the student is safe at school. This plan also ensures that a student receives the diabetes care and treatment specified in the DMMP.

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<sup>14</sup> When the Office for Civil Rights resolves a complaint, 45 school days is often fixed as the time to evaluate the specific areas of the student's academic and nonacademic needs, obtain all necessary medical evaluations regarding the student's disability-related needs, carefully consider all medication evaluations, review academic accommodations, and develop an accommodation plan for the student. The plan is expected to be implemented within 60 school days. See, e.g., Evergreen (WA) School Dist. No. 114, Complaint 10-00-1139, 36 IDELR 9 (OCR 2001).

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Key Elements of a Section 504 Plan commonly include:<sup>15</sup>

- Where and when blood glucose monitoring and treatment will take place
- Identity of adequately trained diabetes personnel who are trained to perform blood glucose monitoring, give insulin, administer Glucagon, and treat low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia)
- Location of the student's diabetes management supplies
- Free access to the restroom and water fountain
- Nutritional needs, including provisions for meals and snacks
- Full participation in all school-sponsored activities and field trips, with coverage provided by trained school personnel
- Alternative times for academic exams if the student is experiencing low blood sugar (hypoglycemia) or high blood sugar (hyperglycemia)
- Permission for absences, without penalty, for doctors' appointments and diabetes-related illness
- Maintenance of confidentiality and the student's right to privacy<sup>16</sup>

**While similar modifications or accommodations for students with diabetes may exist, school personnel must individually develop, adopt, and implement a student's Section 504 Plan.** Family input and collaboration are essential. If a Section 504 Plan is not developed, adopted, and implemented, parents/guardians may present concerns to school officials. Schools could jeopardize their federal funding if they ignore or do not comply with the Section 504 Plan. Options and procedures parents/guardians may pursue for resolving disagreements and disputes are identified in *Section 12: Student Rights*.

### Individualized Education Program

The Individuals with Disabilities Education and Improvement Act of 2004, more commonly known as the Individuals with Disabilities Education Act (IDEA), provides federal funds for special education. Under the Individuals with Disabilities Education Act (IDEA),<sup>17</sup> a school is required to develop an Individualized Education Program (IEP) within a specified time period. When an initial evaluation is requested by a parent/guardian, completion of the evaluation process and determination of whether a student has a disability is required within 60 calendar days of receiving consent for the evaluation.<sup>18</sup> An IEP meeting must follow within 30 calendar days of a determination that a student needs special education and related services.<sup>19</sup> Schools must implement the IEP as soon as possible.<sup>20</sup> Typically, a school will organize a team of school personnel and parents/guardians to prepare and write an IEP for a student with diabetes. All team members must agree with the IEP. A delay in the IEP development process is not a reason to restrict education or deny a student meaningful access to school. **Students with diabetes will only qualify for an IEP if their diabetes significantly affects their ability to learn.** For more information on the IDEA and the IEP, refer to the content on laws in *Section 12: Student Rights*.

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<sup>15</sup> Adopted from National Diabetes Education Program. (2003). *Helping the Student with Diabetes Succeed: A Guide for School Personnel*.

<sup>16</sup> Family Education Rights and Privacy Act (FERPA) and Health Insurance Portability and Accountability Act (HIPAA).

<sup>17</sup> 20 U.S.C. §§1400-1482, implemented in Wisconsin through Wis. Stat. §§115.758, et seq.

<sup>18</sup> 20 U.S.C. §1414(a)(1)(C).

<sup>19</sup> 34 C.F.R. §300.323(c)(1).

<sup>20</sup> 34 C.F.R. §300.323(c)(2).

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### Healthcare Plan

The school nurse develops a Healthcare Plan (also commonly called a nursing health care plan) for students with diabetes, which provides guidance for the individual care required. The school nurse develops the Healthcare Plan using the nursing process,<sup>21</sup> which includes collecting and assessing information from the student's Diabetes Medical Management Plan (DMMP), medical orders, nursing and educational assessments, and collaborating with anyone else to gain pertinent information for planning individual care and needs. The Healthcare Plan includes: identification of goals, intervention strategies for obtaining the identified goals, anticipated outcomes, and strategies for evaluating goals. The Healthcare Plan should promote a comprehensive and coordinated plan of care that ensures continuity of care for a student with diabetes. Once finalized, the Healthcare Plan serves as a formal means to communicate diabetes care needs to all school personnel, administration, and parents/guardians. **Although parents/guardians may offer input into the Healthcare Plan, it is the nurse's plan of care for the student during school.** The nurse has the authority regarding aspects of care to include in the plan. The Healthcare Plan cannot be a Section 504 Plan by itself, as it usually does not include specific accommodations as indicated in a Section 504 Plan. The Healthcare Plan is commonly included with the Section 504 Plan.

### Emergency Action Plan

Many chronic conditions, including diabetes, may result in a medical emergency. Wisconsin school district standards must include policies and guidelines for emergency nursing services dealing with illness as it relates to diabetes. Emergency services must be available during the regular school day and during all school-sponsored activities.<sup>22</sup> A registered nurse must develop school policies for emergency nursing services during school and school-sponsored activities in cooperation with other school district personnel and representatives from community health agencies and services designated by the school district board. District emergency policies must outline the school district's plan for responding to life-threatening emergencies, provide student emergency cards, equipment, supplies, space for services, and medication administration. A school district's emergency policy must indicate arrangements for a licensed medical advisor and this policy must be evaluated at least annually.

**The Emergency Action Plan is developed for school personnel.** The Emergency Action Plan should be written in clear, simple, and concise terms. An Emergency Action Plan must contain emergency contact information and specific actions to take in the event of an emergency, such as low blood sugar (hypoglycemia). Parents/guardians should know their child's school district's policies and guidelines prior to approving their child's Emergency Action Plan. All school personnel who will have contact with the student must receive the Emergency Action Plan. Documentation of school personnel who have received the Emergency Action Plan is important. Select questions and answers on emergency nursing services in Wisconsin are contained in *Appendix A*. An entire publication titled "Emergency Nursing Services in Wisconsin Schools" is available at: <http://dpi.wi.gov/sspw/pdf/snemergency.pdf>.

## Getting Ready for Life at School

Getting ready for school or for the beginning of a school year can be stressful for students and parents/guardians. This section outlines critical information to assist families, students, and school personnel in creating a positive and smooth transition from home to school.

<sup>21</sup> The nursing process is described in Chapter 9 of *School Nursing: A Comprehensive Text*.

<sup>22</sup> Wis. Admin. Code SPI 8.01(2)(g)(4)

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Parents/guardians typically can begin the process of getting ready for school by initiating contact with their child's school to inform school personnel that their child has diabetes and to prepare for the student's health care needs and accommodations. Contacting the school or health personnel well before the first day of school is critical. Parents/guardians can ensure their child's safety and smooth transition through this early notification

Students with diabetes are not considered for nor require special education unless their diabetes significantly affects their ability to learn. However, schools are required by law to identify all students with disabilities, including students with diabetes.<sup>23</sup> Typically, this happens when parents/guardians inform the school that their child has diabetes. If parents/guardians do not inform the school, the school must initiate a discovery process.

One way the school can identify student health issues is by sending home an emergency contact card. The emergency contact card must promptly be returned at the beginning of the school year. This method of finding out if a student has diabetes is not ideal, as the student may need services and diabetes care on the first day of school. Once the school determines that a student has diabetes, care planning must begin as soon as possible.

Joint planning between school personnel and parents/guardians is the key to obtaining optimal outcomes, including:

- A positive learning environment
- Increased healthy days and reduced unhealthy days
- Reduced loss of classroom time and instruction
- Ensuring diabetes care and management is clearly outlined and documented
- Maintaining continuity of care

### Notifying School When a Student has Diabetes

As a parent/guardian, notifying the school that your child has diabetes is an excellent opportunity to meet and get to know school personnel. Parents/guardians will most likely meet with a school nurse or other designated school personnel to begin discussing and preparing for the student's diabetes care needs at school. Parents/guardians can use this time to share and communicate their student's typical diabetes care regimen and anticipated needs.

Parents/guardians can obtain forms for documenting diabetes care needs during school and school-sponsored activities at this time. The Diabetes Medical Management Plan (DMMP) form is an initial tool used to document and share the student's individual needs and communicate recommendations of the health care provider(s). Often, the school or the student's health care provider(s) can provide the DMMP.

A school district is not required to provide diabetes care supplies (e.g., testing equipment and supplies, insulin, oral medications, Glucagon, and necessary snacks) for students with diabetes. Parents/guardians are responsible for providing diabetes supplies. However, if providing adequate supplies is a financial hardship for the parents/guardians, the school may assist to ensure the student has access to these supplies to meet educational requirements.

Parents/guardians can gather and organize information for the school. The checklist on the following page identifies key medical information parents/guardians can gather before talking with school personnel. The school will use the medical and care information to prepare for the diabetes care planning meetings.

<sup>23</sup> 34 C.F.R. §104.32 and 28 C.F.R §35.106.

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### Parent/Guardian Checklist to Assist in Preparing for School

This parent/guardian checklist includes but is not limited to:

#### Forms/Paperwork

- Information documenting the student's diabetes
- Completed Diabetes Medical Management Plan (DMMP) (filled out by health care provider) and medical provider orders for necessary medication and/or insulin, procedures, and accommodations (e.g., finger sticks, Glucagon, insulin, ketone testing, and snacks)
- Emergency contact information form\*
- Medical provider authorization for medication\*
- Permission/authorization forms (for administering insulin, Glucagon, and other medications)\*
- Signed Release of Information form to disclose educational and medical information as needed
- Statement regarding the student's ability to self-test blood glucose or self-administer insulin

#### Supplies

- Blood glucose monitor (lancet device, lancets, strips)
- Alcohol swabs/wipes
- Ketone testing strips
- Fast-acting carbohydrate (e.g., milk, fruit juice, glucose gel, or glucose tablets)
- Syringes and pen needles
- Insulin pump supplies
- Insulin (list type(s))
- Glucagon kit(s)

#### Miscellaneous

- Student photo

\* The DMMP is commonly used in place of a separate medical provider permission/authorization form(s).

## The Diabetes Care Planning Meeting with the School

The diabetes care planning meeting is a formal meeting between parents/guardians, student (if appropriate), and school personnel that finalizes diabetes care needed to ensure safety of the student. Ideally, this meeting should occur before the school year starts or as soon as possible after a student is newly diagnosed.

This meeting is frequently organized and facilitated by a school nurse or designated school personnel.

**Participants include everyone that may have a role in the student's diabetes care at school.**

Common items for discussion are listed below:

- Overview and management of type 1 diabetes or type 2 diabetes
- Specific care needs of the individual student
- Roles and responsibilities of school personnel
- School personnel who will serve as a resource
- Hierarchy of personnel expected to respond in an emergency situation (commonly listed in a 504 Plan)

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- Location of fast-acting carbohydrate sources, Glucagon kit, and other supplies in the school building
- Where the student's various plan will be kept and how to share individual components with appropriate school personnel
- How and what training school personnel will receive (including specific responsibilities)
- What an emergency is and use of the student's Emergency Action Plan

Parents/guardians should bring the completed Diabetes Medical Management Plan (DMMP) to the diabetes care planning meeting if not provided earlier. This is critical information for school personnel, because after the first diabetes care planning meeting, the school nurse and/or designated school personnel will gather all the collected student information from the first parent/guardian meeting and diabetes care planning meeting to prepare the various plans (i.e., Section 504 Plan, Individualized Education Program [IEP], Healthcare Plan, Emergency Action Plan) for use during school and all school-sponsored activities.

### Working with the School Nurse

A school nurse is a registered nurse who is qualified to perform professional nursing services in a public school.<sup>24</sup> A registered nurse is a nurse who has received either a diploma, an associate, or baccalaureate degree in nursing. Wisconsin public schools are not required to employ a school nurse; therefore, not every school in Wisconsin has a school nurse. However, Wisconsin School District Standards require school districts to provide for these school nursing services under a written policy adopted and implemented by the school board.<sup>25</sup>

Some schools in Wisconsin do not have a full-time school nurse. Sometimes, a nurse is required to travel to different schools that are a significant distance from each other. For this reason, school nursing services are sometimes provided by the local public health departments.<sup>26</sup> Some school districts choose to hire their own school nurse. All registered nurses must utilize the nursing process to determine appropriate delegation to school personnel to meet the student's individualized needs.

School nurses are guided by the American Nurses Association, Scope and Standards of Practice, which are outlined in Wisconsin's licensing laws for registered nurses. Scope and Standards of Practice require all nurses to use the nursing process for carrying out nursing procedures in the maintenance of health, prevention of illness, and/or care of the ill. A school nurse plays a critical role in providing school nursing care services to students with diabetes. The nurse assists students to enhance self-management of their diabetes, determines appropriate delegation and monitors those trained, teaches school personnel about the special needs required, and advocates for services so students can achieve an optimal level of functioning to maximize learning. The nurse accomplishes this through utilization of the nursing process that includes assessment, planning, intervention, and evaluation. All nurses must perform and practice according to the Wisconsin Chapter 441, the Nurse Practice Act; therefore, it is important for all nurses to be familiar with these laws. Select questions and answers on the practice of nursing in Wisconsin are contained in *Appendix A*. An entire publication titled "Delegation, Nurse Practice Act, and School Nursing in Wisconsin" is available at: <http://dpi.wi.gov/sspn/pdf/snpracticeact.pdf>.

<sup>24</sup> See, generally Wis. Stat. Ch. 441; Wis. Stat. §115.001(11)

<sup>25</sup> Wis. Stat. §121.02

<sup>26</sup> In 2007, a survey of local public health departments in Wisconsin identified 41 of 92 local health departments provide nursing services to schools.

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School nurses commonly function as a case manager in a school. Some common responsibilities include, but are not limited to:

- Assessing barriers for student's safety and well-being
- Communicating and collaborating with family and primary care providers
- Assessing adaptive needs
- Reinforcing essential diabetes self-management
- Ensuring coordination of care
- Educating faculty of student needs and emergency nursing care
- Assisting student in coping with and integrating diabetes regimen into daily life

School nurses are responsible for developing the Healthcare Plan. The Healthcare Plan promotes a comprehensive and coordinated approach, ensuring continuity of care for the student with diabetes.

Each school district board must have a written policy for providing emergency nursing services during school and all school-sponsored activities. A registered nurse is responsible for writing an Emergency Action Plan<sup>27</sup> in cooperation with other school district personnel. Once completed, the school nurse must provide a copy to all school personnel with an educational and safety interest of the student.

## Other School Personnel Designated to Help Your Child

Chronic health conditions continue to increase among children and adolescents, along with the complexity and need for ongoing care, management, and nursing procedures during the school day and during all school-sponsored activities. To meet school district requirements, school nurses will encounter the need to delegate procedures and/or tasks. School health services are services that may be provided by either a registered nurse or other trained school personnel.

Only a registered nurse can delegate nursing care in any environment or practice setting. Delegation is defined as the transfer of responsibility for the performance of an activity to another trained person, with the registered nurse retaining accountability for the outcome.<sup>28</sup>

Each state currently defines specific guidelines and standards that regulate the delegation process of nursing services to school personnel. Wisconsin has specific laws regarding delegation. These laws specifically state that only a registered nurse may delegate nursing care procedures. Delegation of nursing care requires school nurses to know and understand the Wisconsin state regulations for delegating during school and school-sponsored activities. Organizations have written and published position statements and guidelines for delegation of nursing care.

Students who qualify for another disability (in addition to diabetes) and need special education, school nurse services, and/or other school health services should have these needs listed in the related service section of the Section 504 Plan or Individualized Education Program (IEP). If this plan includes school nursing services and no school nurse is available, the school district must arrange for an appropriately licensed health care professional to offer the service or have that licensed person delegate the performance of the services and procedures to trained school personnel.

A registered nurse must use professional judgement in determining what levels of care are required and if he/she is able to safely delegate the required care. Not all care can be safely delegated. All students requiring nursing services must be assessed for unique and individual diabetes care needs.

<sup>27</sup> Wis. Admin. Code §PI8.01(2)(g) and Wis. Stat., §121.02

<sup>28</sup> American Nurses Association & National Council of State Boards of Nursing. (2005). Joint Statement on Delegation. Retrieved from [https://www.ncsbn.org/Joint\\_statement.pdf](https://www.ncsbn.org/Joint_statement.pdf).

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### Training School Personnel

A school nurse is the most appropriate person to provide care for a student with diabetes. However, since many schools do not have a full-time school nurse or a school nurse may need to travel between schools or school buildings, the nurse may not always be immediately available during the school day or other school-sponsored events. In schools where there is a full-time school nurse, the nurse cannot be in all places and all times. Schools must ensure school personnel are trained to provide routine and emergency diabetes care during school and all school-sponsored activities.

School personnel who have received diabetes care training can assist students in caring for their diabetes. The school nurse is responsible for training and supervising school personnel. This Guide uses the term “trained school personnel” in referring to these individuals.<sup>29</sup>

All school personnel who are responsible for a student with diabetes should receive training.<sup>30</sup> Some school personnel will need more training than others. The school is legally responsible to provide this training. Parents/guardians can assist by offering support and resources. A health care professional with expertise in diabetes may also provide training. It is appropriate to provide training to school personnel in the following circumstances:

- At time that a student is newly diagnosed
- At beginning of the school year
- When enrolling in a new school
- When new school personnel start employment with school
- Whenever needed during school year
- When otherwise appropriate

For many Wisconsin schools, a registered nurse will train school personnel who have volunteered to assist the student with diabetes care during school. The registered nurse may decide to delegate diabetes-related nursing tasks to unlicensed school personnel or a licensed practical nurse if a student requires the administration of medication or performance of a nursing procedure. The registered nurse determines if the nursing task may be appropriately delegated to school personnel being asked to perform the task.

The delegating registered nurse is responsible for:

- Training and providing an understanding of why procedure/task must be done
- Providing required documentation of actual training
- Ensuring accurate competency test
- Demonstrating technique and skills to be performed
- Providing ongoing observation, monitoring, direction, and assistance to those performing task to ensure students with diabetes have care available at all times during school and all school-sponsored activities

Wisconsin’s nursing rules outline the type of supervision, direction, and evaluation required in delegating any nursing task to a non-licensed health care professional.<sup>31</sup>

<sup>29</sup> School personnel (except for health care providers) have civil liability exemption for acts or omission in administering an over-the-counter medication or prescription medication to a student, unless the act or omission constitutes a high degree of negligence.

<sup>30</sup> The American Diabetes Association has a two-part training curriculum with 13 training modules and video available at: [www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-training/training-resources.html](http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-training/training-resources.html) for use in training school nurses and other school personnel in diabetes care tasks

<sup>31</sup> Wis. Admin. Code Chapter N6

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School nurses are essential in leading efforts to provide diabetes care and/or delegate and train school personnel to do so. Either the school nurse or at least one of the trained school personnel should be on-site throughout the school day and during all school-sponsored activities.

The American Diabetes Association identifies three main levels of diabetes training for school personnel. The first level of training is for all school personnel, which includes a basic overview, typical needs of students with diabetes, and recognizing low blood glucose and high blood glucose and who to contact. The second level of training is for school personnel who have responsibility for students with diabetes. The third level of training is for a small group of school personnel who will perform routine and emergency care for students. Table 16 provides further information on the levels of diabetes training for school personnel.

**Table 16: Levels of Diabetes Training for School Personnel**

| Level One  |
|--|
| For all school personnel   |
| <ul style="list-style-type: none"><li>■ Basic overview of diabetes</li><li>■ Typical needs of a student with diabetes</li><li>■ Recognition of low blood glucose and high blood glucose</li><li>■ Who to contact for help</li></ul>  |
| Level Two  |
| For school personnel with responsibility for a student or students with diabetes:  |
| <ul style="list-style-type: none"><li>■ Basic overview of diabetes</li><li>■ Typical needs of a student with diabetes</li><li>■ Recognition of low blood glucose and high blood glucose</li><li>■ Who to contact for help</li><li>■ Treatment of low blood glucose and high blood glucose</li><li>■ Required accommodations needed</li></ul>   |
| Level Three  |
| For a small group of trained school personnel who will perform student-specific routine and emergency care tasks when a school nurse is not available to perform these tasks:  |
| <ul style="list-style-type: none"><li>■ Basic overview of diabetes</li><li>■ Typical needs of a student with diabetes</li><li>■ Recognition of low blood glucose and high blood glucose</li><li>■ Who to contact for help</li><li>■ Treatment of low blood glucose and high blood glucose</li><li>■ Required accommodations needed</li><li>■ Blood glucose monitoring</li><li>■ Insulin administration</li><li>■ Glucagon administration</li></ul> |

Source: American Diabetes Association Clinical Practice Recommendations 2010.

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A school personnel training record can assist in keeping track of who has received training and the topics covered. Samples of delegation tools are included in *Section 14: Tools*. Table 17 presents a list of other training resources available to schools. A brief description of each tool is also listed.

**Table 17: Examples of Training Tools and Descriptions**

| Training Tool  | Brief Description  |
|--|--|
| <b>American Association of Diabetes Educators</b>  | <b>Educational programs and products including publications, conferences, live webinars and webcasts on-demand.</b><br><a href="http://www.diabeteseducator.org">www.diabeteseducator.org</a>  |
| <b>American Diabetes Association Diabetes Care Tasks Training Modules</b>  | <b>A series of PowerPoint slide presentations developed to support diabetes care and management in the school.</b><br><a href="http://www.diabetes.org/schooltraining">www.diabetes.org/schooltraining</a>   |
| <b>Council for the Advancement of Diabetes Research and Education</b>  | <b>Educational products (such as monographs, diabetes newsletters, a diabetes handbook, diabetes slides, lecture kits and journal supplements) on the risks and opportunities for people with diabetes.</b><br><a href="http://www.cadre-diabetes.org/au_about_us.asp">www.cadre-diabetes.org/au_about_us.asp</a>  |
| <b>Helping Administer to the Needs of Students with Diabetes at School (H.A.N.D.S.<sup>SM</sup>)</b>   | <b>A live continuing education full-day program developed by the National Association of School Nurses to equip the school nurse with current diabetes knowledge, and provide tools and resources to facilitate effective diabetes management for students at school.</b><br><a href="http://www.nasn.org/Default.aspx?tabid=411">www.nasn.org/Default.aspx?tabid=411</a>        |
| <b>New York State Diabetes Prevention and Control Program Glucagon Emergency Administration Training Tool</b>                                      | <b>A PowerPoint presentation for school nurses to use to train school personnel in the administration of Glucagon to children with diabetes in the event of severe hypoglycemia.</b><br><a href="http://www.nyhealth.gov/diseases/conditions/diabetes/media/glucagon_training.ppt">www.nyhealth.gov/diseases/conditions/diabetes/media/glucagon_training.ppt</a>                 |
| <b>New York State Diabetes Prevention and Control Program Partners for Success: School Nurses and the Care of Children with Diabetes in School</b> | <b>A DVD training for school nurses on the care of students with diabetes.</b><br><a href="http://www.albany.edu/sph/coned/webstream.htm#chronic">www.albany.edu/sph/coned/webstream.htm#chronic</a>   |
| <b>Wisconsin Department of Public Instruction “Let’s Save a Life with Glucagon” Webcast</b>  | <b>Directed at the school nurse, this webcast provides an overview of Glucagon and Glucagon administration in schools. Webcast provides an overview of Glucagon and Glucagon administration in schools.</b><br><a href="http://dpimedia.wi.gov/main/Viewer/?peid=c5642169b6e94452a64fd0ccfa60dfed">http://dpimedia.wi.gov/main/Viewer/?peid=c5642169b6e94452a64fd0ccfa60dfed</a> |
| <b>Wisconsin Department of Public Instruction Medication Administration Online Training</b>  | <b>A three-course program divided into 20 units of information on medication administration in Wisconsin.</b><br><a href="http://www.wisconsinschoolmeds.com/default.asp?pageID=7">http://www.wisconsinschoolmeds.com/default.asp?pageID=7</a>   |

*Adapted from: New York State Department of Health (2008). Children with Diabetes: A Resource Guide for Families and Schools.*



# Section 11: Roles and Responsibilities of School Personnel

## SECTION OVERVIEW

- General Overview
- Students with Diabetes
- Parents/Guardians
- School Nurses
- Teachers
- Guidance Counselors, Social Workers, and School Psychologists
- School District Administrators
- School Administrators and Principals
- Trained School Personnel
- Physical Education Instructors, Coaches, and Other School-sponsored Activity Leaders
- Food Service Managers and Lunchroom Staff
- Bus Drivers and Transportation Supervisors

## General Overview

Ensuring students with diabetes are safely cared for at school requires a team effort. This team of caring people may include:

- Students with diabetes
- Parents/guardians
- School nurses
- Teachers
- Guidance counselors, social workers, and school psychologists
- School district administrators
- School administrators and principals
- Trained school personnel
- Physical education instructors, coaches, and other school-sponsored activity leaders
- Food service managers, and lunchroom staff
- Bus drivers and transportation supervisors
- Other school staff with direct responsibility for student
- Members of the health care team, if invited by parents/guardians

Each team member is responsible for keeping the student with diabetes safe at school. Even though roles and responsibilities vary, all school staff must help ensure safe diabetes care for students. Some team members will have more responsibility than others. Because many different people at school may provide health services, specific roles and responsibilities are outlined and provide a guide for those caring for students with diabetes in school. The roles and responsibilities of school personnel are often outlined in their job descriptions. Parents can ask the school district for job descriptions to better clarify school personnel rules. Below are common roles and responsibilities for different school personnel involved in caring for students with diabetes at school.

## Section 11: Roles and Responsibilities of School Personnel

### Students with Diabetes

- Wear medical alert identification and carry a fast-acting source of glucose
- Participate in the school meetings (as appropriate) to be familiar with information about diabetes care required during school and school-sponsored activities
- Tell teachers and school personnel right away when feeling symptoms of low or high blood glucose
- Assist school personnel to complete diabetes tasks, such as: checking blood glucose, giving insulin, calculating the right amount of insulin for food eaten during school
- Assist with positive self-management. This can include:
  - Check and write down blood glucose levels
  - Calculate correct insulin doses
  - Give injections of insulin
  - Properly dispose of needles, lancets, and other supplies used
  - Follow meal and snack plans
  - Communicate with school staff if a problem occurs
  - Take proper care of diabetes equipment and supplies
- Problem solve with school personnel (if age-appropriate) about potential situations challenging for blood glucose control

Many students will need assistance with managing their diabetes at school but many will be quite independent. Roles, responsibilities, and expectations are individualized and based on age-related skills and maturity. For more information, refer to Table 14 in *Section 9: Special Circumstances for Students with Diabetes*.

## Section 11: Roles and Responsibilities of School Personnel

### Parents/Guardians

- Inform the school principal/school nurse that your child has diabetes as soon as possible before the school year begins or when child is diagnosed with diabetes.
- Provide a completed Diabetes Medical Management Plan (DMMP) form to the school nurse or other school personnel.
- Attend parent/guardian conferences/meetings as the Healthcare Plan, the Section 504 Plan, the Individualized Education Program (IEP), or other education plans are developed and written, documenting services and accommodations needed.
- Share preferences of your child's management plan before school starts and during conferences/meetings.
- Request a review or complete an update of the DMMP for treatment or management changes.
- Provide up-to-date emergency contact information or inform school of any changes.
- Provide health care provider orders for medication administration and procedures.
- Provide specific detailed information about the diabetes management plan followed at home and share student's current skill level.
- Sign Release of Information form for sharing of medical information between health care providers and the school according to the Family Education Rights and Privacy Act (FERPA) and the Health Insurance Portability and Accountability Act (HIPAA).
- Provide necessary supplies and equipment as needed at school, including blood glucose monitor and supplies, insulin and insulin pump supplies, ketone strips, snacks, fast-acting glucose tablets/gel, and a Glucagon emergency kit; and, replenish diabetes supplies as needed.
- Inform appropriate school staff (principal, teachers, coaches, and others) when your child plans to participate in any school-sponsored activities to ensure coordination of needed coverage.
- Know and understand the federal, state, and local laws protecting the rights of your child with diabetes.

## Section 11: Roles and Responsibilities of School Personnel

### School Nurses

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Obtain and review the student's Diabetes Medical Management Plan (DMMP) from the health care provider and pertinent information from parents/guardians.
- Ensure the student's DMMP is reviewed and updated in a timely manner through communication with parents/guardians and health care providers.
- Facilitate the diabetes care planning meeting to discuss the student's DMMP.
- Coordinate the development and implementation and/or provide input in the student's Section 504 Plan or Individualized Education Program (IEP), Healthcare Plan, and Emergency Action Plan.
- Monitor compliance with these plans and facilitate follow-up meetings of the school personnel 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 Healthcare Plan; this plan is based on assessment of the student, input from the parents/guardians and the student, and the contents of the DMMP.
- Conduct ongoing, periodic nursing assessment and update the Healthcare Plan as needed.
- Provide ongoing reinforcement of diabetes education and self-management strategies.
- Coordinate development of the student's Emergency Action Plan and provide copies to school personnel who have responsibility for the student throughout the school day (e.g., teachers, physical education instructor, coaches, lunchroom staff, and bus drivers).
- Obtain materials and medical supplies necessary for diabetes care tasks from the parents/guardians and notify the student or parents/guardians when supplies need to be replenished.
- Appropriately delegate, provide competency training, supervise, and evaluate trained school personnel in carrying out the health care outlined in the DMMP, Section 504 Plan or IEP, Healthcare Plan, and/or Emergency Action Plan.
- Plan and implement diabetes training for school personnel and any other staff members who are responsible for the student with diabetes and require such training.
- Participate in diabetes trainings/seminars and other continuing education offerings to attain and/or maintain knowledge about current standards of care for students with diabetes.
- Distribute helpful diabetes information and tools to school personnel who have responsibility for students with diabetes.
- Perform routine and emergency diabetes care tasks, including blood glucose monitoring, ketone testing, insulin pump care, insulin administration, and Glucagon administration.

## Section 11: Roles and Responsibilities of School Personnel

### School Nurses (continued)

- Practice universal precautions and infection control procedures.
- Maintain accurate documentation of communication with student and family, health care providers, and trained school personnel.
- Document training and ongoing monitoring of trained school 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.
- Ensure that federal laws, including the Family Education Rights and Privacy Act (FERPA), which governs privacy issues related to education records, and the Health Insurance Portability and Accountability Act (HIPAA), which governs privacy issues related to health records, are followed.
- Ensure all appropriate releases of information are signed so the school can communicate with the student's health care provider about his/her self-management at school or school-sponsored activities.
- Communicate to parents/guardians any concerns about the student's diabetes care or health, including frequent hypoglycemia and/or hyperglycemia episodes, general emotional health, and any other concerns that may affect the student's diabetes care at school.
- Promote and encourage independence and self-care consistent with the student's ability, skill, maturity, and developmental level.
- Advocate for students to help meet their diabetes health care needs.
- Serve as a resource on diabetes information for school staff, students, and families.
- Establish and maintain an up-to-date resource file of pamphlets, brochures, and other publications.
- Assist the classroom teacher with developing a plan for substitute teachers.
- Assist the physical education instructor with the student's safe participation in physical education and other school-sponsored activities.
- Be knowledgeable about federal, state, and local laws and regulations pertaining to diabetes care at school.
- Serve as a liaison between the school and health care provider with parent/guardian consent.

## Section 11: Roles and Responsibilities of School Personnel

### Teachers

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Learn about diabetes by attending trainings and seminars.
- Participate in diabetes care planning meeting as necessary to become familiar with individual diabetes care needs during school.
- Partner with the school health team to implement the Diabetes Medical Management Plan (DMMP), Healthcare Plan, Section 504 Plan or Individualized Education Program (IEP), and Emergency Action Plan.
- Know symptoms of low and high blood glucose.
- Recognize and respond quickly, as indicated in the student's Healthcare Plan, to the signs and symptoms of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia).
- Suspect low blood glucose with any change in behavior; when in doubt, treat as indicated in the student's Healthcare Plan.
- Notify school nurse or trained school personnel of a low blood glucose episode or a suspected low blood glucose episode.
- **Never leave a student alone who is having a low blood glucose or is suspected of having a low blood glucose.**
- **Never send a student alone to the health office or any other location who is having a low blood glucose or is suspected of having a low blood glucose, as the student may pass out/fall, causing injury.**
- Provide a supportive, safe environment for the student to manage his or her diabetes effectively and safely at school.
- Be aware of how the student's diabetes may affect ability to learn.
- Provide the necessary classroom accommodations as indicated.
- Provide instruction to the student if class content is missed because of absence for diabetes-related care.
- Provide information for substitute teachers notifying them of the day-to-day needs of the student and appropriate actions.
- Notify the parents/guardians in advance of changes in school schedule, such as class parties, field trips, and other special events.
- Communicate with the school nurse, trained school personnel, or parents/guardians regarding any concerns about the student.

### Guidance Counselors, Social Workers, and School Psychologists

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Learn about diabetes by attending trainings and seminars.
- Participate in diabetes care planning meeting as necessary to become familiar with individual diabetes care needs during school.
- Work with school personnel to promote a supportive learning environment.
- Ensure that each student with diabetes is treated the same as students without diabetes, except to respond to medical needs.
- Recognize, assess, and respond as needed to the emotional health needs of the student.
- Respect students who wish not to share information about their diabetes with other students or school personnel, particularly if it makes them feel different from others.
- Promote, encourage, and support independence and self-care that are consistent with the student's ability, skill, maturity, and development.
- Provide input to the student's diabetes care needs and accommodations as requested.
- Communicate with the school nurse and/or trained school personnel to ensure attention to new or different treatment and care plans.

## Section 11: Roles and Responsibilities of School Personnel

### School District Administrators

Note: This includes superintendents, Section 504 Plan coordinators, or other school administrators responsible for coordinating student services.

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Know and understand the federal, state, and local laws that apply to students with diabetes.
- Learn about diabetes through trainings and seminars.
- Support and arrange training of school personnel as needed.
- Provide leadership and support in developing district guidelines/policies related to all aspects of diabetes care at school, including delegation of responsibilities; require staff training, medication administration guidelines, and blood glucose monitoring.
- Support and implement district guidelines: 1) development, coordination, and implementation of diabetes care training; 2) ongoing quality control and improvement of these training programs; and 3) development and implementation of a program to monitor the performance of those who receive training.
- Monitor schools for compliance with district guidelines/policies.
- Allocate sufficient resources to safely meet needs of students with diabetes at school.
- Meet with members of the school health team as needed to address concerns about the provision of diabetes care by the school district, as appropriate.

## Section 11: Roles and Responsibilities of School Personnel

### School Administrators and Principals

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Know and understand the federal, state, and local laws that apply to students with diabetes.
- Learn about diabetes by attending trainings and seminars.
- Participate in developing and implementing school guidelines/policies to accommodate and safely provide care to students with diabetes.
- Allocate sufficient resources to provide safe care for students with diabetes.
- Inform school health services of the pending enrollment of a student with diabetes.
- Promote a supportive learning environment for students with diabetes.
- Meet annually with the student, family, school nurse, Section 504 Plan/ Individualized Education Program (IEP) coordinator, teacher(s), and other designated personnel before the school year starts, or when the child is newly diagnosed, to discuss services and accommodations needed.
- Identify and support designated personnel who have responsibility for the student with diabetes.
- Arrange for diabetes care training for the school nurse, trained school personnel, and others with responsibility for students with diabetes.
- Ensure that trained school personnel are available at all times during school and school-sponsored activities and events.
- Alert all school-related members who teach or supervise a student with diabetes, including bus drivers; ensure they are familiar with the accommodations and emergency procedures for each student with diabetes.
- Ensure substitute personnel are aware of the needs and emergency procedures for students with diabetes.
- Monitor compliance of the Diabetes Medical Management Plan (DMMP), Section 504 Plan or IEP, Healthcare Plan, and Emergency Action Plan.
- Implement school policies and guidelines related to training school personnel; the school nurse or at least one of the trained school personnel must be available when the student with diabetes is on campus or is a participant in off-campus school-sponsored activities.
- Implement emergency protocols.
- Include diabetes awareness as part of health or cultural education.
- Support and facilitate ongoing communication between parents/guardians of students with diabetes and school personnel.
- Recognize signs and symptoms of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia) and take action in accordance with the student's Emergency Action Plan.
- Know when and how to contact the school nurse or trained school personnel.

## Section 11: Roles and Responsibilities of School Personnel

### Trained School Personnel

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Learn about diabetes by attending trainings and seminars.
- Know and understand the information contained in the student's Diabetes Medical Management Plan (DMMP), Section 504 Plan, or Individualized Education Program (IEP), Healthcare Plan, and Emergency Action Plan.
- Attend the student's school health team meetings to gain understanding of the overall goal of care.
- Participate in diabetes training.
- Provide diabetes care and emergency care as delegated by the school nurse, including blood glucose monitoring, ketone testing, insulin administration, and Glucagon administration.
- Practice universal precautions and infection control procedures during all diabetes care tasks.
- Participate in all care planning meetings.
- Document care provided according to standards and requirements outlined by school guidelines.
- Observe and record student health and behavior, noting any changes that could affect diabetes care.
- Communicate directly and regularly with the school nurse or the supervising health care professional.
- Consult with appropriate members of the student's school health team when questions arise or the student's health status changes.
- Be available on campus during regular school hours and when the student participates in school-sponsored activities held before or after school.
- Accompany the student on field trips or off-campus school-sponsored activities.
- Obtain proper authorization before transferring diabetes care responsibilities to other school personnel.
- Help assure that the student has a supportive learning environment and is treated the same as students without diabetes, except to respond to medical needs.

### Physical Education Instructors, Coaches, and Other School-sponsored Activity Leaders

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Know and understand the federal, state, and local laws that may apply to students with diabetes.
- Learn about diabetes by attending trainings and seminars.
- Encourage participation in physical activities and sports for general health.
- Treat the student with diabetes the same as other students except when meeting a student's specific medical needs.
- Encourage the student to have diabetes supplies readily accessible (e.g., blood glucose monitoring equipment, fast-acting carbohydrate, Glucagon kit).
- Permit checking blood glucose levels in an attempt to prevent emergencies, such as a low blood glucose episode.
- **Recognize the signs and symptoms of low blood glucose and high blood glucose and take action in accordance with the student's Emergency Action Plan.**
- Participate in diabetes care planning as requested.
- Recognize that a change in the student's behavior could be a symptom of a low blood glucose level.
- **Recognize and understand low blood glucose can occur before, during, and in the hours after physical activity.**
- Ensure immediate access to a fast-acting form of glucose (e.g., milk, fruit juice, glucose gel, glucose tablets) and Glucagon as outlined in the student's Emergency Action Plan.
- Consider taping a fast-acting form of glucose (e.g., milk, fruit juice, glucose gel, glucose tablets) to a clipboard or include it in the first aid pack that goes out to physical education activities, practices, and games.
- Communicate with the school nurse and/or trained school personnel regarding any observations or concerns that could interfere with the diabetes care during physical activity or sports events.
- Provide information for the substitute physical education instructor to clearly communicate the student's Emergency Action Plan.

## Section 11: Roles and Responsibilities of School Personnel

### Food Service Managers and Lunchroom Staff

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Learn about diabetes by attending trainings and seminars.
- Request training on various meal plans and standard serving sizes.
- Obtain a copy of the student's written meal plan.
- Keep a copy of the student's Emergency Action Plan in a known, secure, place in the lunchroom.
- Consider ordering the same brands of food for the entire year to ensure consistency.
- Communicate with the school health team regarding special orders and changes in portion sizes.
- Provide a lunch menu and lunch schedule to parents/guardians in advance; include grams of carbohydrate, protein, and fat along with the nutrition content of menu selections.
- Recognize the signs and symptoms of low blood glucose and high blood glucose and take action in accordance with the student's Emergency Action Plan.
- Recognize that a student's behavior change could be a symptom of low or high blood glucose.
- Know where supplies to treat low blood glucose are kept (e.g., with the student or another place).
- Understand that low blood glucose can occur before, during, and after lunch; lunch personnel should be able to recognize and treat a low blood glucose episode.
- Know which type of meal plan the student is to follow.
- Recognize that eating meals and snacks on time is a critical component of diabetes care; failure to eat lunch on time could result in low blood glucose, especially if a student has missed a morning snack or has had a physically strenuous or otherwise active morning at school.
- Ensure that the student has timely access to food and sufficient time to finish their meal/snack.
- Treat the student with diabetes the same as other students, except to respond to medical needs.
- Promptly communicate with the school nurse and/or trained school personnel regarding any concerns observed that may affect diabetes care of the student.

## Section 11: Roles and Responsibilities of School Personnel

### Bus Drivers and Transportation Supervisors

- Treat the student with respect and kindness.
- Respect the student's confidentiality and right to privacy.
- Learn about diabetes by attending trainings and seminars.
- At the beginning of the school year, identify student(s) riding the bus who have diabetes.
- Obtain a copy of the student's Emergency Action Plan and keep it on the bus in a known, yet secure, place so it is readily available for substitute drivers.
- Know that low blood glucose can happen at any time of the day.
- Recognize that a student's change in behavior could be because of a low or high blood glucose level.
- Recognize the signs and symptoms of low blood glucose and high blood glucose and take action in accordance with the student's Emergency Action Plan.
- Ensure supplies (glucose tablets/gel and Glucagon) are available on the bus to treat a low blood glucose episode.
- Provide a known, yet secure location for diabetes supplies.
- Permit eating meals or snacks on the bus as accommodations indicate.
- Provide information to substitute bus drivers and transportation assistants.
- Communicate with the school nurse and/or trained school personnel regarding any concerns observed that may interfere with the student's diabetes care.
- Develop plan with transportation services to provide training for substitute bus drivers prior to being responsible for route.





## Section 12: Student Rights

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### SECTION OVERVIEW

- Laws
  - Confidentiality
  - Identifying Services and Accommodations
  - Process for Determining Services and Accommodations
  - Documenting Services and Accommodations
  - Implementation of Needed Services and Accommodations
  - Academic Standards, Requirements, and Discipline
  - Accommodations Outside of the Classroom or School
  - Dispute Resolution Options
- 

## Laws

Students with diabetes are protected by three federal laws:

- 1. The Americans with Disabilities Act, as amended by the Americans with Disabilities Amendments Act (collectively, “ADA”):** this law prohibits all schools and day care centers, except those run by religious organizations, from discriminating against children with disabilities.
- 2. Section 504 of the Rehabilitation Act (Section 504):** this law protects individuals with disabilities against discrimination in any program or activity receiving federal financial assistance.
- 3. Individuals with Disabilities Education and Improvement Act of 2004:** this law, commonly known as the Individuals with Disabilities Education Act (IDEA) enables children with disabilities to receive a free, appropriate public education.

These three laws generally require that school districts provide access to educational opportunities for students with diabetes without discrimination in a medically safe environment. Students with diabetes must receive reasonable modifications to policies and procedures or accommodations as necessary to allow participation in academic, non-academic, and school-sponsored activities. Required services are determined on an individual basis.

## Section 12: Student Rights

### The Americans with Disabilities Act and Section 504 of the Rehabilitation Act

Students with diabetes are covered by the Americans with Disabilities Act, as amended by the Americans with Disabilities Amendments Act (ADA)<sup>32</sup> and Section 504<sup>33</sup> because diabetes is a physical impairment that substantially limits one or more major life activities.<sup>34</sup> Major life activities include, but are not limited to, operation of bodily systems (e.g., endocrine), eating, walking, seeing, learning, reading, thinking, hearing, concentrating, communicating, working, caring for oneself, and performing manual tasks.<sup>35</sup>

Tools to assist with diabetes self-management, such as the use of blood glucose monitoring or insulin may not be used in making this determination,<sup>36</sup> which must be made on a case-by-case basis. Determination should never be made by how a student manages his or her diabetes, as diabetes can always pose risk of low blood glucose, high blood glucose, and other symptoms and unforeseen consequences. In a school environment, a student's ability to learn (e.g., concentrate, pay attention, recall information, or study) can be substantially limited when blood glucose levels become too low or too high, regardless of a student's academic performance.

Section 504 is an anti-discrimination law that requires school districts to ensure that students with a disability, including diabetes, have an equal opportunity to participate in academic, non-academic, and extra-curricular activities available to other students enrolled in the school district. Section 504 was the basis for many of the provisions of the ADA, with both statutes construed to establish "nearly identical" rights.<sup>37</sup>

To ensure equal opportunities for students with diabetes, school districts should develop a plan to meet that student's health needs in the school setting. This plan is usually called a Section 504 Plan, which may also include a Healthcare Plan. The Healthcare Plan can not be a Section 504 Plan by itself, as it usually does not include accommodations contained in a Section 504 Plan.

A school covered by ADA and/or Section 504 may not assist in supporting groups that do not provide equal opportunity for students with diabetes (e.g., after school events and activities, field trips, before and after school programs, clubs, parent-teacher organizations).<sup>38</sup>

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32 The ADA provides protection in employment, state and local government programs, and in places of public accommodation. It applies to all schools and day care centers except those run by religious entities. See 42 U.S.C. §§12101-12213. The ADA states "The definition of disability shall be construed in favor of broad coverage to the maximum extent permitted by the terms of this Act."

33 Section 504 was the basis for many of the provisions of the ADA, with interpretation of both statutes treated similarly. Section 504 applies to all schools that receive federal financial assistance. Students with diabetes who attend private schools operated by religious organizations are entitled to the legal protections of the ADA and Section 504 only if such schools receive federal funding, either directly or indirectly. See, Waterbury (CT) Sch. Dist., Complaint No. 01-07-1280, 51 IDELR 198 (OCR 2008); see generally 29 U.S.C. §794.

34 28 C.F.R. §§35.104, 36.104.

35 34 C.F.R. §104.3(j)(2)

36 The focus must be on the underlying condition as it exists in its unmedicated state. See *Rohr v. Salt River Project Joint Agric. Improvement & Power Dist.*, 550 F. 3d 850, 862 (9th Cir. 2009).

37 *Rothman v. Emory Univ.*, 123 F. 3d 446, 451 (7th Cir. 1997).

38 See *Irvine (CA) Unified Sch. Dist.*, Complaint No. 09-93-1043, 19 IDELR 883 (OCR 1993).

## Section 12: Student Rights

### Individuals with Disabilities Education and Improvement Act

The Individuals with Disabilities Education and Improvement Act of 2004,<sup>39</sup> more commonly known as the Individuals with Disabilities Act (IDEA), provides federal funds for special education services. Wisconsin meets the necessary requirements and is, therefore, eligible for these federal funds. The IDEA ensures all students with disabilities are given a free, appropriate public education through an Individualized Education Program (IEP). To be covered under the IDEA, a student with diabetes must have an impairment<sup>40</sup> that negatively affects the student's ability to learn, requiring special education and related services.

Students with frequent blood glucose fluctuations causing difficulty with concentration or paying attention that adversely affects their academic performance could qualify for services under the IDEA. Students with diabetes may also have other disabilities covered by the IDEA. The school district must proactively evaluate students for disabilities and then determine eligibility for other special education or related services.

## Confidentiality

Schools must protect the confidentiality and privacy of all student medical records and health conditions. Disclosure of information is allowed in the case of a health or safety emergency. Parents/guardians must provide signed Release of Information forms to school officials to allow communication between the school and health care provider(s).

All students, including those with diabetes, may be required to sign a special release form to participate in select activities such as athletics or field trips. Parents/guardians are not required to sign a release of liability supplied by the school district for attendance at school and related events.

Additional federal laws exist to govern privacy issues for students with diabetes. The Family Education Rights and Privacy Act (FERPA) applies to privacy issues related to education records and the Health Insurance Portability and Accountability Act (HIPAA) applies to privacy issues related to health records. *Section 16: Resources* provides additional linkages to more specific information about these laws.

## Identifying Services and Accommodations

Schools must provide reasonable accommodations for students with diabetes under the ADA and Section 504 and notify parents/guardians of available services.<sup>41</sup> **Schools are required to locate and identify any students with disabilities in the district.** This information is commonly requested through letters to parents/guardians through the emergency contact form sent home on the first day of school or given to parents/guardians (upon enrollment). A health care provider may also provide this information to the school. In addition, as diabetes management tools are utilized and medical treatment of diabetes continues to advance, school districts commonly detail these services and accommodations in a 504 Plan. (A sample form is included in *Section 13: Forms*.)

To ensure the safety of students with diabetes, contact school personnel promptly after diagnosis and at the beginning of each school year thereafter. This early or advance notification will initiate planning steps for collecting, reviewing, and deciding appropriate services and accommodations for the student with diabetes.

<sup>39</sup> 20 U.S.C. §§1400-1482, implemented in Wisconsin through Wis. Stat. §§115.758, et seq.

<sup>40</sup> 34 C.F.R. §300.8.

<sup>41</sup> 34 C.F.R. §104.32 and 28 C.F.R. §35.106.

## Section 12: Student Rights

School districts must designate an individual to coordinate services and accommodations in accordance with the ADA, Section 504, and the Individuals with Disabilities Education Act (IDEA) unless the school employs less than 15 people. The designated person to coordinate services should be identified and listed in the student handbook.

At times, school staff will receive requests for services and accommodations. These requests must be forwarded to the designated coordinator. Verbal requests are acceptable; however, documenting any specific request for services and/or accommodations in writing is standard procedure in most districts. The following checklist indicates critical elements that should be documented when requesting services.

### Request for Services Checklist

- Date of the request**
- Who is requesting**
- Purpose of the request**
- Types of accommodations requested**
- Limitations caused by diabetes, such as how diabetes may affect the student's skills and abilities, including physical, emotional, and academic performance**
- Accompanying medical documentation, such as a Diabetes Medical Management Plan (DMMP), prepared by the student's health care provider and parents/guardians**
- Who is available to participate in any needed evaluation or meeting to discuss stated request**

All students with diabetes will only qualify for an Individualized Education Program (IEP) if their diabetes significantly affects their ability to learn. All students with diabetes do qualify for services and accommodations to meet diabetes care needs. These needs are typically contained in a Section 504 Plan. In many cases, the Section 504 Plan will also contain the student's Healthcare Plan.

## Section 12: Student Rights

### Process for Determining Services and Accommodations

The process for determining appropriate services and accommodations begins once a student is identified as having diabetes. Parents/guardians and health care provider(s) need to request specific reasonable, necessary, and appropriate services and accommodations based on a student's individual needs and circumstances. Parents/guardians can assist schools in determining needed services and accommodations by providing the following information:

- Documentation stating diagnosis of diabetes
- Description of the diabetes health care needed during school or school-sponsored activities
- Statement regarding the student's ability to self-monitor blood glucose or self-administer insulin either by injection or insulin pump
- Authorization form for administering medication and providing other diabetes care services to the student
- Instructions from the health care provider through the completed Diabetes Medical Management Plan (DMMP)
- Signed Release of Information form(s) to disclose applicable education and medical information

Parents/guardians are responsible for having their child's health care team complete the DMMP, with parental input as appropriate. The identified diabetes care and regimen contained in the DMMP is the foundation for diabetes care needed during school and school-sponsored activities. The Section 504 Plan and Healthcare Plan are developed by the school based upon information provided in the DMMP.

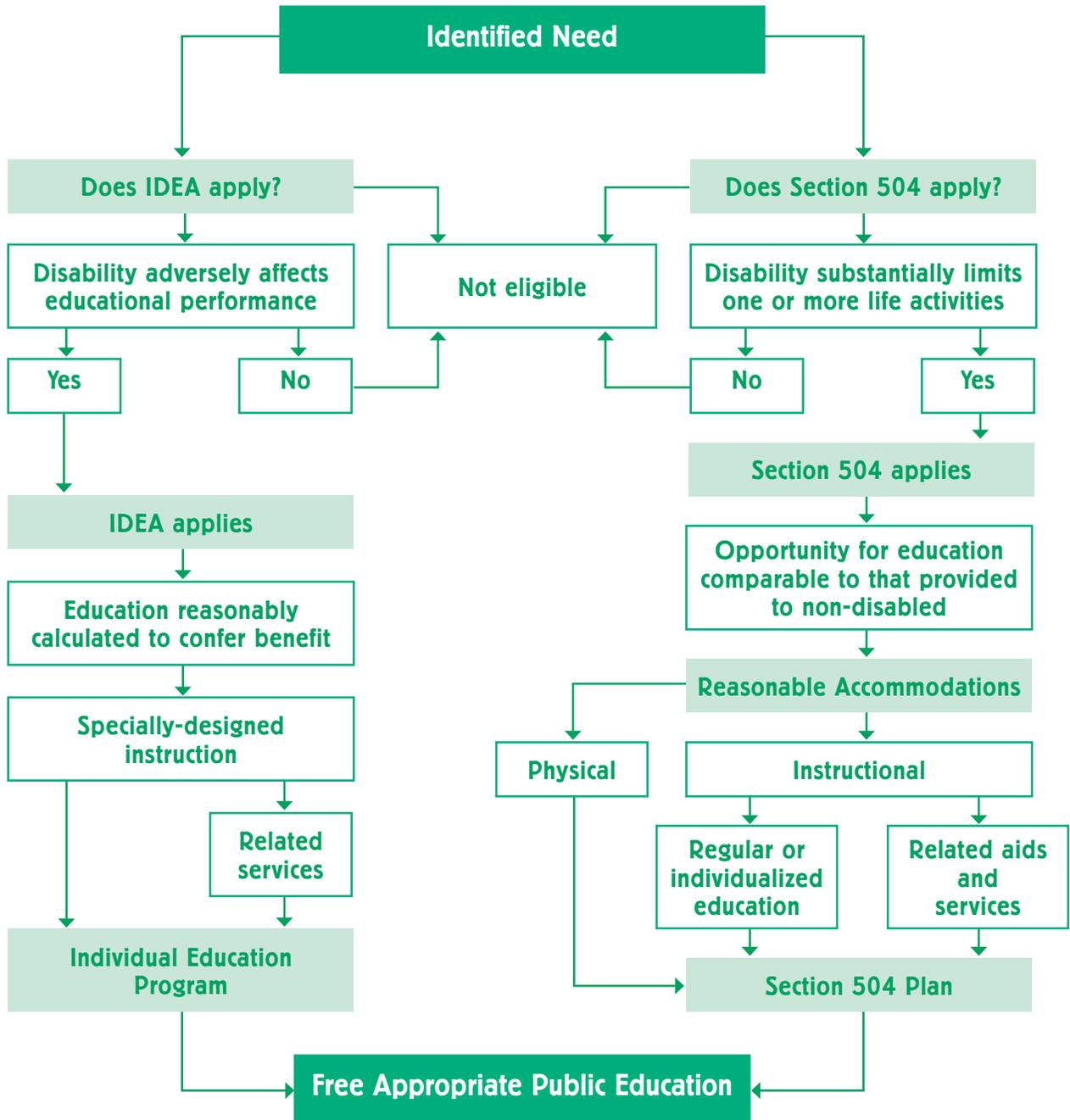
Ultimately, the school staff is responsible for deciding on and implementing accommodations after receiving and reviewing information documented in the DMMP. Because parents/guardians understand the details of their child's diabetes care, school personnel must consider the preferences and information provided by the parent/guardian when determining services and implementing appropriate accommodations.

The school nurse or other school personnel may, at any time, provide input regarding the appropriateness of a student's care and treatment plan. School personnel are instrumental in identifying potential unsafe situations and are instrumental in helping to avoid situations where safety may be compromised.

The Individuals with Disabilities Education Act (IDEA)/Section 504 Process Flow Chart in Figure 8 is a visual diagram of the process for determining services and accommodations under IDEA or Section 504.

## Section 12: Student Rights

Figure 8: Individuals with Diabetes Education Act (IDEA)/Section 504 Process Flow Chart



## Section 12: Student Rights

### Documenting Services and Accommodations

The Diabetes Medical Management Plan (DMMP), the Healthcare Plan, and the Section 504 Plan are three separate items that serve different purposes. In many cases, the Section 504 Plan will also contain the student's Healthcare Plan and the DMMP. The DMMP is developed by the student's health care provider(s) with parent/guardian input. The Healthcare Plan is developed by a school nurse with input from other school personnel and parents/guardians. The Section 504 Plan is completed by school personnel in collaboration with parents/guardians. Together, these plans:

- Document diabetes care and management in the school setting
- Provide a detailed assessment of the student's health care needs
- List specifics of how the student's needs will be met
- Ensure that specific parameters and accompanying actions are in place to provide an equal opportunity for education

Schools are required to provide services and accommodations related to the health care needs of students with diabetes.<sup>42</sup> Section 504 and the ADA require a school to develop and implement the Section 504 Plan within a reasonable period of time, based on the specific facts and circumstances of each student. In most cases, a meeting should be held no later than 30 calendar days after parents/guardians provide the school with their student's completed DMMP. Many times, the student will participate in this process, but this depends on the student's level of maturity and ability, as well as his or her self-care capabilities. Sometimes, compromise is needed between parents/guardians and school personnel over specific contents of the Section 504 Plan or specific planned services and accommodations.

A written Section 504 Plan is strongly recommended but not required, as it formally documents and identifies a student as having a disability and therefore, entitlement to reasonable accommodations. Written plans can also assure that parents/guardians and school personnel are aware of roles, responsibilities, and accommodations that are to be provided. A Section 504 Plan need not be signed,<sup>43</sup> however, signing a Section 504 Plan clearly shows respective agreed-upon responsibilities.

Schools must consider individual circumstances of each student's specific needs in developing a Section 504 Plan, meaning that "general" rules applying to all students with diabetes should not be used even when safety concerns are raised to justify them.<sup>44</sup> For example, sending all students with diabetes to one school in the district so that they may receive "focused" health care services is not permitted, as it denies these students the benefits of a "free, appropriate public education."<sup>45</sup>

If a student qualifies for an IEP, school personnel must develop the IEP within a specified time period. When an initial evaluation is requested by a parent/guardian, the evaluation process and determination of whether a student has a disability must be completed within 60 calendar days of receiving the consent for the evaluation.<sup>46</sup> An IEP meeting must be held within 30 calendar days of a determination that a student needs special education and related services,<sup>47</sup> with the IEP implemented as soon as possible.<sup>48</sup> The school is responsible for preparing the written IEP for a student with diabetes. A delay in the IEP development process is not a reason to restrict education or deny meaningful access to school. All team members must agree to and sign the written IEP.

42 34 C.F.R. §104.37(a)(2); *Cedar Rapids Community Sch. Dist. v. Garret F.*, 526 U.S. 66, 119 S. Ct. 992 (1999).

43 See *Bradley County (TN) School Dist.*, Complaint No. 04-04-1247, 43 IDELR 44 (OCR 2004).

44 See, e.g., *Irvine (CA) Unified Sch. Dist.*, Complaint No. 09-94-1251, 23 IDELR 1144 (OCR 1995) and *Waterbury (CT) Sch. Dist.*, Complaint No. 01-07-1280, 51 IDELR 198 (OCR 2008) (requirement that all blood glucose testing be conducted in nurse's office violated Section 504).

45 Section 504, the ADA, and the IDEA all require that the student be educated with persons who are not disabled and in the least restrictive environment. 34 C.F.R. §104.34; 42 U.S.C. §12182(b)(1)(B)-(C); 20 U.S.C. §1412(a)(5).

46 20 U.S.C. §1414(a)(1)(C).

47 34 C.F.R. §300.323(c)(1).

48 34 C.F.R. §300.323(c)(2).

## Section 12: Student Rights

### Implementation of Needed Services and Accommodations

School personnel are responsible for implementing accommodations after considering the student's documented health care needs and the preferences of the parents/guardians and student. Meetings between parents/guardians, school nurse, teachers, principal, and other concerned school personnel will ensure the best results for implementation of an agreed Section 504 Plan.<sup>49</sup> A school nurse or appropriately trained school personnel must provide individualized health care according to the Diabetes Medical Management Plan (DMMP) outlined by the student health care provider, the Healthcare Plan, Individualized Education Program (IEP), and/or Section 504 Plan.

If a student cannot attend school due to a lack of available school care, a school may accelerate the evaluation process alternative educational arrangements. A school may not delay acting upon a parent's/guardian's notification/request for services/accommodations.<sup>50</sup>

Once decisions regarding services and accommodations are determined and implemented, a periodic review is needed. Reviews may occur annually or more frequently, especially if a student's diabetes management and treatment plan changes. A review of plans may be initiated by the parents/guardians or school staff.

At times, school personnel may be required to monitor the provision of snacks to a student with diabetes.<sup>51</sup> School personnel should always apply sound judgement in implementing a Section 504 Plan. As an example, if a student's Section 504 Plan or IEP states a specific snack time, but the student's blood glucose level is high, the snack may be withheld without violating Section 504, the IEP, or the Americans with Disabilities Act since "a legitimate nondiscriminatory reason (i.e., the nature of the student's disability and concern for the student's health and safety) for treating the student differently on these occasions" would exist.<sup>52</sup>

Ensure a smooth transition from home to school for services and accommodations by:

- Assuring that trained school personnel are available to provide routine and emergency diabetes care at school and school-related activities
- Requiring diabetes care training guidelines and the training of school personnel
- Permitting independent monitoring and treatment by students who are mature and capable of doing so themselves
- Requiring a Section 504 Plan or IEP developed by the school based on a DMMP completed by the student's health care team
- Healthcare Plan developed by the school nurse to document the student's care needs in the school setting

### Academic Standards, Requirements, and Discipline

Students with diabetes must have an equal opportunity to participate in a school's normal educational environment. The school district will typically make supplementary aids, services, and modifications to its academic program as required, all of which need to be documented in a Section 504 Plan or Individualized Education Program (IEP).<sup>53</sup>

<sup>49</sup> See Chapter 9, *Managing Diabetes at School*.

<sup>50</sup> *Cabell County Sch. Dist.*, Docket No. 03-92-1062 (OCR 1992).

<sup>51</sup> *Renton (WA) Sch. Dist.*, Complaint No. 10-93-1079, 21 IDELR 859 (OCR 1994).

<sup>52</sup> See *Rock Hill (OH) Local Schs.*, Complaint 15-02-1034, 37 IDELR 222 (OCR 2002).

<sup>53</sup> 34 C.F.R. §104.34(a).

## Section 12: Student Rights

A student may require other academic accommodations and modifications under Section 504 and the ADA, including:

- Supplementary aids and services in the academic program individualized for each student with diabetes
- An alternate time to take academic exams due to diabetes (e.g., blood glucose levels are out of target range) or an illness exacerbated by diabetes<sup>54</sup>
- Extra time to complete standardized or similar tests<sup>55</sup>
- Documentation of no penalty for diabetes-related absences or tardiness
- Reasonable time to make up missed or late assignments and exams
- Opportunity to receive missed classroom instruction
- Access to water, restroom, diabetes supplies, snacks, and health care during the administration of standardized or other tests, or upon request
- Full participation in all school-sponsored activities, such as field trips and extracurricular events
- Ability to receive services in the least restrictive environment

When appropriate, modification of school policy to adjust academic and other penalties for an absence or tardiness related to diabetes care and management requirements is necessary.<sup>56</sup> Even though the student with diabetes has documented needs and required accommodations, once these are implemented as indicated in the student's Section 504 Plan or IEP, all other normal academic regulation, discipline, and sanctions continue to apply.<sup>57</sup> For academic honors, awards, and other recognition programs, a school may not discriminate against students with diabetes.<sup>58</sup>

Students with diabetes are subject to the same disciplinary standards as any other students, provided that their diabetes does not cause the violation of such standards.<sup>59</sup> Thus, schools must determine and evaluate whether a connection between diabetes and the violation might exist.<sup>60</sup> Students have the right to present evidence the violation was diabetes-related prior to disciplinary action or penalties as a matter of due process.<sup>61</sup>

The Individuals with Disabilities Education Act (IDEA) has specific and detailed requirements when students with disabilities are disciplined, which the Office for Civil Rights has determined should apply to all students.<sup>62</sup>

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<sup>54</sup> Minimally, students with diabetes must be provided with no less assistance than other students who are ill.

<sup>55</sup> While most students with diabetes will not need additional time, some students may need to take extra breaks during tests to treat symptoms of hypoglycemia and hyperglycemia or perform other diabetes care tasks as specified in the student's Section 504 Plan or IEP. When standardized tests are involved, the best practice is to make this request in writing to the administering testing agency or school prior to the test.

<sup>56</sup> Where diabetes-related, the absence or tardiness should be excused. If appropriate, the parents/guardians must confirm the reason. *Prince George's County (MD) Schools* Complaint No. 03-99-1098, 33 IDELR 70 (OCR 1999); *Loudoun County (VA) Pub. Schools*, Complaint Nos. 11-99-1003, 11-99-1064, 11-99-1069 (OCR 1999).

<sup>57</sup> See *Hernando (FL) County Schools*, Complaint No. 04-98-1412, 31 IDELR 89 (OCR 1999) and *Hornstine v. Moorestown Board of Educ.*, F.Supp. 2d 887 (D. N.J. 2003) and *Perry (OH) Public Sch. Dist.*, Case No. 15-03-1148, 41 IDELR 72 (OCR 2003).

<sup>58</sup> See *Hornstine v. Moorestown Board of Educ.*, 263 F. Supp. 2d 887 (D. N.J. 2003) and *Perry (OH) Public School Dist.*, Complaint No. 15-03-1148, 41 IDELR 72 (OCR 2003).

<sup>59</sup> See e.g., *Brown v. Metropolitan School Dist. Of Lawrence Township*, 945 F. Supp. 1202 (S.D. Ind. 1996), *adopting magistrate's judgment*, 1996 U.S. Dist. LEXIS 17101, 25 IDELR 393 (S.D. Ind. 1996); *Eureka (CA) City School Dist.*, Complaint 09-95-1020, 23 IDELR 238 (1995); and *Community (IL) Unit Sch. Dist. #300*, Complaint No. 05-98-1039, 30 IDELR 148 (OCR 1998).

<sup>60</sup> The Individuals with Disabilities Education Act (IDEA) contains elaborate procedures for evaluation of such cases, particularly where a pattern of behavior that may lead to disciplinary action indicates that a disability exists. 20 U.S.C. §1415(k).

<sup>61</sup> *Goss v. Lopez*, 410 U.S. 565, 95 S. Ct. 729, 42 L. Ed. 2d 725 (1975). See also *Gasconade County (MO) R-I Sch. Dist.*, Complaint No. 07-91-1061, 18 IDELR 313 (OCR 1991) and *Community (IL) Unit. Sch. Dist. #300*, Complaint No. 05-98-1039, 30 IDELR 148 (OCR 1998).

<sup>62</sup> See 20 U.S.C. §1415(k). See also *Santa Ana (CA) Unified Sch. Dist.*, Complaint No. 09-92-1185, 19 IDELR 501 (OCR 1992); *Petaluma Unified Sch. Dist.*, Complaint No. 09-95-1158 (OCR 1996); and *Gasconade County (MO) R-I Sch. Dist.*, Complaint No. 07-91-1061, 18 IDELR 313 (OCR 1991).

## Section 12: Student Rights

### Accommodations Outside of the Classroom or School

School-sponsored activities are fun and important aspects of a student's education; therefore, these activities must never be curtailed or made difficult for students with diabetes.<sup>63</sup> All students are eligible to participate in all school-sponsored activities (e.g., field trips). Schools must provide necessary accommodations to students with diabetes so that they may safely participate in these activities. A student's Section 504 Plan or Individualized Education Program (IEP) must include plans for a school nurse or other trained school personnel to respond to a student's diabetes care needs, so a student can enjoy full participation in school-sponsored activities. Where rules or standards exist for who can participate in an activity (such as athletics), a student with diabetes must meet, with or without necessary accommodations, the required rules or standards.<sup>64</sup>

The school may not require the parent/guardian to attend a school-sponsored event as a prerequisite for participation by the student with diabetes.<sup>65</sup> The school may also not exclude a student with diabetes because of the extra supervision required.<sup>66</sup> Similarly, a public school may not impose additional fees for students with diabetes who participate in these activities, even where the school incurs additional costs in providing the necessary accommodations outlined in the student's Section 504 Plan or IEP.<sup>67</sup> Private schools may adopt an additional charge if "justified by a substantial increase in cost" to the school.<sup>68</sup> In settlements, the Office for Civil Rights has not required coverage at school events where a student is a spectator.<sup>69</sup>

Accommodations on school buses and other transportation are required when necessary. Schools must ensure that students with diabetes receive transportation services with accommodations just as any other student does in the school environment.<sup>70</sup>

### Dispute Resolution Options

This Section provides a brief overview of options available under the laws protecting students with diabetes. School personnel and parents/guardians must make every reasonable effort to reach agreement regarding the accommodations provided to students with diabetes.

Experience shows that when parents/guardians and school personnel work cooperatively and communicate openly, the best educational environment for a student with diabetes is achieved. If school personnel and parents/guardians cannot reach agreement and consensus, a number of options are available to resolve disagreements and disputes.

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63 34 C.F.R. §104.37(a); *A.P. v. Anoka-Hennepin Indep. Sch. Dist.*, 538 F. Supp. 2d 1125, 1142 (D. Minn. 2008); *Elkhart (IN) Community Sch. Corp.*, Complaint No 05-00-1026, 34 IDELR 13 (OCR 2000); and *Plymouth-Canton Community Schs.*, Complaint No. 15-99-1113 (OCR 1999).

64 See *New York City (NY) Bd. Of Educ.*, Complaint No. 02-89-1128, EHLR 455 (OCR 1989).

65 *Clovis (CA) Unified Sch. Dist.*, Complaint No. 09-08-1395, 52 IDELR 167 (OCR 2009).

66 See *OCR Senior Staff Memorandum*, 17 EHLR 1233 (OCR 1990) (Guidance on the Application of Section 504 to Noneducational Programs of Recipients of Federal Financial Assistance) and *Nyack (NY) Unified School Dist.*, 43 IDELR 169, Complaint No. 02-04-1065 (OCR 2004).

67 34 C.F.R. § 104.33(c)(1); *OCR Senior Staff Memorandum*, 17 EHLR 1233 (OCR 1990). However, fund-raising requirements for extracurricular activities expected of other students will not relieve a student with diabetes from these requirements.

68 34 C.F.R. §104.39(b).

69 See *Buchanan County (VA) Public Schs.*, Case No. 11-03-1051 (OCR 2003).

70 34 C.F.R. §104.33(c)(2) (Section 504) and 20 U.S.C. §1401(26)(A) (IDEA). See also *Jamestown Area (PA) Sch. Dist.*, Complaint 03-02-1117, 37 IDELR 260 (OCR 2002) and *Loudoun County (VA) Pub. Schs.*, Complaint Nos. 11-99-1003, 11-99-1064, 11-99-1069 (OCR 1999).

## Section 12: Student Rights

The available options may differ depending on which law applies, with the Individuals with Disabilities Education Act (IDEA) providing more elaborate administrative procedures than Section 504 or the Americans with Disabilities Act, as amended by the Americans with Disabilities Amendments Act (ADA).

Should the parents/guardians disagree with the accommodation(s) provided by the school, the ADA, Section 504, and the IDEA all provide resolution procedures. If an agreed upon Section 504 Plan is not being followed, concerns should be presented to appropriate school officials and/or the Section 504 Coordinator. School personnel and parents/guardians may need to convene additional meetings in an attempt to resolve concerns and differences.

If problems are not resolved and parents/guardians continue to believe their child's rights were violated, a number of options are available, including:

- An internal school or district grievance procedure
- Mediation
- Due process hearings
- Complaints to state or federal enforcement agencies
- Lawsuits in state or federal court

Most schools have informal grievance procedures available for resolving concerns about a student's individualized accommodations. Decisions on grievances filed using these informal procedures are often made by school district personnel, such as the superintendent or the school board. Schools must designate an employee to oversee compliance with disability discrimination laws.<sup>71</sup> Complaints or disagreements should be directed to this person. The parent/guardian may contact the principal or superintendent if they do not know who the school has appointed.

School district grievance procedures are different from the impartial hearings provided to resolve disputes under Section 504 and the IDEA. Following a district's informal procedures does not prevent parents/guardians from requesting a hearing or pursuing other remedies with state or federal agencies.<sup>72</sup>

Section 504 regulations require that schools or districts receiving federal funding adopt grievance procedures incorporating due process standards and providing for prompt and equitable resolution of complaints.<sup>73</sup> Schools must inform parents/guardians about their hearing rights; failure to inform parents/guardians can violate Section 504 and the ADA.<sup>74</sup> A student's rights under Section 504 may be enforced through administrative complaints to the Department of Education's Office for Civil Rights (OCR) through an impartial hearing or through a private lawsuit in state or federal court.

The OCR will only investigate complaints filed within 180 days of the discriminatory action.<sup>75</sup> In addition, schools must provide for impartial hearings (sometimes known as "due process" hearings) to address Section 504 complaints and violations. The hearing officer must be impartial and cannot be employed by or have a significant business relationship with the school district or Department of Public Instruction. Parents/guardians can file an OCR complaint by mail, fax, online, or in person at an OCR office. No special form is required, but the complaint must be in writing.<sup>76</sup> The required elements of an OCR complaint are specified in *Appendix B*.

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71 Section 504 requires this for districts employing 15 or more employees, 34 C.F.R. §104.7(a); the ADA requires this for public entities employing 50 or more employees, 28 C.F.R. §35.107(a).

72 *Sycamore (OH) Community City Sch. Dist.*, Complaint No. 15-01-1188, 36 IDELR 245 (OCR 2002).

73 34 C.F.R. §104.7(b) (required only for entities employing 15 or more).

74 *Yuba City (CA) Unified Sch. Dist.*, Complaint No. 09-94-1170, 22 IDELR 1148 (OCR 1995).

75 A complaint may also address earlier matters where continuing discriminatory policies or practices are alleged. See *OCR Case Resolution and Investigation Manual*, Section 107.

76 See <http://www.ed.gov/about/offices/list/ocr/complaintprocess.html>.

## Section 12: Student Rights

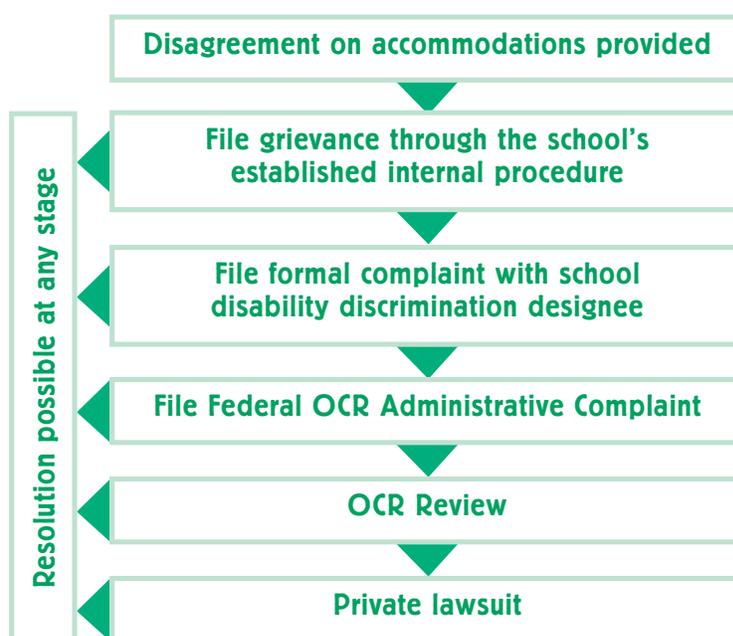
The OCR may decline to process a complaint being addressed through a school's formal grievance procedure if the OCR anticipates the school will provide a comparable resolution process.<sup>77</sup> Once completed, the OCR will review the results and determine whether the comparable process and legal standards were in fact applied.

After the complaint is filed, the OCR will investigate by gathering information from all parties. Generally, the OCR will contact the school district within 15 days and make a determination within 105 days. If the investigation indicates that violation(s) may have occurred, the OCR will attempt to work with the school district to achieve a voluntary resolution, generally by negotiating a resolution agreement. These agreements can include general provisions about district policies or procedures as well as specific relief to address the student on whose behalf the complaint was filed.<sup>78</sup> If an agreement cannot be reached, the OCR may initiate proceedings to cut off federal funding or may refer the matter for litigation. The OCR may also decide not to continue an investigation due to lack of cooperation by the complaining party or a determination that the matter is more appropriately addressed through another forum.

The ADA requires that grievance procedures be adopted and published by school districts employing 50 or more employees.<sup>79</sup> Like Section 504, the ADA may be enforced through administrative complaints and private lawsuits, using the same procedures.<sup>80</sup>

Parents/guardians may choose to resolve disputes locally, by filing a complaint through the OCR, or by instituting private litigation. The process for resolving disputes under the ADA or Section 504 is outlined in Figure 9.

**Figure 9: Resolution of Disagreements Under ADA or Section 504**



<sup>77</sup> See U.S. Dept. of Educ., Office for Civil Rights, *OCR Case Resolution and Investigation Manual*, Section 109.

<sup>78</sup> *OCR Case Resolution and Investigation Manual*, Section 303.

<sup>79</sup> 28 C.F.R. §35.107(b).

<sup>80</sup> 42 U.S.C. §12133; for non-public schools, the Department of Justice continues to be responsible for investigating complaints.

## Section 12: Student Rights

Schools are prohibited from taking actions that intimidate, threaten, coerce, or discriminate against students who exercise their rights under applicable law.<sup>81</sup>

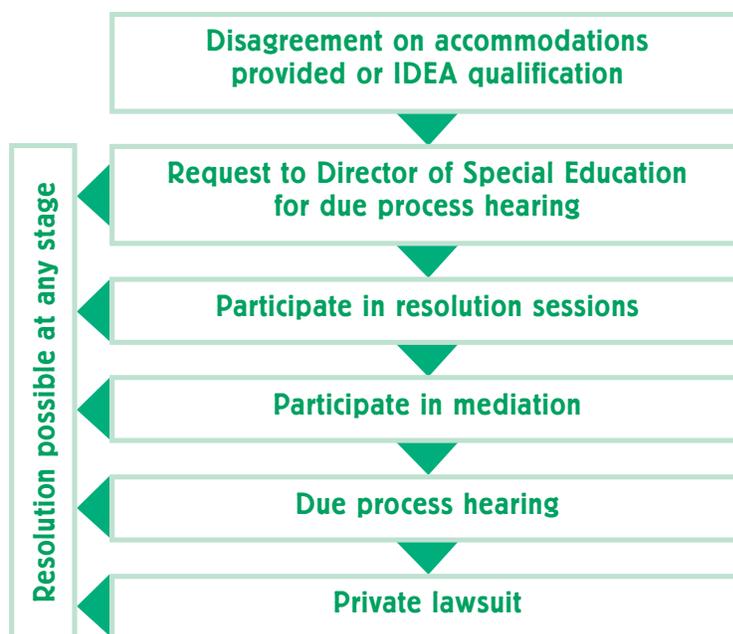
Under the IDEA, the school district or parents/guardians have the right to request a due process hearing whenever a dispute exists between the parent and the school district over the district's proposal or refusal to initiate or change the identification, evaluation, proposed Individualized Education Program (IEP) or portion thereof, the implementation of the IEP, educational placement, or the provision of a free, appropriate public education. Each state must establish an impartial due process hearing system.<sup>82</sup>

Make requests to the director of special education for the district. Before the hearing is initiated, resolution sessions must take place to encourage agreement among the parties. Mediation is encouraged and must be made available by the state. If a hearing is held, parents/guardians have the right to representation by an attorney or advocate. The hearing officer must allow for the introduction of evidence by the parties and must issue a written decision.

Only after this hearing (and any applicable appeal or review) may the parent/guardian file a lawsuit in state or federal court.

The process for resolving disputes under the IDEA is outlined in Figure 10.

**Figure 10: Resolution of Disagreements under IDEA**



Resolving disagreements and disputes is complicated and requires expert legal assistance. The American Diabetes Association has volunteer attorneys available to assist students with diabetes and their parents/guardians in resolving issues relating to diabetes in the school setting. Detailed help and information is available by calling toll free: 1-800-DIABETES (342-2383). Helpful information is also available at [www.diabetes.org/advocacy](http://www.diabetes.org/advocacy).

<sup>81</sup> See 34 C.F.R. §100.7(e) (Section 504) and 28 C.F.R. §§35.134, 36.206 (ADA).

<sup>82</sup> See Wis. Stat. §§115.758, et seq.; it should be noted that the OCR has no jurisdiction under the IDEA.





## Section 13: Forms

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### SECTION OVERVIEW

- Diabetes Medical Management Plan
  - Section 504 Plan for a Student with Diabetes
  - Emergency Action Plan
  - Documentation of Instruction from Registered Nurse to Trained School Personnel
  - Diabetes Management Log
- .....

## DIABETES MEDICAL MANAGEMENT PLAN

*The student's healthcare provider and parents/guardians should complete this form. Please fill out entire form. Review with relevant school personnel who have an educational and safety interest in students with diabetes. Keep copies to share with the school nurse, trained school personnel, and other authorized personnel.*

Current Date \_\_\_\_\_

### Student Information

Student Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
School Grade No.: \_\_\_\_\_ Homeroom Teacher: \_\_\_\_\_  
School Name: \_\_\_\_\_ School District: \_\_\_\_\_

Type of Diabetes: \_\_\_\_\_ Date Diagnosed: \_\_\_\_\_ Last A1C  
date/result: \_\_\_\_\_ A1C Goal: \_\_\_\_\_

### Parent/Guardian Contact Information

Mother/Guardian: \_\_\_\_\_  
Email: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: Home ( ) \_\_\_\_\_ Work ( ) \_\_\_\_\_ Cell ( ) \_\_\_\_\_  
Father/Guardian: \_\_\_\_\_  
Email: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: Home ( ) \_\_\_\_\_ Work ( ) \_\_\_\_\_ Cell ( ) \_\_\_\_\_

### Health Care Provider and Emergency Contact Information

Student's Primary Health Care Provider: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_  
Nurse: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_  
Endocrine Specialist: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_  
Certified Diabetes Educator: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_  
Additional Emergency Contact: \_\_\_\_\_ Relationship: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: Home ( ) \_\_\_\_\_ Work ( ) \_\_\_\_\_ Cell ( ) \_\_\_\_\_  
Preferred Hospital: \_\_\_\_\_

### Notify parents/guardians or additional emergency contact in the following situation(s):

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_

**LOW BLOOD GLUCOSE/HYPOGLYCEMIA**

**Symptoms of low blood glucose** (check most common for student):

**MILD to...**

**MODERATE to...**

**SEVERE**

- Hungry
- Shaky/weak/clammy
- Blurred vision/glassy eyes
- Dizzy/headache
- Sweaty/flushed/hot
- Tired/drowsy
- Fast heartbeat
- Pale skin color
- Other: \_\_\_\_\_
- Usually has no symptoms

- Mood/behavior change
- Inattentive/spacey
- Slurred/garbled speech
- Anxious/irritable
- Numbness or tingling around lips
- Poor coordination
- Unable to concentrate
- Personality change
- Other: \_\_\_\_\_
- Usually has no symptoms

- Confused/unable to follow commands
- Unable to swallow
- Unable to awaken (unconscious)
- Seizure
- Convulsion

**Treatment of low blood glucose** (Check all that apply):

- Give \_\_\_\_\_ grams carbohydrate of one of the following (check all that apply):
    - \_\_\_\_\_ oz milk
    - \_\_\_\_\_ oz fruit juice
    - \_\_\_\_\_ grams of glucose gel
    - \_\_\_\_\_ glucose tablets
    - Other: \_\_\_\_\_
    - Other: \_\_\_\_\_
  - Recheck blood glucose in 15 minutes **OR**  Other: \_\_\_\_\_
  - If blood glucose is less than \_\_\_\_\_ mg/dL, give another \_\_\_\_\_ grams of carbohydrate
  - If it is more than 1 hour before next meal/snack give (circle one) extra snack or \_\_\_\_\_ grams of carbohydrate.
- Students using a continuous glucose monitor must always use a finger stick glucose reading to confirm low blood glucose.*

**GLUCAGON (check all that apply):**

Not applicable

**Administer Glucagon if student is:** confused/unable to follow commands, unable to swallow, unable to awaken (unconscious), or having a seizure or convulsion

Glucagon Dose (check):  0.5 mg or  1.0 mg      Injection site (check):  arm  thigh  other \_\_\_\_\_

**If student uses an insulin pump and exhibits symptoms of severe low blood glucose, in addition to giving Glucagon:**

- Disconnect tubing from student
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

**HIGH BLOOD GLUCOSE/HYPERGLYCEMIA**

**Symptoms of high blood glucose** (check most common for student):

**MILD to...**

**MODERATE to...**

**SEVERE**

- Frequent urination/bedwetting
- Extreme thirst/dry mouth
- Sweet, fruity breath
- Tiredness/fatigue
- Increased hunger
- Blurred vision
- Flushed skin
- Lack of concentration
- Other: \_\_\_\_\_

- Mild symptoms, and
- Nausea/vomiting
- Stomach pain/cramps
- Dry/itchy skin
- Unusual weight loss
- Other: \_\_\_\_\_

- Mild and moderate symptoms, and
- Labored breathing
- Weakness
- Confusion
- Unconsciousness

**Treatment of high blood glucose** (check all that apply):

- Provide correction/supplemental dose of insulin (see *Insulin and Insulin Pump sections*)
- If blood glucose is: \_\_\_\_\_ mg/dL **and/or** if student is sick ⇒ **check ketones** in (check):  urine  blood
- Blood glucose ≥ \_\_\_\_\_ mg/dL **without ketones** recheck blood glucose level in (check):  2 hour
- Blood glucose ≥ \_\_\_\_\_ mg/dL **with ketones** (check below):

**If ketones are:**

**Trace/Small**

**Moderate/Large**

- Allow free bathroom access
- Encourage water and/or other sugar-free fluids
- Recheck blood glucose levels in 2 hours
- Recheck ketones in 2 hours
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

- Allow free bathroom access
- Encourage water and/or other sugar-free fluids
- Call parents/guardians
- Arrange for student to be taken home and/or to see his/her healthcare provider
- Other: \_\_\_\_\_

*Students using a continuous glucose monitor must always use a finger stick glucose reading to confirm high blood glucose.*

**BLOOD GLUCOSE MONITORING**

*Not applicable*

Name of glucose monitor: \_\_\_\_\_

Student will test at school.  Yes  No

Student can perform own blood glucose check.  Yes  No Exceptions: \_\_\_\_\_

**Target blood glucose range:** \_\_\_\_\_ to \_\_\_\_\_ mg/dL

**Routine glucose monitoring at school (check all that apply):**

Before breakfast  Before morning snack  Before lunch  Before afternoon snack  End of school day

**Additional glucose monitoring at school (check all that apply):**

Before physical activity/physical education  Symptoms of low blood glucose  Other \_\_\_\_\_  
 During physical activity/physical education  Symptoms of high blood glucose  Other \_\_\_\_\_  
 After physical activity/physical education  Student becomes sick or is sick  Other \_\_\_\_\_

**CONTINUOUS GLUCOSE MONITORS (CGM)**

*Not applicable*

**Treatment decisions and diabetes care plan adjustments should always be made based upon a meter blood glucose reading.**

Name of CGM: \_\_\_\_\_

CGM alert for low blood glucose is set at \_\_\_\_\_ mg/dL  CGM alert for high blood glucose is set at \_\_\_\_\_ mg/dL

**Check blood glucose by finger stick in these situations (all apply):**

- Any high or low glucose alert
- Any symptoms of low or high blood glucose
- CGM readings are questionable
- Before insulin or medication is used to lower glucose
- Any time the CGM system is not working
- Other: \_\_\_\_\_

**Additional comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SICK DAY**

**If a Student comes to school sick or becomes sick at school (do all the following):**

- Encourage water
- Offer sugar-free fluids
- Check blood glucose (if > \_\_\_\_\_ see High Blood Glucose section)
- Check Ketones
- Call parents/guardians
- Arrange for student to be excused from school
- Other: \_\_\_\_\_

**DIABETES SUPPLIES TO BE KEPT AT SCHOOL**

- Blood glucose monitor, blood glucose test strips, batteries for monitor
- Fast-acting source of glucose
- Lancet device, lancets, gloves
- Carbohydrate containing snack
- Urine/blood ketone testing supplies
- Glucagon emergency kit
- Insulin vials and syringes
- Other: \_\_\_\_\_
- Insulin pump supplies
- Other: \_\_\_\_\_
- Insulin pen, pen needles, insulin cartridges
- Other: \_\_\_\_\_

**DIABETES ORAL MEDICATION**

*Not applicable*

**Name of medication, dose and schedule (list):**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



### MEALS/SNACKS AT SCHOOL

Student independently calculates the amount of carbohydrate in meals/snacks:  Yes  No

Student may eat carbohydrates as desired:  Yes  No (If no, indicate amounts below)

#### Common Carbohydrate Amounts and Timing of Meals/Snack:

Breakfast: \_\_\_\_\_ grams or servings at \_\_\_\_\_ Morning snack: \_\_\_\_\_ grams or servings at \_\_\_\_\_

Lunch: \_\_\_\_\_ grams or servings at \_\_\_\_\_ Afternoon snack: \_\_\_\_\_ grams or servings at \_\_\_\_\_

Dinner: \_\_\_\_\_ grams or servings at \_\_\_\_\_ Night snack: \_\_\_\_\_ grams or servings at \_\_\_\_\_

**Additional snack(s) required:**  Before physical activity  After physical activity  Other: \_\_\_\_\_

Preferred snack foods (*list*): \_\_\_\_\_

Food allergies: \_\_\_\_\_

Foods to avoid (*if any*): \_\_\_\_\_

List food options for school parties and special school events:

Option 1: \_\_\_\_\_

Option 2: \_\_\_\_\_

**Note: For Students using Insulin refer to prior Insulin section of this form.**

### PHYSICAL ACTIVITY/SPORTS

**Have fast-acting carbohydrates available at times of physical activity and sports.**

Student **should not** exercise/engage in physical activity if ketones are (*circle all that apply*): trace / small / moderate / large

Student **should not** exercise/engage in physical activity:  If blood glucose is greater than \_\_\_\_\_ mg/dL

If blood glucose is less than \_\_\_\_\_ mg/dL

### ALL SCHOOL-SPONSORED ACTIVITIES

(e.g., field trips, extracurricular activities, etc.)

**Notify family of activities in order to preplan by:**  1 week  2 weeks  Other: \_\_\_\_\_

#### The following diabetes supplies should be available to the student during school-sponsored activities:

A copy of the student's Diabetes Medical Management Plan (DMMP), Section 504 Plan, Emergency Action Plan, and Healthcare Plan

Injection/insulin pump supplies and insulin with appropriate storage to prevent spoilage of insulin (if using insulin)

Blood glucose monitor and test strips

Bag lunch or snack (optional)

CGM sensor information

Glucagon kit (if using insulin)

Fast-acting carbohydrate source

Other: \_\_\_\_\_

(e.g., milk, fruit juice, glucose gel, glucose tablets)

I have reviewed and approved the Diabetes Medical Management Plan (DMMP). This DMMP shall remain in effect through the end of the current school year unless discontinued or changed in writing. I understand the DMMP or appropriate parts of the DMMP will be shared with relevant school personnel.

**SIGNATURE** – Health Care Provider \_\_\_\_\_ **Date** \_\_\_\_\_

**SIGNATURE** – Health Care Provider \_\_\_\_\_ **Date** \_\_\_\_\_

**SIGNATURE** – Parent/Guardian \_\_\_\_\_ **Date** \_\_\_\_\_

**SIGNATURE** – Parent/Guardian \_\_\_\_\_ **Date** \_\_\_\_\_

#### Update this plan (*check all that apply*):

Any time there are treatment changes  3 months  6 months  Start of School year  Other \_\_\_\_\_

# Section 504 Plan for a Student with Diabetes

Note: This sample Section 504 Plan lists a broad range of services and accommodations that a student with diabetes might need in school. Individualize the Plan to meet the needs, abilities, and medical condition of each student. Some students will need additional services and accommodations that are not included in this sample plan.

Student's Name: \_\_\_\_\_

Student's Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ School Year: \_\_\_\_\_

Student's Grade: \_\_\_\_ Homeroom Teacher: \_\_\_\_\_ Bus: \_\_\_\_\_

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

## Disability

Type 1 diabetes    Type 2 diabetes    Other \_\_\_\_\_

## OBJECTIVES/GOALS OF THE PLAN

Diabetes can cause blood glucose (sugar) levels that are too high or too low, both of which affect the student's ability to learn, as well as seriously endanger the student's health, both immediately and in the long term. The goal of this Plan is to provide special education and/or related aids and services needed to maintain blood glucose within the student's target range, and to respond appropriately to levels outside this range in accordance with information provided by the personal health care team in the Diabetes Medical Management Plan (DMMP).

## REFERENCES

School accommodations, diabetes care, and other services set out in this Plan are consistent with information and protocols contained in the Students with Diabetes: A Resource Guide for Wisconsin Schools and Families, the National Diabetes Education Program, the American Diabetes Association, and the Juvenile Diabetes Research Foundation.

## DEFINITIONS USED IN THIS PLAN

1. Diabetes Medical Management Plan (DMMP): A plan that describes the diabetes care regimen and identifies the health care needs of a student with diabetes. This plan is developed and approved by the student's personal health care team and family.
2. Emergency Action Plan: A plan that provides school personnel with essential information on how to recognize and treat low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia).
3. Trained school personnel: Non-medical school personnel identified by the school nurse, school administrator, and parents/guardians as willing to be trained in basic diabetes knowledge and who have received training coordinated by the school nurse in diabetes care, including the performance of blood glucose monitoring, insulin and Glucagon administration, recognition and treatment of low blood sugar (hypoglycemia) and high blood sugar (hyperglycemia), performance of ketone checks, and who will perform these diabetes care tasks in the absence of a school nurse.

## 1. PROVISION OF DIABETES CARE

- 1.1 At least \_\_\_\_ staff member(s) will receive training as trained school personnel, and either a school nurse or trained school personnel will be available at the site where the student is at all times during school hours and during school-sponsored activities to provide diabetes care in accordance with this Plan and as directed in the DMMP, including performing or overseeing administration of insulin or other diabetes medications (which, for pump users, includes programming and troubleshooting the student's insulin pump), blood glucose monitoring, ketone checks, responding to hypoglycemia and hyperglycemia, and administration of Glucagon.
- 1.2 Any staff member who is not an trained school personnel and is responsible for the student at any time during school hours and during school-sponsored activities shall receive training that will include a general overview of diabetes and typical health care needs of a student with diabetes, recognition of hypoglycemia and hyperglycemia, and how and when to contact immediately either a school nurse or trained school personnel.

- 1.3 Any bus driver who transports the student must be informed of symptoms of hypoglycemia and hyperglycemia and be provided with a copy of the student's Emergency Action Plan.

## 2. TRAINED SCHOOL PERSONNEL

The following school staff members will be trained by \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ (date)

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## 3. STUDENT'S LEVEL OF SELF-CARE AND LOCATION OF SUPPLIES AND EQUIPMENT

- 3.1 As stated in the attached DMMP:

a. The student is able to perform the following diabetes care tasks without help or supervision:

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and the student shall be permitted to provide this self-care at any time and in any location at the school, during school-sponsored activities, and on school buses.

b. The student needs assistance or supervision with the following diabetes care tasks:

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c. The student needs a school nurse or trained school personnel to perform the following diabetes care tasks:

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- 3.2 The student is permitted to carry the following diabetes supplies and equipment with him/her at all times and in all locations:

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- 3.3 Diabetes supplies/equipment not kept on the student, as well as additional supplies, are located at:

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- 3.4 Parents/guardians are responsible for providing diabetes supplies and food to meet the needs of the student as prescribed in the DMMP.

## 4. SNACKS AND MEALS

- 4.1 The school nurse (or trained school personnel if the school nurse is not available) will work with the student and parents/guardians to coordinate a meal and snack schedule in accordance with the DMMP that will coincide with the schedule of classmates to the closest extent possible. The student shall have enough time to finish lunch. A snack and quick-acting source of glucose must always be immediately available to the student.

- 4.2 The DMMP indicates the scheduled time(s) for snacks, what constitutes a snack, and when the student should have additional snacks. The student shall be permitted to eat a snack no matter where the student is.

- 4.3 The parents/guardians will supply snacks in addition to, or instead of, any snacks supplied to all students.

- 4.4 The parents/guardians will provide carbohydrate content information for snacks and meals brought from home.

- 4.5 The school shall supply carbohydrate content information for meals to be served at school one week in advance or other: \_\_\_\_\_.

- 4.6 The school nurse or trained school personnel will ensure that the student takes snacks and meals at the specified time(s) each day.
- 4.7 Adjustments to snack and meal times shall be permitted in response to changes in schedule upon request of the parent/guardian.

## 5. PHYSICAL ACTIVITY

- 5.1 The student shall be permitted to participate fully in physical education classes and teams sports except as indicated in the student's DMMP.
- 5.2 Physical education instructors and coaches must have a copy of the Emergency Action Plan and be able to recognize and assist with the treatment of hypoglycemia.
- 5.3 Responsible school personnel will make sure that the student's blood glucose meter, a quick-acting source of glucose, and water are always available at the site of physical education class and sports practices and games.

## 6. WATER AND BATHROOM ACCESS

- 6.1 The student shall be permitted to have immediate access to water by keeping a water bottle in his/her possession and at his/her desk. Permission should be granted to the student to use the drinking fountain without restriction.
- 6.2 The student shall be permitted to use the bathroom without restriction.

## 7. CHECKING BLOOD GLUCOSE LEVELS, INSULIN AND MEDICATION ADMINISTRATION, AND TREATING HYPOGLYCEMIA OR HYPERGLYCEMIA

- 7.1 The student's level of self-care is set out in Section 3 of this Plan, including which tasks the student can do by himself/herself and which must be done with the assistance of, or wholly by, either a school nurse or trained school personnel.
- 7.2 Blood glucose monitoring will be done at the times designated in the student's DMMP, whenever the student feels his/her blood glucose level may be high or low, or when symptoms of high or low blood glucose levels are observed. A CGM alert for high or low blood glucose must always be verified with a finger stick reading and treatment should be based on this reading.
- 7.3 Insulin and/or other diabetes medication(s) shall be administered at the times and through the means (e.g. syringe, pen, or pump) designated in the student's DMMP for both scheduled doses and doses needed to correct for high blood glucose levels.
- 7.4 The student shall be provided with privacy for blood glucose monitoring and insulin administration if the student desires.
- 7.5 The student's usual symptoms of high and low blood glucose levels and how to respond to these levels are indicated in the DMMP.
- 7.6 When the student asks for assistance or if school personnel believes the student is showing signs of hypoglycemia or hyperglycemia, that school personnel will immediately seek assistance from the school nurse or trained school personnel while making sure an adult stays with the student at all times. A student with an actual – or suspected – low or high blood glucose level should never be sent anywhere alone.
- 7.7 Any school personnel who finds a student unconscious will immediately contact the school office. The office will immediately do the following in the order listed:
  - a. Contact the school nurse (or trained school personnel, if the school nurse is not on site and immediately available) who will confirm the blood glucose level with a blood glucose monitor if possible and immediately administer Glucagon (administer Glucagon if no monitor is available).
  - b. Call 9-1-1 per district policies and procedures (office personnel will do this without waiting for the school nurse or trained school personnel to administer Glucagon); and
  - c. Contact the student's parent/guardian and health care provider at the emergency numbers provided below in Section 12.
- 7.8 School personnel, including physical education instructors and coaches, shall provide a safe location for the storage of the student's insulin pump if the student chooses not to wear it during physical activity or any other activity.

## 8. SCHOOL-SPONSORED ACTIVITIES AND FIELD TRIPS

- 8.1 The student shall be permitted to participate in all school-sponsored activities and field trips without restriction and with all accommodations and modifications (including supervision by identified school personnel) set out in this Plan. The student's parents/guardians shall not be required to accompany the student on field trips or any other school activity.
- 8.2 The school nurse or trained school personnel shall be available at all school-sponsored activities and field trips, will provide all usual aspects of diabetes care (including, but not limited to: blood glucose monitoring, responding to hypoglycemia and hyperglycemia, providing snacks and access to water and the bathroom, and administering insulin and Glucagon), and will make sure that the student's diabetes supplies travel with the student.

## 9. TESTS AND CLASSROOM WORK

- 9.1 If the student is affected by high or low blood glucose levels at the time of regular testing, the student shall be permitted to take the test at another time without penalty.
- 9.2 If the student needs to take breaks to use the water fountain or bathroom, check blood glucose, or to treat hypoglycemia or hyperglycemia during a test or other activity, the student shall be given extra time to finish the test or other activity without penalty.
- 9.3 The student shall be given instruction to help him/her make up any classroom instruction missed due to diabetes care without penalty.
- 9.4 The student shall not be penalized for absences required for medical appointments and/or for illness. The parent will provide documentation from the treating health care professional if otherwise required by school policy.

## 10. COMMUNICATION

- 10.1 The school nurse, trained school personnel, and other staff shall keep the student's diabetes confidential, except to the extent that the student decides to communicate about it openly with others.
- 10.2 Encouragement is essential. Treat the student in a way that encourages him/her to eat snacks on time, and to progress toward self-care with his/her diabetes management skills.
- 10.3 The teacher, school nurse, or trained school personnel shall provide reasonable advance notice to parents/guardians when there is an expected change in planned activities such as physical activity, playground time, field trips, parties, or lunch schedule, so that the lunch, snack plan, and insulin dosage can be adjusted accordingly.
- 10.4 Each substitute teacher and substitute school nurse shall be provided with written instructions regarding the student's diabetes care and a list of all school nurses and trained school personnel at the school.

## 11. EMERGENCY EVACUATION AND SHELTER-IN-PLACE

- 11.1 In the event of emergency evacuation or shelter-in-place situation, this Plan and the student's DMMP shall remain in full force and effect.
- 11.2 The school nurse or trained school personnel shall provide diabetes care to the student as outlined by this Plan and the student's DMMP, will be responsible for transporting the student's diabetes supplies and equipment, will attempt to establish contact with the student's parents/guardians and provide updates, and will receive information from parents/guardians regarding the student's diabetes care.

## 12. PARENTAL NOTIFICATION

### 12.1 NOTIFY PARENTS/GUARDIANS IMMEDIATELY IN THE FOLLOWING SITUATION(S):

- Symptoms of severe low blood glucose, including: confused/unable to follow commands, unable to swallow, unable to awaken (unconscious), seizure, or confusion.
- The student's blood glucose test result is below \_\_\_\_\_ mg/dL or is below \_\_\_\_\_ mg/dL 15 minutes after consuming milk, fruit juice, glucose gel, glucose tablets, or other \_\_\_\_\_
- Symptoms of severe high blood glucose, including: labored breathing, weakness, confusion, or unconsciousness
- The student's blood glucose test result is above \_\_\_\_\_ mg/dL
- Ketone results show moderate to large ketones (in this case, arrangements should be made for the student to be taken home)
- The student refuses to eat or take insulin bolus or injection
- Any injury
- Insulin pump malfunction cannot be remedied
- CGM malfunctions and cannot be remedied
- Other: \_\_\_\_\_  
\_\_\_\_\_
- Other: \_\_\_\_\_  
\_\_\_\_\_
- Other: \_\_\_\_\_  
\_\_\_\_\_
- Other: \_\_\_\_\_  
\_\_\_\_\_
- Additional Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**12.2 EMERGENCY CONTACT INSTRUCTIONS**

Call parents/guardians at numbers listed below. If unable to reach parents/guardians, call the other emergency contacts or the student’s health care provider(s) listed below.

**EMERGENCY CONTACTS – PARENTS/GUARDIANS:**

|                      |     |              |     |              |     |              |
|----------------------|-----|--------------|-----|--------------|-----|--------------|
| Parent/Guardian Name | ( ) | Home phone # | ( ) | Work phone # | ( ) | Cell phone # |
| Parent/Guardian Name | ( ) | Home phone # | ( ) | Work phone # | ( ) | Cell phone # |
| Parent/Guardian Name | ( ) | Home phone # | ( ) | Work phone # | ( ) | Cell phone # |

**OTHER EMERGENCY CONTACTS:**

|                               |     |              |     |              |     |              |
|-------------------------------|-----|--------------|-----|--------------|-----|--------------|
| Name                          | ( ) | Home phone # | ( ) | Work phone # | ( ) | Cell phone # |
| Relationship to Student _____ |     |              |     |              |     |              |

**STUDENT’S HEALTH CARE PROVIDER(S):**

|      |             |     |         |
|------|-------------|-----|---------|
| Name | Clinic Name | ( ) | Phone # |
| Name | Clinic Name | ( ) | Phone # |

This Plan shall be reviewed and amended at the beginning of each school year or more often if necessary.

**APPROVED AND RECEIVED:**

|   |      |
|---|------|
| School Administrator or 504 Coordinator | Date |
| Registered Nurse                        | Date |
| Parent/Guardian Name                    | Date |
| Other School Personnel                  | Date |

### EMERGENCY ACTION PLAN

Student Name: \_\_\_\_\_ Grade No.: \_\_\_\_\_ Date Requested: \_\_\_\_\_  
 Mother/Guardian: \_\_\_\_\_ Home phone #: \_\_\_\_\_ Work phone #/Cell: \_\_\_\_\_  
 Father/Guardian: \_\_\_\_\_ Home phone #: \_\_\_\_\_ Work phone #/Cell: \_\_\_\_\_  
 Health care provider: \_\_\_\_\_ Office phone #: \_\_\_\_\_  
 List preferred hospital: \_\_\_\_\_



I have  **type 1** /  **type 2 diabetes**, which means I take  
 insulin /  oral medication along with balancing diet and  
 physical activity. I check my blood glucose several times a  
 day. Please follow the steps below to help keep me safe.

#### LOW BLOOD GLUCOSE REACTIONS

My blood glucose may go too low (hypoglycemia). This is very dangerous. If you think my blood glucose is low, let me check my blood glucose in the classroom. If I go elsewhere to check my blood glucose, **someone must accompany me**. Never leave me or send me somewhere alone to check my blood glucose. My symptoms of low blood glucose include (*check*):

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Hungry                     | <input type="checkbox"/> Inattentive/spacey                 | <input type="checkbox"/> Unable to awaken (unconscious) |
| <input type="checkbox"/> Shaky/weak/clammy          | <input type="checkbox"/> Slurred/garbled speech             | <input type="checkbox"/> Seizure                        |
| <input type="checkbox"/> Blurred vision/glassy eyes | <input type="checkbox"/> Anxious/irritable                  | <input type="checkbox"/> Convulsion                     |
| <input type="checkbox"/> Dizzy/headache             | <input type="checkbox"/> Numbness or tingling around lips   | <input type="checkbox"/> Other _____                    |
| <input type="checkbox"/> Sweaty/flushed/hot         | <input type="checkbox"/> Poor coordination                  | <input type="checkbox"/> Other _____                    |
| <input type="checkbox"/> Tired/drowsy               | <input type="checkbox"/> Unable to concentrate              | <input type="checkbox"/> Other _____                    |
| <input type="checkbox"/> Fast heartbeat             | <input type="checkbox"/> Personality change                 | <input type="checkbox"/> Other _____                    |
| <input type="checkbox"/> Pale skin color            | <input type="checkbox"/> Confused/unable to follow commands | <input type="checkbox"/> Other _____                    |
| <input type="checkbox"/> Mood/behavior change       | <input type="checkbox"/> Unable to swallow                  | <input type="checkbox"/> Usually has no symptoms        |

**If my blood glucose is less than:**  70 mg/dL **or**  \_\_\_\_\_ mg/dL **I NEED TO EAT FAST-ACTING GLUCOSE QUICKLY**

- 1) Give \_\_\_\_\_ grams carbohydrate of one of the following (*check*):  
 \_\_\_\_\_ oz milk    \_\_\_\_\_ oz fruit juice    \_\_\_\_\_ grams of glucose gel    \_\_\_\_\_ glucose tablets    other \_\_\_\_\_
- 2) Recheck blood glucose in 15 minutes
- 3) If blood glucose is less than \_\_\_\_\_ mg/dL, give another \_\_\_\_\_ grams carbohydrate
- 4) Repeat above steps as needed
- 5) Troubleshoot the cause(s) of the low blood glucose if possible

**If my blood glucose drops too low, I may be confused/unable to follow commands, unable to swallow, unconscious, or having a seizure.**

- 1) **Do not** give me anything by mouth
- 2) **Give me Glucagon** Dose (*check*):  **0.5 mg** or  **1.0 mg**
- 3) Position me on my side, as there is a risk of vomiting
- 4) Stay with me; do not leave me alone
- 5) Contact school nurse/trained school personnel
- 6) Call **9-1-1** per school district policies and procedures
- 7) Contact my parents/guardians and/or health care provider
- 8) Check my blood glucose and troubleshoot cause(s) of low blood glucose if possible

**Glucagon is not life threatening even if it is given when not needed.**

Prepared by School Nurse: \_\_\_\_\_ Date prepared: \_\_\_\_\_

Note: It is important to be familiar with your local EMS system

**DOCUMENTATION OF INSTRUCTION FROM  
 REGISTERED NURSE TO TRAINED SCHOOL PERSONNEL**

**Student Name:** \_\_\_\_\_ **Date of Birth:** \_\_\_\_\_

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

**Trained School Personnel Name:** \_\_\_\_\_

Has been instructed in the following procedure(s):

| Dates | TSP Initials | RN Initials | Procedure | Comments |
|-------|--------------|-------------|-----------|----------|
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |
|       |              |             |           |          |

The designated trained school personnel has satisfactorily demonstrated the ability to carry out the procedure(s) safely. Both the trained school personnel and the registered nurse have agreed that the task can be safely monitored with periodic supervision. Therefore, the above named person agrees and states that: "I have received training in the procedure(s) initialed above and am capable, willing, and physically able to perform the procedure(s) as per written guidelines."

Signature of Trained School Personnel: \_\_\_\_\_ Date: \_\_\_\_\_

**Follow-Up Training and Supervision:**

| Dates | TSP Initials | RN Initials | Comments |
|-------|--------------|-------------|----------|
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |
|       |              |             |          |

| Date | Signature of RN | Date | Signature of RN |
|------|-----------------|------|-----------------|
|      |                 |      |                 |
|      |                 |      |                 |
|      |                 |      |                 |







## Section 14: Tools

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### SECTION OVERVIEW

- Delegating Glucagon Administration
  - Delegating Insulin Pump Therapy
  - Delegating Insulin Administration by Pen
  - Emergency Information Form for Children with Special Needs
  - Communication Tool for School Personnel
  - Carbohydrate Amounts in Foods
  - Super Healthy Snacks
  - Meal Planning with the Plate Method: Lunch/Dinner
  - How to Use a Food Label to Select Foods
  - MyPyramid for Kids
  - Tips for Teens: Lower Your Risk for Type 2 Diabetes
  - MyActivity Pyramid
  - Healthy People at Every Stage of Life Framework: Core Messages
  - Diabetes Camp Flyer
- .....

## DELEGATING GLUCAGON ADMINISTRATION

Delegation must only be done by a registered nurse in accordance with Wisconsin state laws and regulations. The health, safety, and welfare of the student are the primary considerations. The school nurse is responsible for choosing, training, and providing ongoing supervision of the trained school personnel.

Successful delegation of Glucagon administration is dependent on the use of a Diabetes Medical Management Plan and Emergency Action Plan, which clearly outline the actions to take, including proper time, dose, route, and injection site.

\_\_\_\_\_  
Trained School Personnel

\_\_\_\_\_  
Delegating Registered Nurse

\_\_\_\_\_  
Student

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

|   | Initial Training<br>Date/Initial | Return<br>Demonstration<br>Date/Initial* | Updated Training |               |               |
|---|----------------------------------|--|------------------|---------------|---------------|
|   |                                  |  | Date/Initial*    | Date/Initial* | Date/Initial* |
| 1. Gather supplies (Glucagon kit, alcohol wipes, cotton ball, and gloves)   |                                  |  |                  |               |               |
| 2. Wash hands and put on clean, disposable gloves   |                                  |  |                  |               |               |
| 3. Remove flip-off seal from vial (bottle) of Glucagon powder   |                                  |  |                  |               |               |
| 4. Remove needle protector from syringe   |                                  |  |                  |               |               |
| 5. Inject entire contents of syringe into vial of Glucagon powder   |                                  |  |                  |               |               |
| 6. Remove syringe; swirl vial gently until Glucagon dissolves and solution becomes clear  |                                  |  |                  |               |               |
| 7. Insert same syringe into vial, hold vial upside down, and remove all of the solution from the vial into the syringe                        |                                  |  |                  |               |               |
| 8. Withdraw needle from vial, hold syringe upright, and remove air/bubbles from syringe   |                                  |  |                  |               |               |
| 9. Cleanse injection site on buttock, arm, or thigh with alcohol swab if possible   |                                  |  |                  |               |               |
| 10. For subcutaneous injection only, pinch up skin/tissue (still holding alcohol wipe)  |                                  |  |                  |               |               |
| 11. For subcutaneous and intramuscular injection, insert needle at a 90 degree angle into selected injection site and give Glucagon solution. |                                  |  |                  |               |               |
| 12. Withdraw needle and press gently with alcohol wipe or cotton ball at injection site   |                                  |  |                  |               |               |

\* Place appropriate code: ( + ) = Task performed well ( - ) = Task not performed well

National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.

**DELEGATING GLUCAGON ADMINISTRATION (continued)**

|  | Initial Training<br>Date/Initial | Return<br>Demonstration<br>Date/Initial* | Updated Training |               |               |
|--|----------------------------------|--|------------------|---------------|---------------|
|  |                                  |  | Date/Initial*    | Date/Initial* | Date/Initial* |
| 13. Turn student on his/her side                                     |                                  |  |                  |               |               |
| 14. Place used needle in commercially-<br>available sharps container |                                  |  |                  |               |               |
| 15. Document per school policy                                       |                                  |  |                  |               |               |

\* Place appropriate code: ( + ) = Task performed well ( - ) = Task not performed well

Improvement Plan for Tasks not Performed Well:

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Other: \_\_\_\_\_

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|                                     |       |
|-------------------------------------|-------|
| Registered Nurse Signature/Initial: | Date: |
|                                     |       |
|                                     |       |
|                                     |       |

|   |       |
|---|-------|
| Trained School Personnel Signature/Initial: | Date: |
|   |       |
|   |       |
|   |       |

*National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.*

## DELEGATING INSULIN PUMP THERAPY

Delegation must only be done by a registered nurse in accordance with Wisconsin state laws and regulations. The health, safety, and welfare of the student are the primary considerations. The school nurse is responsible for choosing, training, and providing ongoing supervision of the trained school personnel.

Successful delegation of insulin administration is dependent on the use of a Diabetes Medical Management Plan and Emergency Action Plan, which clearly outline the actions to take.

Occasionally, a student may need to have his/her pump put into a suspend mode or may need to replace his/her infusion set while at school.

\_\_\_\_\_  
Trained School Personnel

\_\_\_\_\_  
Delegating Registered Nurse

\_\_\_\_\_  
Student

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

Name of insulin pump: \_\_\_\_\_

Blood glucose meter: \_\_\_\_\_

Insulin pump instructions and toll-free number attached: \_\_\_\_\_ Yes \_\_\_\_\_ No

**Students on an insulin pump must have the following emergency supplies available at school:**

- A vial (or pen and pen cartridge) of insulin
- Syringes or insulin pen needles
- Ketone testing supplies

| Insulin Pump Management Task  | Initial Training Date/Initial | Return Demonstration Date/Initial* | Updated Training |               |               |
|---|-------------------------------|------------------------------------|------------------|---------------|---------------|
|   |                               |                                    | Date/Initial*    | Date/Initial* | Date/Initial* |
| 1. Adequately trained school personnel instructed on type of pump and basic operating functions of the pump and demonstrates: |                               |                                    |                  |               |               |
| 2. How to give a bolus  |                               |                                    |                  |               |               |
| 3. How to use the dose calculator function in the pump  |                               |                                    |                  |               |               |
| 4. How to suspend the pump  |                               |                                    |                  |               |               |
| 5. How to check the status of the pump  |                               |                                    |                  |               |               |
| 6. How to verify the last bolus given   |                               |                                    |                  |               |               |
| 7. How to verify the pump is not in "no delivery" mode  |                               |                                    |                  |               |               |

\* Place appropriate code: ( + ) = Task performed well ( - ) = Task not performed well

*National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.*

### DELEGATING INSULIN PUMP THERAPY (continued)

| Insulin Pump Management Task   | Initial Training Date/Initial | Return Demonstration Date/Initial* | Updated Training |               |               |
|--|-------------------------------|------------------------------------|------------------|---------------|---------------|
|  |                               |                                    | Date/Initial*    | Date/Initial* | Date/Initial* |
| 8. How to change the batteries in the pump   |                               |                                    |                  |               |               |
| 9. How to check insulin reservoir and insertion site   |                               |                                    |                  |               |               |
| 10. For students using an insulin dose calculator, trained school personnel must demonstrate how to look at the pump dose calculations for correct dose of insulin, then demonstrate if dose is within parameters, and activate pump to administer dose. |                               |                                    |                  |               |               |
| 11. If the pump infusion set is no longer functional and the student is unable to re-insert his/her own infusion set, contact a parent/guardian to come to school to re-insert the infusion set.   |                               |                                    |                  |               |               |

\* Place appropriate code: ( + ) = Task performed well ( - ) = Task not performed well

Improvement Plan for Tasks not Performed Well: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Other: \_\_\_\_\_

\_\_\_\_\_

|                                     |       |
|-------------------------------------|-------|
| Registered Nurse Signature/Initial: | Date: |
|                                     |       |
|                                     |       |
|                                     |       |

|   |       |
|---|-------|
| Trained School Personnel Signature/Initial: | Date: |
|   |       |
|   |       |
|   |       |

*National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.*

## DELEGATING INSULIN ADMINISTRATION BY PEN

Delegation must only be done by a registered nurse in accordance with Wisconsin state laws and regulations. The health, safety, and welfare of the student are the primary considerations. The school nurse is responsible for choosing, training, and providing ongoing supervision of the trained school personnel.

Successful delegation of insulin administration is dependent on the use of a Diabetes Medical Management Plan, which clearly outlines the actions to take.

\_\_\_\_\_  
Trained School Personnel

\_\_\_\_\_  
Delegating Registered Nurse

\_\_\_\_\_  
Student

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

|  | Initial Training Date/Initial | Return Demonstration Date/Initial* | Updated Training |               |               |
|--|-------------------------------|------------------------------------|------------------|---------------|---------------|
|  |                               |                                    | Date/Initial*    | Date/Initial* | Date/Initial* |
| 1. Determine type of pen that student uses (non-disposable or disposable) and prepare insulin cartridge                        |                               |                                    |                  |               |               |
| → Non-disposable pen: Most of the time, the insulin cartridge will be in pen already. If not, load insulin cartridge into pen. |                               |                                    |                  |               |               |
| → Disposable Prefilled Pen: A prefilled insulin cartridge is already in pen  |                               |                                    |                  |               |               |
| 2. Wash hands, gather supplies, and apply clean, disposable gloves   |                               |                                    |                  |               |               |
| 3. Check expiration date for insulin pen cartridge or disposable pen   |                               |                                    |                  |               |               |
| 4. Attach pen needle by twisting it on end of insulin pen (wipe top of insulin pen with alcohol wipe if instructed to do so)   |                               |                                    |                  |               |               |
| 5. Pull off and remove the outer pen needle protective cap and set aside   |                               |                                    |                  |               |               |
| 6. Holding pen upright, prime pen by dialing in 2 units; this checks insulin flow (this is sometimes called an "air shot")     |                               |                                    |                  |               |               |
| 7. Push end of the pen (plunger) to push out the 2 units; a small drop of insulin should be seen at the end of the needle      |                               |                                    |                  |               |               |
| 8. Dial in desired insulin dose (pens dial insulin in ½, 1, or 2 unit increments)  |                               |                                    |                  |               |               |
| 9. Assist student in choosing the injection site; cleanse skin with alcohol  |                               |                                    |                  |               |               |

\* Place appropriate code: ( + ) = Task performed well ( - ) = Task not performed well

National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.

**DELEGATING INSULIN ADMINISTRATION BY PEN (continued)**

|  | Initial Training<br>Date/Initial | Return<br>Demonstration<br>Date/Initial* | Updated Training |               |               |
|--|----------------------------------|--|------------------|---------------|---------------|
|  |                                  |  | Date/Initial*    | Date/Initial* | Date/Initial* |
| 10. Pinch a small area of skin and insert pen needle through skin  |                                  |  |                  |               |               |
| 11. Push end of the pen (plunger) button down completely to give (deliver) insulin   |                                  |  |                  |               |               |
| 12. Wait five seconds while keeping pen and pen needle in place to ensure all insulin is given   |                                  |  |                  |               |               |
| 13. Withdraw and remove insulin pen and needle from skin; wipe injection site with cotton ball if needed   |                                  |  |                  |               |               |
| 14. Unscrew and remove pen needle without replacing needle cap. (If using safety needles, twist and remove.) Dispose of needle properly in a sharps container. |                                  |  |                  |               |               |

Improvement Plan for Tasks not Performed Well: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Other: \_\_\_\_\_

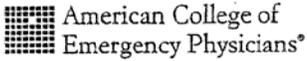
\_\_\_\_\_

|                                     |       |
|-------------------------------------|-------|
| Registered Nurse Signature/Initial: | Date: |
|                                     |       |
|                                     |       |
|                                     |       |

|   |       |
|---|-------|
| Trained School Personnel Signature/Initial: | Date: |
|   |       |
|   |       |
|   |       |

*National Association of School Nurses H.A.N.D.S.<sup>SM</sup>. (2008). Permission granted to adapt with acknowledgement.*

# Emergency Information Form for Children With Special Needs



American Academy of Pediatrics



|                     |         |          |
|---------------------|---------|----------|
| Date form completed | Revised | Initials |
| By Whom             | Revised | Initials |

|  |   |                  |           |
|--|---|------------------|-----------|
| <b>Name:</b>                               |   | Birth date:      | Nickname: |
| Home Address:                              |   | Home/Work Phone: |           |
| Parent/Guardian:                           | Emergency Contact Names & Relationship: |                  |           |
| Signature/Consent*:                        |   |                  |           |
| Primary Language:                          | Phone Number(s):                        |                  |           |
| <b>Physicians:</b>                         |   |                  |           |
| Primary care physician:                    |   | Emergency Phone: |           |
|  |   | Fax:             |           |
| Current Specialty physician:<br>Specialty: |   | Emergency Phone: |           |
|  |   | Fax:             |           |
| Current Specialty physician:<br>Specialty: |   | Emergency Phone: |           |
|  |   | Fax:             |           |
| Anticipated Primary ED:                    |   | Pharmacy:        |           |
| Anticipated Tertiary Care Center:          |   |                  |           |

|   |                               |
|---|-------------------------------|
| <b>Diagnoses/Past Procedures/Physical Exam:</b> |                               |
| 1.  | Baseline physical findings:   |
|   |                               |
| 2.  |                               |
|   |                               |
| 3.  | Baseline vital signs:         |
|   |                               |
| 4.  |                               |
| Synopsis:                                       | Baseline neurological status: |
|   |                               |
|   |                               |
|   |                               |

\*Consent for release of this form to health care providers



## COMMUNICATION TOOL FOR SCHOOL PERSONNEL

This tool serves as a communication and documentation tool for school personnel when sending a student to the health office and when sending the student back to the classroom.

### Step #1: Teacher/School Personnel

**Fill in your name, room number, date, student's name and date of birth, and any complaints or symptoms that the student verbalizes or are observed.**

Student's Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Classroom: \_\_\_\_\_

Teacher/Personnel Name: \_\_\_\_\_ Date: \_\_\_\_\_ Time of Day: \_\_\_\_\_

**(DO NOT SEND ALONE)** Name of classmate accompanying student: \_\_\_\_\_

Physical activity before symptoms:     None     Physical Education     Recess     Other \_\_\_\_\_

Teacher/Personnel Actions: \_\_\_\_\_

**Student's Complaints/Symptoms (check all that apply):**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Hunger                        | <input type="checkbox"/> Drowsiness/Tiredness  | <input type="checkbox"/> Slurred speech  |
| <input type="checkbox"/> Shakiness/Weakness            | <input type="checkbox"/> Fast heartbeat        | <input type="checkbox"/> Confusion   |
| <input type="checkbox"/> Numbness/Tingling around lips | <input type="checkbox"/> Flushed/Hot           | <input type="checkbox"/> Personality change ( <i>tantrum, combative, acting out</i> )                              |
| <input type="checkbox"/> Pale skin color               | <input type="checkbox"/> Unable to concentrate | <input type="checkbox"/> Emotional/Mood change ( <i>crying, quiet, irritable, crabby, inappropriate laughing</i> ) |
| <input type="checkbox"/> Anxiousness                   | <input type="checkbox"/> Not paying attention  | <input type="checkbox"/> Other _____   |
| <input type="checkbox"/> Dizziness/Headache            | <input type="checkbox"/> Poor coordination     | <input type="checkbox"/> None observed   |
| <input type="checkbox"/> Sweating                      | <input type="checkbox"/> Blurred vision        |  |

### Step #2: School Nurse/Trained School Personnel

**Complete this section and return a copy of this form to the teacher.**

Blood glucose checked:     Yes     No                      Blood glucose result: \_\_\_\_\_ mg/dL

Temperature \_\_\_\_\_ °F / °C                      Pulse \_\_\_\_\_ bpm                      Blood pressure \_\_\_\_\_ / \_\_\_\_\_ mmHg

Medication given:     Yes     No                      If yes, what? \_\_\_\_\_

Recommended follow up:     1 hour     2 hours     3 hours     None needed

Brief report: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Check all that apply:**

- No further complaints
- No physical symptoms
- No symptoms of low blood sugar
- No symptoms of high blood sugar

**Actions:**

- Sent back to class
- Parents/guardians notified
- Sent home
- Primary care provider notified
- Called 9-1-1
- Other \_\_\_\_\_

Signature of School Nurse or  
 Other Trained School Personnel \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

# Carbohydrate Amounts in Foods

The following foods provide approximately 15 grams of carbohydrate (1 carb choice) for the portion size indicated:

## Starches and Grains

- 1 slice of bread or 1 small dinner roll
- 1/2 hot dog bun or 1/2 hamburger bun
- 1/3 cup cooked pasta or noodles
- 1/3 cup cooked rice
- 3/4 cup unsweetened cereal
- 1/2 cup sweetened cereal
- 1/2 cup corn, peas, or squash
- 1/2 cup dried beans, peas, or other legumes
- 1/2 cup potatoes
- 6 snack crackers
- 1 six-inch tortilla or hard taco shell
- 1/3 of a 3-4 inch bagel
- 15 potato chips
- 15 French fries
- One 5" pancake or one 5" waffle
- 3 cups popcorn
- 1/2 English muffin

## Fruits

- 1 small apple, orange, pear, or banana
- 15 grapes
- 1 cup of fresh berries or melon
- 1/2 cup of unsweetened juice
- 1/2 cup of canned fruit or 4 oz fruit cup (packed in water)
- 2 tbsp. of dried fruit
- 12 bing cherries
- 1/2 cup unsweetened applesauce
- 1/2 cup fresh fruit with light whipped topping
- 1 frozen 100% fruit bar

## Dairy Foods

- 1 cup of low-fat white milk
- 1/2 cup of low-fat chocolate or flavored milk
- 6 oz. container of light yogurt
- 1/2 cup frozen yogurt
- 1/2 cup sugar-free/light ice cream
- 1 sugar-free pudding cup

## Sweets and Desserts

- 2 small cookies
- 1 package of fruit snacks
- 1 fruit roll-up
- 1/2 cup of regular Jell-O
- 1/2 cup of ice cream
- 1/2 cup of reduced-sugar pudding
- 1 snack-size or fun-size candy bar
- 1/4 cup sherbet

## Munchies

- 3 graham cracker squares (2 1/2 inches)
- 10 small pretzels
- 6 saltine crackers
- 5-8 snack crackers
- 3 cups light microwave popcorn
- 8 animal crackers
- 30 oyster crackers
- 25 square cheese crackers
- 12 mini rice cakes
- 2 plain or white cheddar rice cakes
- 1 caramel or chocolate rice cake
- 1 small granola bar

## Nuts and Seeds

**(each serving has approximately 8 grams carbohydrate)**

- 1 oz. of nuts
- 2 tbsp. of peanut butter or other nut butter

## Carbohydrate Amounts in Foods (continued)

### Non-Starchy Vegetables

**(each serving has approximately 5 grams carbohydrate)**

1 cup of raw, low-starch vegetables  
(salad, cauliflower, broccoli, carrots, lettuce, cucumbers, peppers, celery, radishes, tomatoes)

1/2 cup of cooked, non-starch vegetables  
(asparagus, beets, spinach, greens, broccoli, cauliflower, carrots, green beans, zucchini)

4 oz. can of tomato juice

1 tbsp. catsup

### School Lunch Items

School lunch items can vary considerably in amounts of carbohydrate. For example, one piece of 4" X 6" pizza could have 33, 36, or 42 grams of carbohydrate depending on the brand. For best results in counting carbohydrates at school, it is essential to work with a registered dietitian and food service personnel.

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Disclaimer: Amounts of food and number of carbohydrates are approximate. Always check with your school's food service personnel for exact amounts.

---

# Super Healthy Snacks

Check Nutrition Facts for information on serving size and carbohydrate. Serving size is important and must be considered when choosing to eat a food or drink item. These snack options do not include the grams of carbohydrates nor serving size.

## Dairy

- String cheese or other low-fat cheese
- Fat-free cottage cheese or yogurt with fruit and/or nuts/seeds
- Smoothie with milk or yogurt and sliced bananas or strawberries
- Sugar-free pudding
- Light yogurt with fresh fruit or granola
- Low-fat white milk
- Sugar-free low-fat chocolate or strawberry milk
- Frozen yogurt with fresh berries

## Fruits and Vegetables

- Raw veggie sticks with low-fat dressing, yogurt dip, cottage cheese or hummus
- Apple and cheese or peanut butter
- Pear or other fresh fruits
- Canned fruit in light syrup
- Melon
- Grapes
- Celery and peanut butter
- Baby carrots
- Fruit salad
- Lettuce salad
- Unsweetened applesauce cup
- Frozen 100% fruit bars
- Dried fruit such as raisins or plums and nuts
- Tomato, veggie, or fruit juice
- Cherry or grape tomatoes

## Grains

- Unsweetened cereal (dry or with low-fat or fat-free milk)
- Pretzels (lightly salted or unsalted) and a glass of milk
- Whole wheat bagel or English muffin with tomato sauce and melted cheese
- Flavored rice cakes (like caramel or apple cinnamon) with peanut butter
- Popcorn (air popped or low-fat microwave)
- Whole-wheat crackers with cheese or peanut butter

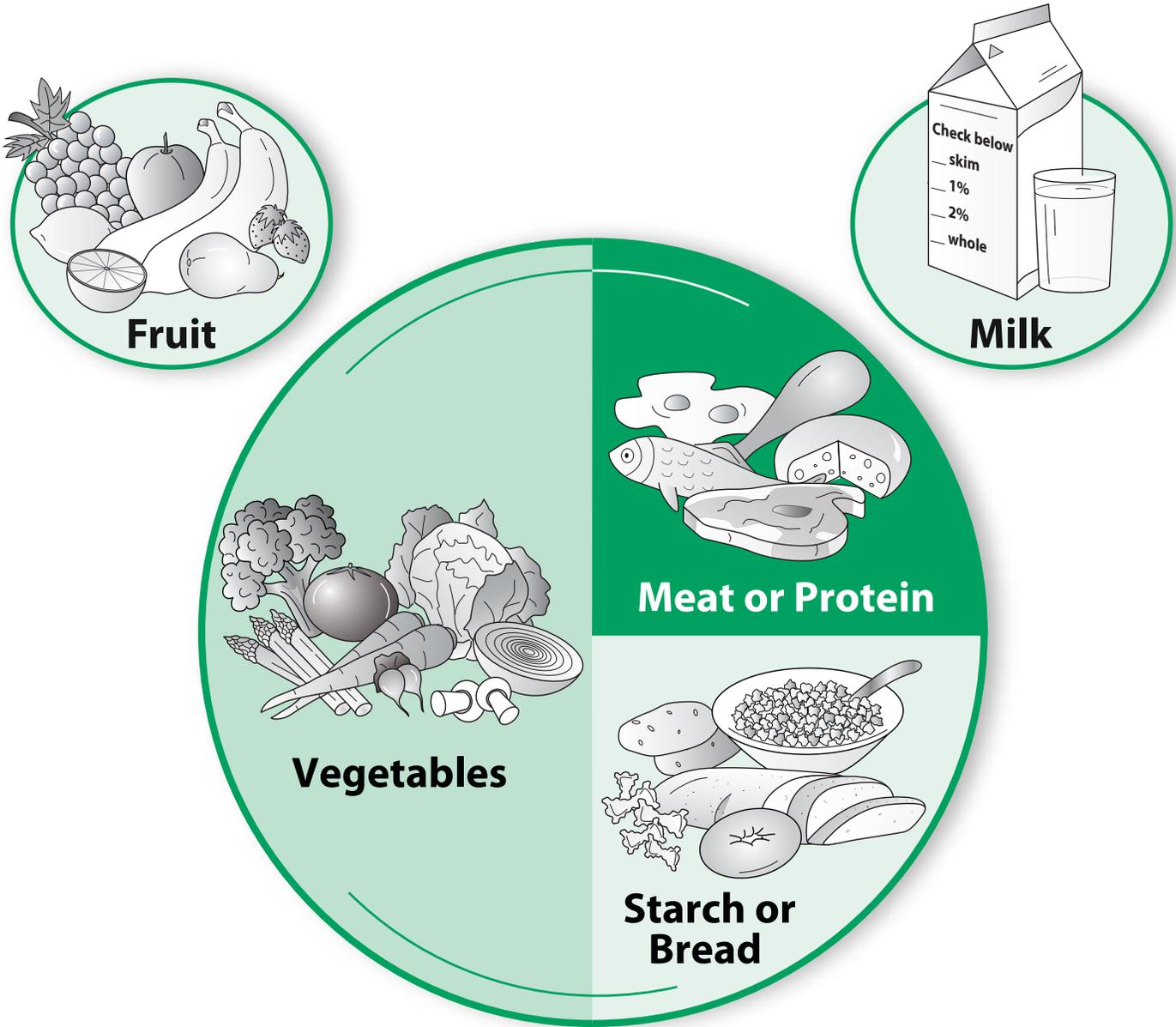
## Munchies

- Graham cracker squares
- Small pretzels
- Saltine, animal, oyster crackers
- Light microwave popcorn
- Low-fat/reduced fat crackers
- Mini rice cakes
- Plain or white cheddar rice cakes
- Caramel or chocolate rice cake
- Small granola bar



# Meal Planning with the Plate Method: Lunch/Dinner

The Plate Method is a method of meal planning that provides an even distribution of carbohydrates, a lower fat intake, and an increased amount of fruits and vegetables. The Plate Method can help plan meals by dividing a plate as shown below:



**Starch or Bread, Fruit, and Milk food groups raise blood sugar.**

**Low carbohydrate vegetables raise blood sugar in tiny amounts.**

**Meat/Protein foods raise blood sugar in tiny amounts.**

# How to Use a Food Label to Select Foods

## 1. Locate the serving size

- The information on the label is for this serving size.
- How does it compare to your serving size?

## 2. Locate the total carbohydrate grams (g)

- 15g carbohydrate = 1 “carbohydrate serving” or “1 carbohydrate choice”

## 3. Locate dietary fiber grams (g)

- The recommended daily grams of fiber should equal the child’s age plus 5 (for children older than 2 years). ⌘

Example: Your 4-year-old child should eat 9 grams of fiber per day (4 + 5 = 9)

- Aim for 3-5 grams fiber per serving.
- Fiber does not turn to sugar like other carbohydrate does.
- If fiber is over 5 grams per serving, subtract half of fiber from total carbohydrate grams.

$$\begin{array}{r}
 \text{Total carb grams (30)} \\
 - \text{Dietary Fiber grams (10/2 = 5)} \\
 = \text{Net carb grams that you count (30 - 5 = 25)}
 \end{array}$$

- Soluble fiber may help lower cholesterol levels.
- Soluble fiber sources = oats, beans, lentils, vegetables, fruits.

## 4. Locate total fat grams (g)

- “Low fat” = less than 3g fat per serving.
- Choose cheese with less than 5g total fat per ounce.
- Choose frozen entrees with less than 15g total fat each.

## 5. Locate cholesterol milligrams (mg)

- Aim for 200mg cholesterol or less per day.
- Cholesterol is found in animal foods (meat, egg, milk, cheese, butter, etc.).

## 6. Locate sodium milligrams (mg)

- Aim for 2,300mg sodium or less per day.
- Choose frozen entrees with less than 800mg sodium.

⌘ American Academy of Pediatrics recommendation

Adapted from material provided by UW Health Medical Foundation, Health Education and Nutrition Department. (2008).

Breakfast Cereal

## Nutrition Facts

Serving Size 1 cup (52 g)

Servings per container 8

| Amount Per serving     |                     |
|------------------------|---------------------|
| Calories 148           | Calories from Fat 9 |
| % Daily Value*         |                     |
| Total Fat 1 g          | 2%                  |
| Saturated Fat 0g       | 1%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 86mg            | 4%                  |
| Total Carbohydrate 30g | 10%                 |
| Dietary Fiber 10g      | 41%                 |
| Sugars 6g              | 41%                 |
| Protein 14g            |                     |
| Vitamin A              | 1% • Vitamin C 0%   |
| Calcium                | 7% • Iron 14%       |

\*Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

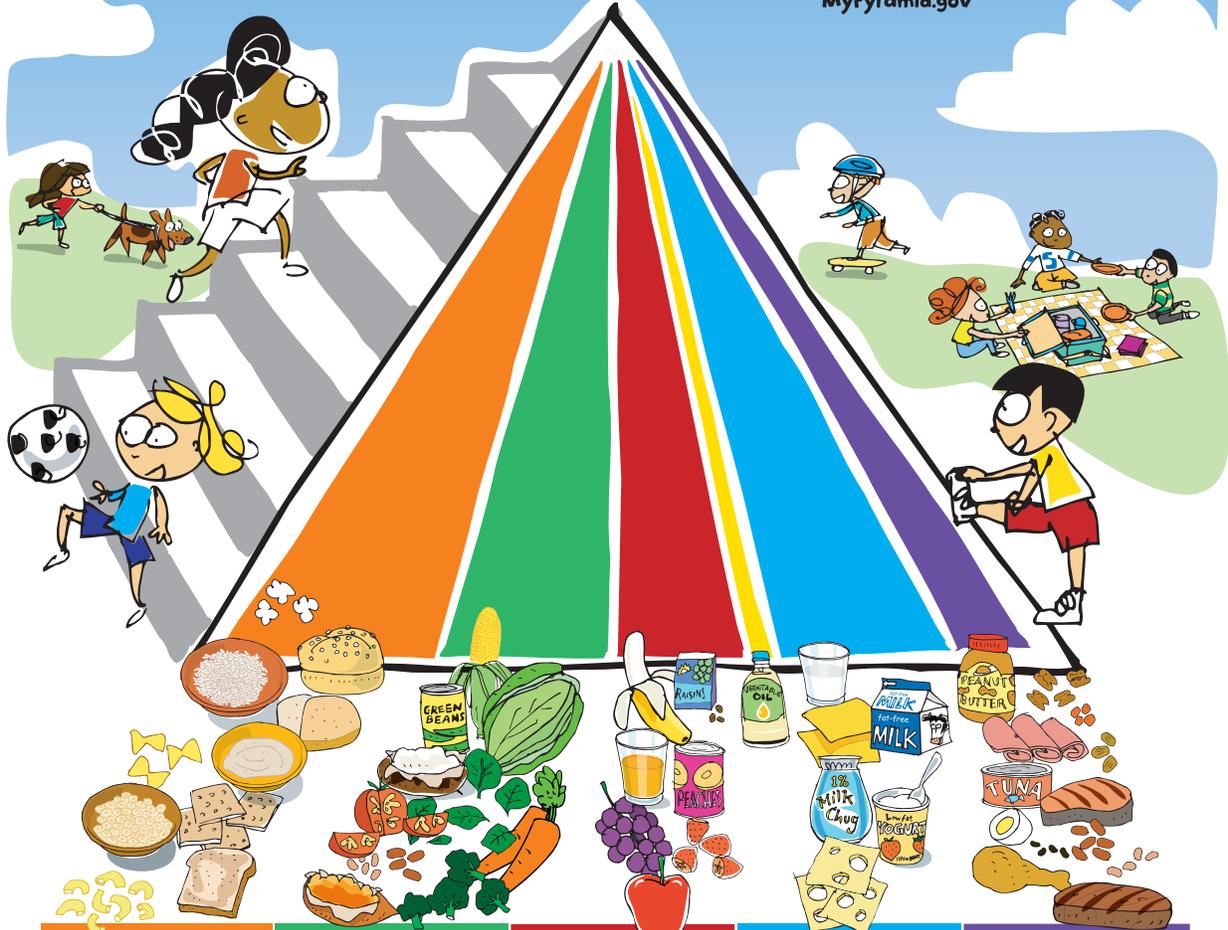
©www.NutritionData.com

Disclaimer: This label is for general purpose education. Locating serving size and total carbohydrate grams are all that is necessary for basic carbohydrate counting/insulin dosing. Adjusting for fiber grams for school lunch may not be appropriate.

# MyPyramid For Kids

Eat Right. Exercise. Have Fun.

MyPyramid.gov



| Grains<br>Make half your grains whole   | Vegetables<br>Vary your veggies  | Fruits<br>Focus on fruits   | Milk<br>Get your calcium-rich foods   | Meat & Beans<br>Go lean with protein   |
|---|--|---|---|--|
| <p>Start smart with breakfast. Look for whole-grain cereals.</p> <p>Just because bread is brown doesn't mean it's whole-grain. Search the ingredients list to make sure the first word is "whole" (like "whole wheat").</p> | <p>Color your plate with all kinds of great-tasting veggies.</p> <p>What's green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.</p> | <p>Fruits are nature's treats – sweet and delicious.</p> <p>Go easy on juice and make sure it's 100%.</p> | <p>Move to the milk group to get your calcium. Calcium builds strong bones.</p> <p>Look at the carton or container to make sure your milk, yogurt, or cheese is lowfat or fat-free.</p> | <p>Eat lean or lowfat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled – not fried.</p> <p>It's nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.</p> |

For an 1,800-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

|   |                          |                          |  |                     |
|---|--------------------------|--------------------------|--|---------------------|
| Eat 6 oz. every day;<br>at least half should be whole | Eat 2 1/2 cups every day | Eat 1 1/2 cups every day | Get 3 cups every day;<br>for kids ages 2 to 8, it's 2 cups | Eat 5 oz. every day |
|---|--------------------------|--------------------------|--|---------------------|

**Oils** Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

|   |   |
|---|---|
| <p><b>Find your balance between food and fun</b></p> <ul style="list-style-type: none"> <li>Move more. Aim for at least 60 minutes everyday, or most days.</li> <li>Walk, dance, bike, rollerblade – it all counts. How great is that!</li> </ul> | <p><b>Fats and sugars – know your limits</b></p> <ul style="list-style-type: none"> <li>Get your fat facts and sugar smarts from the Nutrition Facts label.</li> <li>Limit solid fats as well as foods that contain them.</li> <li>Choose food and beverages low in added sugars and other caloric sweeteners.</li> </ul> |
|---|---|



United States Department of Agriculture, Food and Nutrition Service. (2005). MyPyramid for Kids Poster – Advanced Elementary. Retrieved from: [http://teamnutrition.usda.gov/Resources/mpk\\_poster2.pdf](http://teamnutrition.usda.gov/Resources/mpk_poster2.pdf)

## Tips for Teens

# Lower Your Risk for Type 2 Diabetes

National Diabetes Education Program



Today, more teens  
than ever before  
have type 2 diabetes.

Have  
more energy,  
more fun, and  
feel good  
about yourself!

*Take action now...* **check out tips**  
**to lower your risk** ➔

# Be active, eat well, and lower your risk!

## What is type 2 diabetes?

Diabetes means that blood glucose (GLOO-kos), also called blood sugar, is too high. Glucose comes from the food we eat and is needed to fuel our bodies. Glucose is also stored in our liver and muscles. Your blood always has some glucose in it because your body needs glucose for energy. An organ called the pancreas (PAN-kree-as) makes insulin (IN-suh-lin). Insulin helps glucose get from your blood into your cells. Cells take the glucose and turn it into energy.

If you have diabetes, the pancreas makes little or no insulin or your cells cannot use insulin very well. Glucose builds up in your blood and cannot get into your cells. If blood glucose stays too high, it can damage many parts of the body such as the heart, eyes, kidneys, and nerves.

If you have type 2 diabetes, you may need to take insulin or pills to help your body's supply of insulin work better. Type 2 used to be called "adult onset diabetes." Now more teens are getting type 2, especially if they are overweight.

be  
active

## How can I lower my risk for getting type 2 diabetes?



There are several ways to lower your risk:

- Stay at a **healthy weight**.
- Be more **physically active**.
- Choose to eat the right amounts of **healthy foods**.
- Follow the ideas on this tip sheet and share them with your friends and family. They are good for everyone's health.

## What puts you at risk?

You are at risk if you:

- are overweight
- don't get enough physical activity
- have a mom, dad, or other close relative who has type 2 diabetes
- are American Indian, Alaska Native, African American, Hispanic/Latino, Asian American, or Pacific Islander

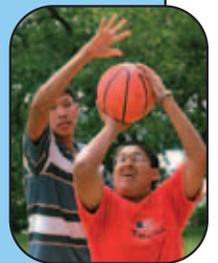


**FACT: Eating too much sugar does not cause diabetes.**

## How will physical activity help?

Like eating well, physical activity can help you feel good. Being physically active may:

- help you control your weight, build lean muscle, and reduce your body fat
- strengthen your bones
- increase flexibility and balance
- improve your self-esteem and mood
- help you sleep better
- help you focus in school
- improve your teamwork skills through sports



## Know the warning signs:

If you have type 2 diabetes, you might:

- urinate a lot
- be very thirsty
- lose weight without any reason
- feel tired
- have patches of thick, dark skin that feels like velvet on your neck or under your arms

Some teens do not notice any of these warning signs. They find out they have diabetes when they go to their doctor for a check-up.

## What can I do to be more active?

Okay, let's get started:

- **Set small goals at first.** Do not get upset if you can not do a lot or if you get out of breath at first. Keep moving! Any amount of activity will help. Add more activity each week until you reach your goal.
- **Aim for at least 60 minutes everyday.** You don't have to do it all at once—20 minutes at a time, three times a day is okay, too. There are lots of ways to be active. Go for a walk, ride a bike, dance, play ball, or shoot hoops. Choose what you like best, then do it!

**What can I eat?** “Your Healthy Food Guide” gives ideas about what kinds of foods are good for you. Remember, this is only a guide. Talk with your doctor or dietitian about making a meal plan just for you.

## Your Healthy Food Guide

### Vegetables



Choose **dark green and orange vegetables** as often as you can.

**Aim for 2½ to 3 cups a day. Here are choices that equal 1 cup:**

- 1 cup cut up raw or cooked or vegetables
- 2 cups leafy salad greens
- 1 cup vegetable juice

### Fruits



Choose **fresh whole fruits** as often as you can.

**Aim for 1½ to 2 cups a day. Here are choices that equal 1 cup:**

- 1 cup cut up raw or cooked fruit
- 1 cup fruit juice
- ½ cup dried fruit

### Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts



**Aim for 5 to 6 ounces a day. Here are choices that equal 1 ounce:**

- 1 ounce lean meat, fish, or chicken
- 1 egg
- 1 tablespoon peanut butter
- ½ ounce nuts
- ¼ cup cooked dry peas or beans such as kidney, white, split, or blackeye
- ¼ cup tofu

### Regular Soda, Candy, Cookies, and Desserts



If you choose to eat these foods, have a very small amount and **not every day**.

### Milk, Yogurt, and Cheese



**Aim for 3 cups a day. Here are choices that equal 1 cup:**

- 1 cup nonfat or low-fat milk or yogurt
- 1½ ounces cheese

### Breads, Cereals, Rice, and Pasta



Choose **whole grain foods** for at least 3 of your 6 choices.

**Aim for 6 to 7 ounces a day. Here are choices that equal 1 ounce:**

- ½ cup of cooked cereal
- ½ cup cooked rice or pasta
- 1 cup ready-to-eat cereal
- 1 slice of whole grain bread
- ½ small bagel or 1 small muffin

### Heart-healthy Fats



**One serving is**

- 1 teaspoon vegetable, olive, or canola oil
- 1 teaspoon tub margarine
- 5 large olives or ⅛ avocado
- 1 tablespoon low-fat mayonnaise
- 2 tablespoons low-fat salad dressing

**How much should you eat?**

You get most of the fat your body needs from other foods you eat—so choose only a few extra servings of these heart-healthy fats each day.

Source: USDA ([www.usda.gov](http://www.usda.gov))

### How much should I eat?

The amount of food you need to eat each day varies with your age, sex, height, and activity level. The amounts in “Your Healthy Food Guide” are right for girls age 11 to 17 or boys age 11 to 14 who get 30 to 60 minutes of physical activity each day. If you are a boy older than 14, or if you want to enter your own height or activity level, visit [www.mypyramid.gov](http://www.mypyramid.gov).

**Limit your screen time.** Turn off the TV and get moving! Several studies have found that teens who watch a lot of TV have more body fat than those who watch TV less than two hours a day.

## More physically active?

- If you are overweight, **check with your doctor** before you start a physical activity program.
- **Be active every day.** Physical activity should be part of your daily life. Play sports, take P.E. or dance, or other exercise classes—check out your local Y for some ideas. Get from place to place by walking or biking. Take the stairs whenever you can.



**Try to cut some calories. If you cut 100 to 200 calories a day, it can make a big difference.**

| If you:   | You could cut about: |
|---|----------------------|
| Drink water instead of regular soda or a sweetened fruit drink              | <b>150 calories</b>  |
| Eat a piece of fruit instead of a candy bar or a bag of chips               | <b>200 calories</b>  |
| Eat a small serving of french fries or share a big one                      | <b>250 calories</b>  |
| Eat one half cup of sugar-free, nonfat pudding instead of regular ice cream | <b>150 calories</b>  |

## Try these healthy eating tips.



- Take your time when you eat. It takes about 15 minutes for your stomach to tell your brain that you are full. So, wait 15 minutes before eating second helpings.
- Do not skip meals. Eat breakfast, lunch, and dinner, plus a snack. You will have a ready supply of energy and not get too hungry.
- For breakfast, try one or two slices of whole grain toast with a tablespoon of peanut butter, a hard-boiled egg, or a piece of low-fat cheese, along with a glass of low-fat or nonfat milk.
- Make a sandwich with turkey or lean beef for lunch. Use mustard or a little low-fat mayonnaise.
- Snack on a small bowl of whole-grain cereal with low-fat or nonfat milk and a piece of fruit.
- Don't "super-size" it! Order smaller, kid-sized meals and drink water or low-fat or nonfat milk. Share a larger meal with a friend.
- Fill up half of your plate with salad or vegetables. Use small amounts of low-fat salad dressing, mayonnaise, or margarine.

## What's in it for me?

If you lower your risk for type 2 diabetes, you will:

- have more energy
- feel good about yourself
- be healthy now and in the future

**Take action now.** Use the ideas in this tip sheet to stay healthy and lower your risk for type 2 diabetes.

## Are studies being done about type 2 diabetes?

Yes, studies are being done to learn ways to help prevent and manage type 2 diabetes in kids and teens.

**The SEARCH for Diabetes in Youth Study** is finding out how many kids and teens have type 2 diabetes. [www.searchfordiabetes.org](http://www.searchfordiabetes.org)

**The TODAY Trial** is finding the best ways to treat type 2 diabetes in kids and teens. [www.todaystudy.org](http://www.todaystudy.org)

**The HEALTHY Study** is testing a program to lower risk factors for type 2 diabetes in middle school students.

## Learn more!

### Check out...

**National Diabetes Education Program** for more about diabetes [www.YourDiabetesInfo.org](http://www.YourDiabetesInfo.org)  
1-888-693-NDEP

**American Diabetes Association** for help to manage diabetes [www.diabetes.org/planetD](http://www.diabetes.org/planetD)  
1-800-DIABETES (1-800-342-2383)

**American Dietetic Association** to find a dietitian near you [www.eatright.org](http://www.eatright.org) • 1-800-366-1655

**Bam! Body and Mind** website for help to stay healthy [www.bam.gov](http://www.bam.gov)

**Children With Diabetes** website for more about kids and families with diabetes [www.childrenwithdiabetes.com](http://www.childrenwithdiabetes.com)

**MyPyramid.gov** for more about healthy eating and being active [www.mypyramid.gov](http://www.mypyramid.gov)

**National Association for Health and Fitness** that promotes physical activity [www.physicalfitness.org](http://www.physicalfitness.org) • 1-716-583-0521

**National Diabetes Information Clearinghouse** for more about diabetes [www.diabetes.niddk.nih.gov](http://www.diabetes.niddk.nih.gov) • 1-800-860-8747

**President's Council on Physical Fitness and Sports** that promotes physical activity [www.fitness.gov](http://www.fitness.gov)  
1-202-690-9000

**USDA Team Nutrition** to make healthy food choices and stay active [www.fns.usda.gov/eatsmartplayhardkids](http://www.fns.usda.gov/eatsmartplayhardkids)

**VERB** for cool and fun ways to be active every day [www.verbnow.com](http://www.verbnow.com)

**WIN - Weight-control Information Network** for weight control help

- *Take Charge of Your Health! A Teenager's Guide to Better Health*

[www.win.niddk.nih.gov/publications/take\\_charge.htm](http://www.win.niddk.nih.gov/publications/take_charge.htm)  
1-877-946-4627

### Special thanks to the teens who helped create this tip sheet

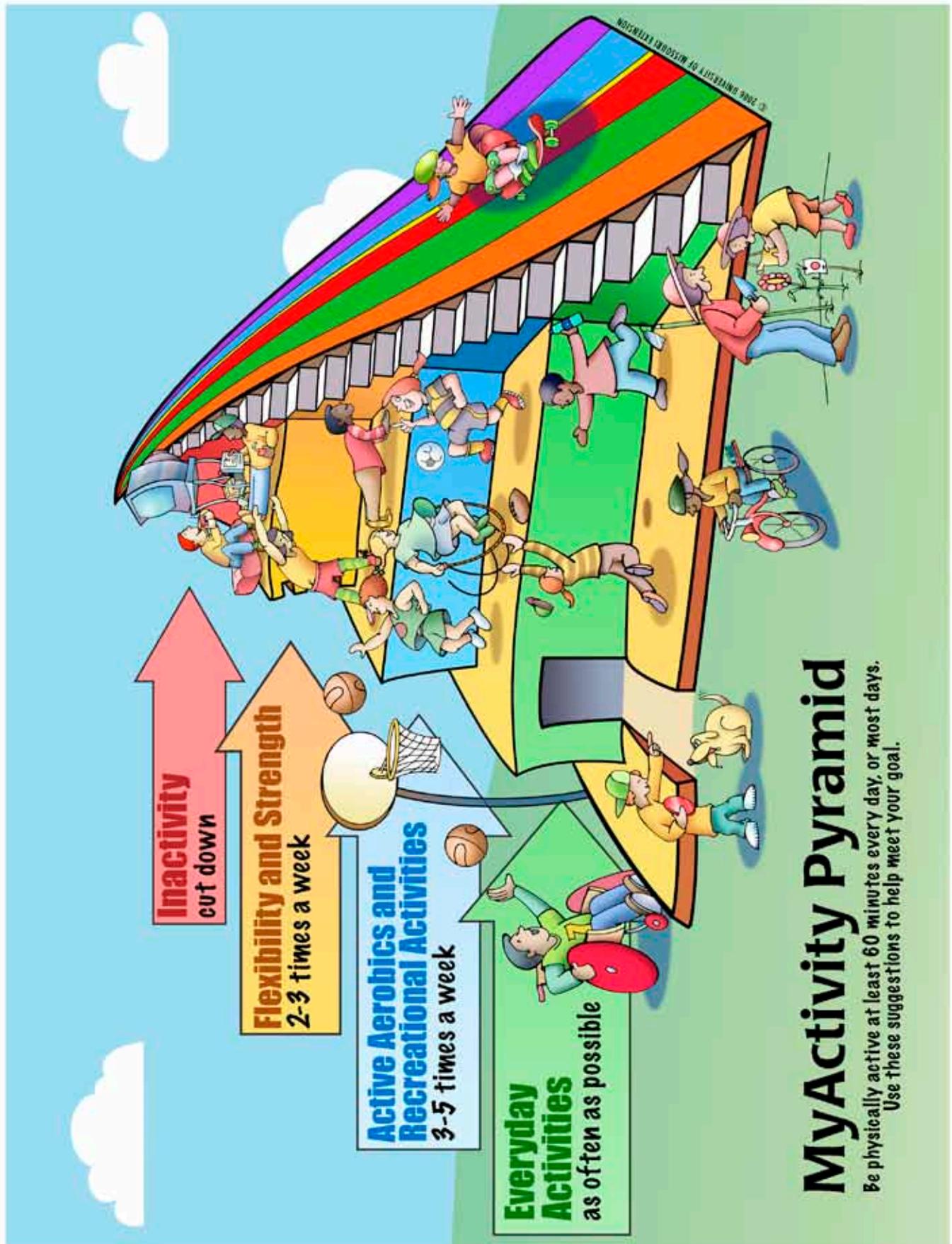
Francine Kaufman, M.D., Head, Center for Diabetes, Endocrinology and Metabolism at Childrens Hospital Los Angeles and Janet Silverstein, M.D., Professor and Chief, Pediatric Endocrinology, Department of Pediatrics, University of Florida, Gainesville, FL reviewed this material for technical accuracy.



[www.YourDiabetesInfo.org](http://www.YourDiabetesInfo.org)

The U.S. Department of Health and Human Services' National Diabetes Education Program is jointly sponsored by the National Institutes of Health and the Centers for Disease Control and Prevention with the support of more than 200 partner organizations. [www.YourDiabetesInfo.org](http://www.YourDiabetesInfo.org) or 1-888-693-NDEP

Revised November 2007 NIH Publication No. 08-5295 NDEP-87



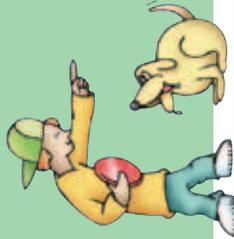
# MyActivity Pyramid

Be physically active at least 60 minutes every day, or most days.  
Use these suggestions to help meet your goal.

Curators of the University of Missouri Extension. (2006). MyActivity Pyramid. Retrieved from: <http://extension.missouri.edu/explorepdf/hesguide/foodnut/n00386.pdf>. Reprinted with permission.

# MyActivity Pyramid

Be physically active at least 60 minutes every day, or most days.  
Use these suggestions to help meet your goal:

|  |   |   |   |
|--|---|---|---|
| <p><b>Everyday Activities</b></p> <p><b>As often as possible</b></p> <ul style="list-style-type: none"> <li>• Playing outside</li> <li>• Helping with chores around the house or yard</li> <li>• Taking the stairs instead of the elevator</li> <li>• Picking up toys</li> <li>• Walking</li> </ul>  | <p><b>Active Aerobics and Recreational Activities</b></p> <p><b>3-5 times a week</b></p> <ul style="list-style-type: none"> <li>• Playing basketball</li> <li>• Biking</li> <li>• Playing baseball or softball</li> <li>• Rollerblading</li> <li>• Skateboarding</li> <li>• Playing soccer</li> <li>• Swimming</li> <li>• Playground games</li> <li>• Jumping rope</li> </ul>  | <p><b>Flexibility and Strength</b></p> <p><b>2-3 times a week</b></p> <ul style="list-style-type: none"> <li>• Practicing martial arts</li> <li>• Rope climbing</li> <li>• Stretching</li> <li>• Practicing yoga</li> <li>• Doing push-ups and pull-ups</li> </ul>  | <p><b>Inactivity</b></p> <p><b>Cut down</b></p> <ul style="list-style-type: none"> <li>• Watching television</li> <li>• Playing on the computer</li> <li>• Sitting for too long</li> <li>• Playing video games</li> </ul>  |
|--|---|---|---|

## Find your balance between food and fun:

- Move more. Aim for at least 60 minutes every day, or most days.
- Walk, dance, bike, rollerblade – it all counts. How great is that!

This publication is adapted from USDA's MyPyramid and was funded in part by USDA's Food Stamp Program.

UNIVERSITY OF MISSOURI Extension  
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## Give a Child with Diabetes the Experience of a Lifetime

### RESIDENT CAMP FOR CHILDREN WITH DIABETES



### Wisconsin Lions Camp Rosholt, WI

**Tentatively  
Last Week of July and  
First Week of August**



#### **Improve self-care skills, build self-confidence, have fun, make new friends ...**

These are the goals of this unique camping experience for Wisconsin residents ages 8 through 16 – up to 150 of them for each of the two one-week camp sessions.

Campers are supervised by counselors trained to work with children with diabetes, and medically supported by a lead physician and a large team of nurses. Lodging, meals and all diabetes-related supplies are furnished. There is a \$100 registration fee, but all other costs are underwritten by the Wisconsin Lions Foundation, Inc., the American Diabetes Association (ADA) and health industry supporters.

#### **For registration information and an application ...**

The ADA maintains a list of those who want to receive information about the Camp. At the beginning of the year, you will receive a mailing that includes information about that year's camp and an application form to register. Applications are accepted on a first-come, first-served basis—*except* that children who have not previously been to camp are accepted as a first priority. For late applications, a “waiting list” is created in order of application receipt, and cancellations are filled from the “waiting list.”

To get on the list to receive information about the upcoming year's Camp, complete the following form and mail to: ADA Camp Director, Camp for Children With Diabetes, American Diabetes Association-Wisconsin Area, 375 Bishops Way, Suite 220, Brookfield, WI 53005. For more information immediately, contact the Camp Director at (414) 778-5500.

Prospective Camper's Name \_\_\_\_\_ Birth Date \_\_\_\_\_

Parent or Guardian \_\_\_\_\_

Street Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

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



# Section 15: Prevention of and Screening for Type 2 Diabetes in Students

## SECTION OVERVIEW

- Screening for Type 2 Diabetes in Children and Adolescents
- Reducing Risk for Pre-diabetes and Type 2 Diabetes in Children and Adolescents
- Overweight and Obesity in Children and Adolescents
- Body Mass Index
- Supporting Healthy Eating at School

## Screening for Type 2 Diabetes in Children and Adolescents

The American Diabetes Association recommends screening children and adolescents who have an increased risk for developing type 2 diabetes. Table 18 provides information on the criteria used to test for type 2 diabetes in children and adolescents who are at risk and may not have any symptoms of diabetes.

**Table 18: Testing Criteria for Type 2 Diabetes in Children and Adolescents at Risk❖**

| Criteria for Testing*  |  |
|--|--|
| <b>Overweight (BMI &gt; 85th percentile for age and sex, weight for height &gt; 85th percentile, or weight &gt; 120% of ideal for height)</b>  |  |
| <b>Plus any two of the following risk factors:</b>   |  |
| <ul style="list-style-type: none"> <li>■ Family history of type 2 diabetes in first- or second-degree relative</li> <li>■ Race/ethnicity (e.g., Native American, African American, Hispanic/Latino, Asian American, and Pacific Islander)</li> <li>■ Signs of insulin resistance or conditions associated with insulin resistance (e.g., acanthosis nigricans, hypertension, dyslipidemia, polycystic ovarian syndrome, or small-for-gestational-age birth weight)</li> <li>■ Maternal history of diabetes or gestational diabetes during the child's gestation</li> </ul> |  |
| <b>Age of initiation:</b>  | <b>age 10 years or at onset of puberty, if puberty occurs at a younger age</b> |
| <b>Frequency:</b>  | <b>every 3 years</b>   |

*Adapted from: American Diabetes Association Clinical Practice Recommendations, 2010*

❖ Children and adolescents at risk without symptoms.

\* Testing should be individualized, based on clinical judgment, and be performed in a health care setting.

## Section 15: Prevention of and Screening for Type 2 Diabetes in Students

School personnel and school nurses are critical in assisting health care providers in detecting, diagnosing, and obtaining early treatment of children and adolescents with type 1 and type 2 diabetes. Early detection, diagnosis, and treatment may reduce life-threatening complications. Despite medical advancements, students remain undiagnosed with type 1 and type 2 diabetes, resulting in delayed treatment. School personnel can be instrumental in recognizing the signs and symptoms of high blood glucose. Awareness and knowledge of high blood glucose (hyperglycemia) by school personnel may lead to early medical attention, preventing severe medical complications such as diabetic ketoacidosis (DKA). Rates of severe life-threatening DKA at diagnosis remain unacceptably high. For information on signs and symptoms of type 1 and type 2 diabetes, refer to *Section 4: Type 1 Diabetes* and *Section 5: Type 2 Diabetes*.

### Reducing Risk for Pre-diabetes and Type 2 Diabetes in Children and Adolescents

In the United States, approximately 3,700 children and adolescents are diagnosed with type 2 diabetes each year and the number diagnosed with type 2 diabetes is increasing. Preventing pre-diabetes and type 2 diabetes will require coordinated efforts to reduce overweight and obesity. Schools provide an exceptional opportunity to assist students in learning and practicing healthy lifestyle behaviors; however, parents/guardians, health care providers, and communities also need to work together to promote healthy lifestyles for students, their families, and the community. There are several ways to reduce the risk of developing type 2 diabetes:

- Maintain a healthy weight
- Participate in recommended amount of physical activity
- Choose to eat the right amount of healthy foods

#### Reducing Risk Using Physical Activity and Healthy Eating

Increased physical activity and healthy eating are vital to reducing the risk of type 2 diabetes. Sedentary activities such as television, computer, electronics, and handheld games have contributed to increased inactivity in children and adolescents over the past decade. Physical inactivity can lead to long-term, serious consequences in youth. Regular physical activity promotes:

- Healthy body weight and body composition
- Building of lean muscle mass
- Strengthening of bones
- Increased flexibility and balance
- Improved self-esteem and mood
- Healthy sleep habits
- Better ability to focus in school
- Teamwork

## Section 15: Prevention of and Screening for Type 2 Diabetes in Students

A reduction in total body fat (e.g., improvement in body composition and reduction in abdominal girth) can occur as a result of regular physical activity, especially activity that is moderate to vigorous intensity three to five times a week for 30 to 60 minutes. Physical activity plays a critical role in lowering overall blood glucose levels by increasing insulin sensitivity and decreasing insulin resistance. One way to help prevent overweight and obesity (and, therefore, possibly prevent or delay the onset of type 2 diabetes) is to assist students and families in becoming more physically active and learning to enjoy an active lifestyle. Turning off the TV and computer or limiting students to two hours per day and introducing fun programs, such as 10,000 steps and the use of pedometers, are examples. For more information on physical activity, refer to *Section 8: Physical Activity for Students with Diabetes*.

Students need ideas about what they can do to reduce their risk for type 2 diabetes. They also need help to understand foods that are healthy to eat and how much to eat. The National Diabetes Education Program has developed excellent resources to assist students. A tip sheet titled “Tips for Teens: Lower Your Risk for Type 2 Diabetes” is included in *Section 14: Tools*.

### Prevention Strategies for Schools

The Centers for Disease Control and Prevention suggests ten key strategies that schools can implement to help prevent overweight and obesity, as shown in Table 19. All strategies may not be possible to implement; however, working toward one or two of these goals is an excellent start toward a healthy lifestyle. For additional information on the ten strategies for schools, refer to: [www.cdc.gov/HealthyYouth/KeyStrategies](http://www.cdc.gov/HealthyYouth/KeyStrategies).

**Table 19: Ten Strategies for Schools to Promote Physical Activity and Healthy Eating**

| Ten Key Strategies  |   |
|---|---|
| Build a Strong Foundation<br>Strategies 1-4   | Take Action<br>Strategies 5-10  |
| <ol style="list-style-type: none"> <li>1. <b>Address physical activity and nutrition through a Coordinated School Health Program.</b></li> <li>2. <b>Designate a school health coordinator and maintain an active school health council.</b></li> <li>3. <b>Assess the school’s health policies and programs and develop a plan for improvements.</b></li> <li>4. <b>Strengthen the school’s nutrition and physical activity policies.</b></li> </ol> | <ol style="list-style-type: none"> <li>5. <b>Implement high-quality health promotion activities for school staff.</b></li> <li>6. <b>Implement a high-quality course of study in health education.</b></li> <li>7. <b>Implement a high-quality course of study in physical education.</b></li> <li>8. <b>Increase opportunities for students to engage in physical activity.</b></li> <li>9. <b>Implement a quality school meals program.</b></li> <li>10. <b>Ensure that students have appealing, healthy choices in foods and beverages offered outside of the school meals program.</b></li> </ol> |

*Adapted from: Make a Difference at Your School!: [www.cdc.gov/HealthyYouth/KeyStrategies](http://www.cdc.gov/HealthyYouth/KeyStrategies)*

## Section 15: Prevention of and Screening for Type 2 Diabetes in Students

### Overweight and Obesity in Children and Adolescents

Overweight and obesity are associated with increased risk of type 2 diabetes, high cholesterol, asthma, arthritis, sleep apnea, and general poor health status. Rates of overweight and obesity continue to rise in children and adolescents. The national epidemic of overweight and obesity is directly related to physical inactivity and poor dietary choices. Studies show that overweight and obese children and adolescents are more likely to become overweight or obese adults. Overweight and obesity in children and adolescents is complex, often with multiple causes. Overweight is defined as  $\geq$  85th percentile but  $<$  95th percentile. Obesity is defined as  $\geq$  95th percentile.

Wisconsin data from the 2008 Pediatric Nutrition Surveillance System (PedNSS) show that 16% of children aged 2 to 4 are overweight and 14% are obese. (Note that these values are population values for children participating in the Special Supplemental Nutrition Program for Women, Infants, and Children; the values do not represent values for all Wisconsin children.) Data from the 2009 Youth Risk Behavioral Survey (YRBS) showed that 14% of Wisconsin high school students are overweight and 9% are obese. Therefore, nearly 25% of adolescents (1 in every 4) are either overweight or obese.

### Body Mass Index

Body mass index (BMI) is the most widely accepted and practical method used to screen, measure, and determine body weight ratio. BMI is a formula (ratio between height and weight) that is a better predictor of disease risk than body weight alone. BMI correlates closely to direct measures of body fat in most people. However, BMI is not perfect as a measure and may overestimate the level of body fat in athletes or people with a muscular build for example. Although the BMI number is calculated the same way for children and adults, the criteria used to interpret the meaning of BMI for children and adolescents are different from that used for adults. BMI percentile is used to interpret BMI. The BMI percentile for a child is plotted on a growth chart and indicates how that child's BMI compares to the reference population of thousands of children on which the BMI chart is based. For example, if a boy is 10 years old and his BMI falls at the 70th percentile, that means that 30% of 10-year-old boys have a higher BMI and 70% have a lower BMI. BMI percentiles are used in children and adolescents because the amount of body fat changes with age and the amount of body fat differs between girls and boys.

*Weighing and Measuring in Schools*, compiled by the Wisconsin Nutrition and Physical Activity Program (Department of Health Services), provides guidance and policy recommendations about weighing and measuring students and offers resources for creating environments supportive of healthy lifestyles. The document can be found: [http://dhs.wisconsin.gov/health/physicalactivity/Sites/School/To\\_Weigh\\_Measure.pdf](http://dhs.wisconsin.gov/health/physicalactivity/Sites/School/To_Weigh_Measure.pdf).

## Section 15: Prevention of and Screening for Type 2 Diabetes in Students

### Supporting Healthy Eating at School

Children and adolescents spend the majority of their day at school. Schools have a unique opportunity to significantly impact student health in a variety of ways. Emerging research documents the connection between physical activity, good nutrition, and academic performance.

Despite existing barriers to eating healthy (e.g., students eating off campus, students eating fast food), schools can play a critical role in reshaping social and physical environments. Schools can provide information, tools, and practical strategies to help students learn to choose and adopt healthy lifestyles. Healthy lifestyle habits are easier to establish early in childhood. Each school day is an opportunity for students to learn about improving their well-being and to practice skills that promote a healthy lifestyle. Examples of evidence-based Wisconsin nutrition strategies and effective interventions are found in a publication titled: *What Works in . . . Schools*:

[http://dhs.wisconsin.gov/health/physicalactivity/pdf\\_files/WhatWorksSchoolsfinal.pdf](http://dhs.wisconsin.gov/health/physicalactivity/pdf_files/WhatWorksSchoolsfinal.pdf).

Research shows that children and adolescents can learn to choose healthier foods and may do so in adulthood, too. Healthy nutrition education curriculum is encouraged for all grade levels. The Wisconsin Department of Public Instruction has nutrition education information and guidance available at:

<http://dpi.wi.gov/ne/index.html>, including newly developed nutrition education standards.

In 2007, the Institute of Medicine issued a report titled *Nutrition Standards for Foods in Schools: Leading the Way toward Healthier Youth*. Based on the recommendations and standards provided in this report, the Centers for Disease Control and Prevention now provides additional fact sheets for: 1) parents, guardians, teachers, and school staff, 2) school boards, school districts, and other school administrators, 3) school nutrition service personnel, and 4) students. These fact sheets are designed to answer commonly asked questions about the report and provide recommendations for implementing nutrition standards to improve the school food environment. Web links to these fact sheets are included in *Section 16: Resources*.

For resources on incorporating healthy eating lessons into the school day, refer to the “Supporting Healthy Lifestyles in the Schools” area in *Section 16: Resources*.





## Section 16: Resources

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### SECTION OVERVIEW

- General Resources
    - Carbohydrate Counting
    - Diabetes Resources
    - Emergency Services
    - Medical Home
    - Nutrition
    - Physical Activity
    - Preparing for a Disaster or Emergency
    - Privacy Laws
    - Tobacco Use and Cessation
  - Resources for Schools
    - General Resources for Schools
    - Supporting Healthy Lifestyles in the Schools
    - Supporting Healthy Lifestyles in the Worksite
    - Supporting Healthy Lifestyles in the Community
  - Resources for Parents/Guardians
    - General Resources for Parents/Guardians
    - Transitioning to Independence
    - Books for Parents/Guardians
  - Resources for Students
    - General Resources for Students
    - Transitioning to Independence
    - Books for Children and Adolescents
  - Resources for Medical Equipment
- 

Note: A comprehensive list of resources are included found in the Diabetes Resource Guide for Consumers and Health Professionals at <http://dhs.wisconsin.gov/health/diabetes/RG.htm>. Resource areas include financial, government agencies, language and multicultural, organizations, programs and initiatives, worksite wellness, additional internet resources, pharmaceutical companies, community health centers, and free clinics.

## Section 16: Resources

### General Resources

#### Carbohydrate Counting

##### **American Dietetic Association**

###### **Carbohydrate Counting: Focus on Consistency for People who Use Diabetes Pills and Basic Insulin Regimens**

[http://www.dce.org/pub\\_publications/files/carb\\_counting\\_focus\\_consistency.pdf](http://www.dce.org/pub_publications/files/carb_counting_focus_consistency.pdf)

###### **Ready, Set, Start Counting: Carbohydrate Counting – A Tool to Help Manage Your Blood Glucose**

[http://www.dce.org/pub\\_publications/files/ReadySetStart\\_final.pdf](http://www.dce.org/pub_publications/files/ReadySetStart_final.pdf)

#### Diabetes Resources

##### **American Diabetes Association (ADA)**

<http://www.diabetes.org>

##### **Centers for Disease Control and Prevention (CDC)**

<http://www.cdc.gov/diabetes>

##### **Juvenile Diabetes Research Foundation (JDRF)**

<http://www.jdrf.org>

##### **National Diabetes Education Program (NDEP)**

<http://www.YourDiabetesInfo.org>

##### **National Institute of Diabetes and Digestive and Kidney Diseases**

<http://health.nih.gov/topic/Diabetes>

##### **Wisconsin Diabetes Prevention and Control Program**

Wisconsin Division of Public Health

<http://www.WisconsinDiabetesInfo.org>

The following pharmaceutical companies have a variety of educational information on their websites:

**Abbott Laboratories:** [http://www.abbottdiabetescare.com/adc\\_dotcom/url/content/en\\_US/35:35/general\\_content/General\\_Content\\_0000242.htm](http://www.abbottdiabetescare.com/adc_dotcom/url/content/en_US/35:35/general_content/General_Content_0000242.htm)

**Animas Corporation:** <http://www.animascorp.com/about-insulin-pump-therapy/kids-and-diabetes>

**Bayer HealthCare:** <http://www.simplewins.com/site/Kids/Live>

**BD:** <http://www.bd.com/us/diabetes>

**Bristol-Myers Squibb (type 2):** <http://www.bmshealthsource.com/index.aspx?bmscontentpg=Diabetes>

**GlaxoSmithKline:** <http://www.gsk.com/yourhealth/diabetes.htm>

**LifeScan, Inc.:** <http://www.lifescan.com/diabetes>

**Lilly:** <http://www.lillydiabetes.com/content/learning-about-diabetes.jsp>

**Merck & Co, Inc.:** <http://www.merck.com/mmhe/sec13/ch165/ch165a.html>

**Novo Nordisk (parents/teachers):** <http://novonordisk.com/diabetes/public/diabetestools/forparents/default.asp>

**Novo Nordisk (children):** <http://novonordisk.com/diabetes/public/diabetestools/forkids/default.asp>

#### Emergency Services

##### **Emergency Medical Services (EMS) for Children in Wisconsin**

Wisconsin Division of Public Health

<http://dhs.wisconsin.gov/ems/emsc/index.htm>

##### **American Academy of Pediatrics (AAP)**

<http://www.aap.org/>

#### Medical Home

##### **National Center for Medical Home Implementation**

<http://www.medicalhomeinfo.org>

#### Nutrition

##### **Guide to Healthy Restaurant Eating by Hope S. Warshaw, MMS, RD, CDE**

[http://store.diabetes.org/products/product\\_details.jsp?PRODUCT%3C%3Eprd\\_id=845524441763614&FOLDER%3C%3Efolder\\_id=2534374302023935&bmUID=1235082292199](http://store.diabetes.org/products/product_details.jsp?PRODUCT%3C%3Eprd_id=845524441763614&FOLDER%3C%3Efolder_id=2534374302023935&bmUID=1235082292199)

## Section 16: Resources

### Physical Activity

#### **Diabetes Exercise and Sports Association (DESA)**

[www.diabetes-exercise.org](http://www.diabetes-exercise.org)

#### **Physical Activity Guidelines for Children and Adolescents**

<http://www.health.gov/paguidelines/guidelines/chapter3.aspx>.

### Preparing for a Disaster or Emergency

#### **Alamo Association of Diabetes Educators Disaster Response Toolkit**

[http://www.diabeteseducator.org/ProfessionalResources/Library/Disaster\\_Response\\_Toolkit.html](http://www.diabeteseducator.org/ProfessionalResources/Library/Disaster_Response_Toolkit.html)

#### **American Diabetes Association (ADA)**

<http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/tips-for-emergency-preparedness.html>

#### **Children with Diabetes**

[http://www.childrenwithdiabetes.com/d\\_on\\_910.htm](http://www.childrenwithdiabetes.com/d_on_910.htm)

#### **“Diabetes, Disasters and Decisions” Presentation**

[http://www.chronicdisease.org/files/public/DC\\_DDD\\_Presentation.pdf](http://www.chronicdisease.org/files/public/DC_DDD_Presentation.pdf)

#### **Federal Emergency Management Agency**

<http://www.fema.gov/areyouready>

#### **US Department of Homeland Security**

<http://www.ready.gov>

### Privacy Laws

#### **Family Education Rights and Privacy Act (FERPA)**

<http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

#### **Health Insurance Portability and Accountability Act (HIPAA)**

<http://www.hhs.gov/ocr/privacy/hipaa/understanding/consumers/index.html>

### Tobacco Use and Cessation

#### **American Lung Association (ALA)**

##### **Not On Tobacco (N-O-T)**

<http://www.lungwi.org/tobacco/not.cfm>

##### **Freedom From Smoking®**

<http://www.ffsonline.org>

To find a program in Wisconsin: <http://www.lungwi.org/tobacco/clinics.cfm>

#### **Wisconsin Tobacco Quit Line**

<http://www.wiquitline.org>

1-800-QUIT-NOW (1-800-784-8669) – English

1-877-2NO-FUME (1-877-266-3863) – Español



## Section 16: Resources

### Resources for Schools

Children spend at least one-third of their time at school. Schools play an essential role in encouraging healthy lifestyles for all students and employees, including those at risk for high blood pressure, high cholesterol, and type 2 diabetes.

#### General Resources for Schools

##### **American Diabetes Association: For Schools**

Presents information needed in order to understand diabetes and provide a safe environment for all students. Includes training modules used by health care professionals to train school nurses and other school personnel in diabetes care tasks and tips for teachers.

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/>

##### **Diabetes Care Tasks at School: What Key Personnel Need to Know**

This **FREE** two-part training curriculum consists of a CD containing 13 PowerPoint presentations and a DVD with corresponding video segments to be used together by a school nurse or diabetes health care professional to train non-medical school personnel in the performance of diabetes care tasks and to demonstrate how diabetes care should be carried out in the school setting.

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

##### **Helping the Student with Diabetes Succeed: A Guide for School Personnel**

Comprehensive guide empowers school personnel, parents, and students to create a safe learning environment and equal access to educational opportunities for all children with diabetes. Produced by the National Diabetes Education Program and its partners.

[http://ndep.nih.gov/media/youth\\_NDEPSchoolGuide.pdf](http://ndep.nih.gov/media/youth_NDEPSchoolGuide.pdf)

##### **Juvenile Diabetes Research Foundation** ([www.jdrf.org](http://www.jdrf.org))

##### **School Advisory Toolkit**

Helps parents and school personnel ensure that students with type 1 diabetes have the best possible school experience. Hard copies of the toolkit are available from any JDRF chapter in the nation or you may request a downloadable copy at: [http://www.jdrf.org/index.cfm?fuseaction=home.viewPage&page\\_id=7A645925-1279-CFD5-A71730D087DFCE8C](http://www.jdrf.org/index.cfm?fuseaction=home.viewPage&page_id=7A645925-1279-CFD5-A71730D087DFCE8C)

##### **School Assistance Team Online Support**

Provides answers to questions concerning diabetes and schools. Any question relating to diabetes and schools is referred to a member of the School Assistance Team – volunteers, usually with a direct connection to diabetes, who have specialized knowledge about diabetes and school issues. School Assistance Team members will respond via email within 48 hours. The School Assistance Team member will share his or her personal experiences and give as much information as possible to help the person asking the question. All correspondence is confidential. [http://www.jdrf.org/index.cfm?page\\_id=103451](http://www.jdrf.org/index.cfm?page_id=103451)

##### **National Diabetes Education Program (NDEP)**

Provides information about diabetes in children and adolescents as well as the tools and resources to help them manage their diabetes. <http://ndep.nih.gov/resources/index.aspx?Keyword=School+Personnel&Go.x=19&Go.y=16&Go=Go>

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### Supporting Healthy Lifestyles in the Schools

#### **Fresh Fruit and Vegetable Program**

<http://dpi.wi.gov/fns/ffvp.html>

#### **Movin' and Munchin' Schools**

<http://movinandmunchin.com/>

#### **Nutrition Standards for Foods in Schools**

##### **For Students:**

[http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition\\_factsheet\\_youth.pdf](http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition_factsheet_youth.pdf)

##### **For Parents, Guardians, Teachers, and School Staff:**

[http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition\\_factsheet\\_parents.pdf](http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition_factsheet_parents.pdf)

##### **For School Nutrition Service Personnel:**

[http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition\\_factsheet\\_service.pdf](http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition_factsheet_service.pdf)

##### **For School Boards, School Districts, and Other School Administrators**

[http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition\\_factsheet\\_schools.pdf](http://www.cdc.gov/HealthyYouth/nutrition/pdf/nutrition_factsheet_schools.pdf)

#### **Team Nutrition**

**USDA:** <http://www.fns.usda.gov/tn/>

**Wisconsin:** <http://dpi.wi.gov/ne/tninitiative.html>

#### **Wisconsin Department of Public Instruction's Nutrition Education Curriculum**

<http://dpi.wi.gov/ne/index.html>

#### **Wisconsin Governor's School Health Award**

Recognizes schools that support and promote healthy eating; physical activity; alcohol-free, tobacco-free and drug-free lifestyles; parental and community involvement. Applications are due in March and awards are announced in May: <http://www.schoolhealthaward.wi.gov/>

Interested in knowing how your school would score? Schools can complete the assessment step and get a score without submitting an award application. <http://www.schoolhealthaward.wi.gov/section.asp?linkid=1407&locid=73>

#### **Wisconsin Home Grown Lunch Program**

A grassroots program whose goal is to enhance existing school meal programs by introducing fresh, nutritious, local and sustainably grown

food to children. <http://www.reapfoodgroup.org/farmentoschool/>

#### **Wisconsin Nutrition, Physical Activity and Obesity Prevention Program**

Wisconsin Division of Public Health

##### **To Weigh and Measure**

Guidance on weighing and measuring children in the school setting [http://dhs.wisconsin.gov/health/physicalactivity/Sites/School/To\\_Weigh\\_Measure.pdf](http://dhs.wisconsin.gov/health/physicalactivity/Sites/School/To_Weigh_Measure.pdf)

##### **What Works in . . . Schools**

Examples of evidence-based nutrition strategies and effective interventions [http://dhs.wisconsin.gov/health/physicalactivity/pdf\\_files/WhatWorksSchoolsfinal.pdf](http://dhs.wisconsin.gov/health/physicalactivity/pdf_files/WhatWorksSchoolsfinal.pdf)

### Resources for Incorporating Healthy Eating into the Classroom

#### **The Beef Council**

<http://www.teachfree.com/downloadableresourcesandactivitymaster.aspx>

#### **Colorado Department of Education**

<http://www.cde.state.co.us/cdenutritran/nutricafelessons.htm>

#### **Dole Super Kids Program**

[www.dolesuperkids.com](http://www.dolesuperkids.com)

#### **For the Juniors: Eating Classroom Activities**

<http://www.abc.net.au/juniors/pages/food/eating/activity.htm>

#### **Fruits & Veggies: More Matters™**

[www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)

#### **Healthy Living: Creative Classroom Teaching Ideas**

[http://www.healthylivinginfo.ca/nutritionprograms.php?Creative\\_Nutrition\\_Teaching\\_Strategies\\_for\\_Individual\\_Classrooms-5](http://www.healthylivinginfo.ca/nutritionprograms.php?Creative_Nutrition_Teaching_Strategies_for_Individual_Classrooms-5)

#### **Let's Get Fruity at School**

<http://www.nutritionaustralia.org/static/nut-schools.php>

#### **Program ENERGY**

[www.programenergy.org](http://www.programenergy.org)

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### Resources for Incorporating Physical Activity into the Classroom

#### **Animated Drills/Activities for Practice or Physical Education Lessons in Numerous Sports**

[www.sportsplan.net](http://www.sportsplan.net)

#### **Bam! Body and Mind**

[www.bam.gov](http://www.bam.gov)

#### **BrainBreaks: Physical Activity Ideas for Elementary Classroom Teachers**

[www.emc.cmich.edu/brainbreaks/](http://www.emc.cmich.edu/brainbreaks/)

#### **CircusFit** by Ringling Bros. and Barnum & Bailey

[www.circusfit.com](http://www.circusfit.com)

#### **Integrating Physical Activity with Academic Concepts**

[www.ncpe4me.com/energizers.html](http://www.ncpe4me.com/energizers.html)

#### **Marathon Kids**

[www.marathonkids.org](http://www.marathonkids.org)

#### **Teacher's Guide to Physical Activity for Children (6-9 years of age)**

[http://www.healthycanadians.ca/pa-ap/pdf/kids\\_teachguide\\_e.pdf](http://www.healthycanadians.ca/pa-ap/pdf/kids_teachguide_e.pdf)

**For a comprehensive list of resources**, see the Wisconsin Association for Health, Physical Education, Recreation, and Dance's (WAHPERD) Resource Links web page at <http://www.wahperd.org/links.htm>.

### Supporting Healthy Lifestyles in the Worksite

#### **DiabetesAtWork.org**

Helps businesses and managed care companies assess the impact of diabetes in their workplace. It also provides easy-to-understand information for employers to help their employees manage their diabetes and take steps toward reducing the risk for diabetes-related complications such as heart disease. The web site offers user-friendly fact sheets and ready-to-present lesson plans. Developed by the National Diabetes Education Program. [www.DiabetesAtWork.org](http://www.DiabetesAtWork.org)

#### **Diabetes Toolbox**

Helps employers improve employee wellness and reduce the burden of diabetes. The Toolbox contains detailed information on specific workplace strategies including: diabetes overview, early detection, education, supportive work environment, and tools to assist individuals with diabetes. Developed by the Alliance. [www.alliancehealthcoop.com/diabetes](http://www.alliancehealthcoop.com/diabetes)

The **Worksite Wellness Resource Kit** assists worksites with strategies to make a difference in the health of employees. Developed through a partnership led by the Wisconsin Nutrition, Physical Activity and Obesity Prevention Program, Wisconsin Division of Public Health. <http://dhs.wisconsin.gov/health/physicalactivity/Sites/Worksitekit.htm>

### Supporting Healthy Lifestyles in the Community

#### **Community Supported Agriculture (CSA)**

Contact a CSA in your area to coordinate the purchase and delivery of fresh fruits and vegetables to your worksite. Coworkers can share the cost of the CSA and share the fresh, bountiful harvest that gets delivered weekly! [www.localharvest.org](http://www.localharvest.org).

#### **Got Dirt? Garden Initiative**

Encourages increased access to, and consumption of, fruits and vegetables through the implementation of school, childcare and after school vegetable gardens. <http://dhs.wisconsin.gov/health/physicalactivity/gotdirt.htm>



## Section 16: Resources

# Resources for Parents/Guardians

### General Resources for Parents/Guardians

#### **American Diabetes Association (ADA)**

**Resources** ([www.diabetes.org](http://www.diabetes.org)):

##### **Books for Parents and Kids**

[http://store.diabetes.org/products/product\\_category.jsp?FOLDER%3C%3Efolder\\_id=2534374302024138&bmUID=1257828439238](http://store.diabetes.org/products/product_category.jsp?FOLDER%3C%3Efolder_id=2534374302024138&bmUID=1257828439238)

##### **Cookbooks**

[http://store.diabetes.org/products/product\\_category.jsp?FOLDER%3C%3Efolder\\_id=2534374302023858&bmUID=1257828295654](http://store.diabetes.org/products/product_category.jsp?FOLDER%3C%3Efolder_id=2534374302023858&bmUID=1257828295654)

##### **Diabetes Forecast Magazine**

<http://forecast.diabetes.org/>

##### **eNewsletters**

Sign up at [http://main.diabetes.org/site/PageServer?pagename=EM\\_signup](http://main.diabetes.org/site/PageServer?pagename=EM_signup)

##### **Everyday Wisdom Kit**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-wisdom-kit.html>

##### **Resources for Parents and Kids**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/>

#### **Juvenile Diabetes Research Foundation (JDRF)**

**Resources** ([www.jdrf.org](http://www.jdrf.org)):

##### **Bookstore**

[http://www.jdrf.org/index.cfm?page\\_id=100250](http://www.jdrf.org/index.cfm?page_id=100250)

##### **Publications**

[http://www.jdrf.org/index.cfm?page\\_id=100688](http://www.jdrf.org/index.cfm?page_id=100688)

#### **MUMS**

A national parent-to-parent organization for parents or care providers of a child with any disability or health condition [www.netnet.net/mums](http://www.netnet.net/mums).

#### **National Diabetes Education Program (NDEP)**

**Resources for Teens and Diabetes:**

##### **Publications**

<http://ndep.nih.gov/publications/index.aspx?Keyword=Teens&Go.x=8&Go.y=12&Go=Go>

#### **Resources**

<http://ndep.nih.gov/resources/index.aspx?SearchText=&ToolType=&MediaType=&Keyword=Teens&PageSize=10&CurrentPage=0>

#### **Raising Kids to Healthy Heights**

<http://www.beanstalkexpress.com>

### Transitioning to Independence

#### **ADA: Everyday Life – Communicating with Your Child**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/family-communication/communicating-with-your-child.html>

#### **Drugs and Alcohol**

##### **Preventing Drug Use among Children and Adolescents**

<http://www.drugabuse.gov/pdf/prevention/InBrief.pdf>

##### **The Partnership for a Drug-Free America: Parents Resource Center**

<http://www.drugfree.org/Parent/>

##### **Transitions and Teens: A Guide for Parents**

[http://www.timetotalk.org/downloads/transition\\_guide\\_1c.pdf](http://www.timetotalk.org/downloads/transition_guide_1c.pdf)

#### **Growing Up Ready**

Series from Bloorview Kids Rehab, affiliated with University of Toronto  
<https://secure1.securewebexchange.com/bloorview.ca/resourcecentre/familyresources/questionnairethanks.php?PHPSESSID=f752285f46f351fd15a1a44bf616049>

#### **Keys to Independence: Transitioning from the Pediatric to the Adult Care Team**

<http://www.uwppc.org/resources/KeystoIndependence-Diabetes.pdf>

#### **Understanding Diabetes** by H. Peter Chase, MD **Chapter 19: Special Challenges of the Teen Years**

<http://www.uchsc.edu/misc/diabetes/books/ud11/ud19.pdf>

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### **WebMD: Teen Peer Pressure: Raising a Peer Pressure-Proof Child**

[http://www.webmd.com/parenting/teen-abuse-cough-medicine-9/peer-pressure?ecd=wnl\\_sxr\\_082709](http://www.webmd.com/parenting/teen-abuse-cough-medicine-9/peer-pressure?ecd=wnl_sxr_082709)

### **When Your Child is Diagnosed with Diabetes: Parents' Questions for the Health Care Team**

<http://ndep.nih.gov/resources/ResourceDetail.aspx?ResId=645>

### **Wisconsin Children and Youth with Special Health Care Needs Program**

The Children and Youth with Special Health Care Needs Program in the Wisconsin Division of Public Health provides consultation assistance for families of children who have chronic illnesses or disabilities and have special health care needs.

<http://dhs.wisconsin.gov/health/children/>

### Books for Parents/Guardians

Additional books for parents available at JDRF's Bookstore and ADA's Bookstore (see above).

- *Diabetes 911: How to Handle Everyday Emergencies* by Larry A. Fox, MD and Sandra L. Weber, MD
- *Everyone Likes to Eat: How Children Can Eat Most of the Foods They Enjoy and Still Take Care of Their Diabetes* by Hugo J. Holleroth, Ed. and Debra Kaplan, RD, MS with Anne Marie Bertollie, MB, RD, CDE
- *Guide to Raising a Child with Diabetes*, (2<sup>nd</sup> Edition) by Linda M. Siminerio, RN, PhD, CDE and Jean Betschart, MN, MSN, CPNP, CDE
- *In Control: A Guide For Teens With Diabetes* by Jean Betschart, MSN, RN, CDE. and Susan Thom, RD, LD, CDE
- *It's Time to Learn About Diabetes* by Jean Betschart, MSN, RN, CDE
- *Parenting a Diabetic Child* by Gloria Loring
- *Psyching Out Diabetes: A Positive Approach to Your Negative Emotions* by Richard R. Rubin, June Bierman and Barbara Toohey
- *The Ten Keys to Helping Your Child Grow Up with Diabetes*, Second Edition by Tim Wysocki, Ph.D.
- *When Diabetes Hits Home* by Wendy Satin Rapaport, LCSW, PsyD
- *Understanding Diabetes* by H. Peter Chase, MD (Children's Diabetes Foundation at Denver).  
<http://www.childrensdiabetesfoundation.org/publications.html>

## Section 16: Resources

# Resources for Students

### General Resources for Students

#### **American Diabetes Association (ADA)**

##### **Resources:**

##### **Books for Parents and Kids**

[http://store.diabetes.org/products/product\\_category.jsp?FOLDER%3C%3Efolder\\_id=2534374302024138&bmUID=1235082367991](http://store.diabetes.org/products/product_category.jsp?FOLDER%3C%3Efolder_id=2534374302024138&bmUID=1235082367991)

##### **Everyday Wisdom Kit**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-wisdom-kit.html>

##### **Resources for Parents and Kids**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/>

#### **American Podiatric Medical Association's Kids' Zone**

[www.apma.org/kidszone](http://www.apma.org/kidszone)

#### **Online Support Groups**

**ADA's Planet D** is a place where kids with diabetes can explore more about diabetes, discover new things about themselves, and connect with others who are also living with diabetes.

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/planet-d/>

##### **Children with Diabetes**

An online community for kids, families and adults with diabetes.

[www.ChildrenWithDiabetes.com](http://www.ChildrenWithDiabetes.com)

##### **Joslin Diabetes Center Discussion Boards**

*(monitored by health care professionals)*

<http://forums.joslin.org/>

##### **Juvenile Diabetes Research Foundation (JDRF) Kids Online**

<http://kids.jdrf.org/>

##### **Web MD: Diabetes Message Boards (monitored by health care professionals)**

<http://boards.webmd.com/webx/topics/hd/Diabetes/>

#### **Think Like a Pancreas: Resource Guide for Teens with Type 1 Diabetes**

[www.thinklikeapancreas.com](http://www.thinklikeapancreas.com)

### Transitioning to Independence

#### **Peer Pressure**

##### **ADA: Everyday Life – Telling Others**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-life/telling-others.html>

##### **ADA: Everyday Life – Dating**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-life/dating.html>

##### **BAM! Grind Your Mind**

[http://www.bam.gov/sub\\_yourlife/yourlife\\_grindyourmind.html](http://www.bam.gov/sub_yourlife/yourlife_grindyourmind.html)

#### **Drugs and Alcohol**

##### **ADA: Everyday Life – Teens and Parties**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-life/teens-parties.html>

##### **Teens Health: Drugs and Alcohol**

[http://kidshealth.org/teen/drug\\_alcohol/](http://kidshealth.org/teen/drug_alcohol/)

##### **The Cool Spot: The Young Teen's Place for Info on Alcohol and Resisting Pressure**

<http://www.thecoolspot.gov/>

##### **Too Smart to Start**

<http://www.toosmarttostart.samhsa.gov/>

#### **Driving**

##### **ADA: Everyday Life – Driving**

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/everyday-life/driving.html>

##### **JDRF: Driving and Type 1 Diabetes**

[http://www.jdrf.org/index.cfm?page\\_id=103661](http://www.jdrf.org/index.cfm?page_id=103661)

##### **dLife: Driving Q&A for People with Diabetes**

[http://www.dlife.com/dLife/do/ShowContent/daily\\_living/traveling\\_with\\_diabetes/driving.html](http://www.dlife.com/dLife/do/ShowContent/daily_living/traveling_with_diabetes/driving.html)

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### College

#### **5 Tips for the College-Bound Student with Diabetes:**

[http://www.jdrf.org/index.cfm?page\\_id=105601](http://www.jdrf.org/index.cfm?page_id=105601)

#### **10 Tips for Eating Healthy in College**

[http://www.jdrf.org/index.cfm?fuseaction=home.viewpage&page\\_id=C3F7D3D9-1279-D3DC-F9CFDCAB7456E689](http://www.jdrf.org/index.cfm?fuseaction=home.viewpage&page_id=C3F7D3D9-1279-D3DC-F9CFDCAB7456E689)

#### **Information for College Roommates**

[http://www.childrenwithdiabetes.com/d\\_0q\\_422.htm](http://www.childrenwithdiabetes.com/d_0q_422.htm)

### Moving On

#### **Keys to Independence: Transitioning from the Pediatric to the Adult Care Team**

<http://www.uwppc.org/resources/KeystoIndependence-Diabetes.pdf>

#### **Healthy & Ready to Work**

<http://www.hrtw.org/>

#### **Talking with Your Doctor and Other Health Care Professionals**

<http://hctransitions.ichp.edu/gladd/>

#### **Finding a Physician, Diabetes Educator, Dietitian, or Education Program**

##### **Recognized Physician Directory sponsored by the National Committee for Quality Assurance**

<http://recognition.ncqa.org/>

##### **American Diabetes Association Education Recognition Program**

<http://professional.diabetes.org/recognition.aspx?cid=57995>

##### **American Association of Clinical Endocrinologists**

[www.aace.com/resources/memsearch.php](http://www.aace.com/resources/memsearch.php)

##### **American Academy of Family Physicians**

[http://familydoctor.org/cgi-bin/memdir.pl?op=pick\\_state&state=dc](http://familydoctor.org/cgi-bin/memdir.pl?op=pick_state&state=dc)

##### **American Association of Diabetes Educators**

[www.diabeteseducator.org/DiabetesEducation/Find.html](http://www.diabeteseducator.org/DiabetesEducation/Find.html)

### **American Dietetic Association**

[www.eatright.org/cps/rde/xchg/ada/hs.xsl/home\\_fanp\\_consumer\\_ENU\\_HTML.htm](http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/home_fanp_consumer_ENU_HTML.htm)

### **dLife**

[http://www.dlife.com/dLife/do/ShowContent/resources/dlife\\_diabetes\\_locator/index.html](http://www.dlife.com/dLife/do/ShowContent/resources/dlife_diabetes_locator/index.html)

If you, or your family, are unable to see a physician due to the cost of care, there may be a local community health clinic in your area. These clinics generally are free or require a small fee.

<http://findahealthcenter.hrsa.gov>

### Books for Children and Adolescents

Additional books for kids available at JDRF's Bookstore and ADA's Bookstore (see above).

- *A Magic Ride in Foozbah-Land: An Inside Look at Diabetes* by Jean Betschart
- *Baby-Sitters Club* series by Ann M. Martin
  - (#3) Truth About Stacey
  - (#43) Stacey's Emergency
  - (#94) Stacey McGill, Super Sitter
- *Even Little Kids Get Diabetes* by Connie White Pirner and Nadine Bernard Wescott
- *How I Feel: A Book about Diabetes* by Michael Olson
- *My Sister Rose Has Diabetes* by Monica Driscoll Beatty and Kathy Parkinson
- *Rufus Comes Home* by Kim Gosselin and Terry Ravanelli
- *Sugar was My Best Food: Diabetes and Me* by Carol Antoinette Peacock, Adair Gregory and Kyle Carney Gregory
- *Taking Diabetes to School* by Kim Gosselin and Moss Freedman
- *The Diabetes Game* by Nora Coon
- *The Dinosaur Tamer: and Other Stories for Children with Diabetes* by Marcia Levine Mazur, Peter Banks and Andrew Keegan
- *The Eagle Books: Stories about Growing Strong and Preventing Diabetes* by Georgia Perez ([www.cdc.gov/diabetes/pubs/eagle.htm](http://www.cdc.gov/diabetes/pubs/eagle.htm))
- *Trick or Treat for Diabetes: A Halloween Story for Kids Living with Diabetes* by Kim Gosselin and Tom Dineen

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### Resources for Medical Equipment

**Note:** The Wisconsin Diabetes Prevention and Control Program and its partners in no way recommend or endorse any specific brand or type of product.

#### **American Diabetes Association's Diabetes Forecast Annual Resource Guide**

Includes sections on insulin, insulin delivery, blood glucose monitoring and data management systems, products for treating low blood glucose, urine testing, type 2 medications, and manufacturers. <http://forecast.diabetes.org/january-2009> (scroll down for topic areas)

#### **Diabetes Health Product Annual Reference Guide**

Includes reference guides for blood glucose meters, type 2 medications, lancets, insulin, insulin pumps, insulin pens, insulin pen needles, infusion sets, fast-acting glucose, continuous glucose monitoring systems, syringes, and mail order. <http://www.diabeteshealth.com/charts>

#### **Medical Identification Jewelry**

Medical identification products can help ensure proper treatment of an insulin reaction in an emergency when your child is away from you.

#### **ChildrenWithDiabetes.com Medical Identification Products**

[http://www.childrenwithdiabetes.com/d\\_06\\_700.htm](http://www.childrenwithdiabetes.com/d_06_700.htm)

#### **DiabetesHealth.com Medical ID Jewelry**

<http://www.diabeteshealth.com/browse/products/medical-id-jewelry/>

**Additional medical identification resources** are included in the *Diabetes Resource Guide for Consumers and Health Professionals* <http://dhs.wisconsin.gov/health/diabetes/PDFs/RGInternet.pdf>





# Appendix A: Questions and Answers

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Roles and responsibilities for nursing procedures and health-related activities in school and during all school-sponsored activities is complex and, at times, difficult to understand. Because various standards, rules, and policies exist, select questions and answers contained within this appendix are an attempt to provide clarity and understanding for school nursing services to ensure the safety of all students. The questions and answers contained in this resource guide are excerpts from a complete list of questions and answers from the following publications, produced by the Wisconsin Department of Public Instruction (publications are available electronically as indicated):

1. Delegation, The Nurse Practice Act, and School Nursing in Wisconsin (<http://dpi.wi.gov/sspw/pdf/snpracticeact.pdf>)
2. Administration of Drugs to Pupils (<http://dpi.wi.gov/sspw/pdf/sndrugs.pdf>)
3. Emergency Nursing Services in Wisconsin Schools (<http://dpi.wi.gov/sspw/pdf/snemergency.pdf>).

The answers to the following questions were formulated based on Wis. Stat §121.02, Wis. Admin. Code §PI8.01, and Wis. Admin. Code §N6.03. A complete copy of state statutes and administrative codes is available online at: <http://www.legis.state.wi.us>.

## 1. What are the legal definition and educational requirements of the school nurse?

The legal definition of the professional nurse is defined in Wisconsin Chapter 441 of the Nurse Practice Act. Professional nursing is defined as “the performance for compensation of any act in the observation or care of the ill, injured, or infirm, or for the maintenance of health or prevention of illness of others, that requires substantial nursing skill, knowledge, or training, or application of nursing principles based on biological, physical, and social sciences.” Professional nursing also includes:

1. The observation and recording of symptoms and reactions
2. The execution of procedures and techniques in the treatment of the sick under the general or special supervision of a physician, podiatrist, dentist, optometrist, or under an order of a person who is licensed to practice medicine, podiatry, dentistry, or optometry in Wisconsin or any other state
3. The execution of general nursing procedures and techniques
4. Supervision of a patient and the supervision and direction of a licensed practical nurse and less skilled assistants

Educational preparation for a professional registered nurse includes two<sup>83</sup> options:

- Associate degree, which is a two-year course of study on basic nursing principles
- Baccalaureate degree, which is a four-year course of study on basic nursing principles with public health knowledge and leadership skills

By law, individuals may not use the title, initials or practice as a registered nurse unless they are licensed with the Wisconsin board of nursing or other states in the nurse licensure compact.<sup>84</sup> A school nurse is defined as a registered nurse licensed under the Wis. Stat. ch. 441, who is certified by the Department of Public Instruction as qualified to perform professional nursing services in a public school.<sup>85</sup> Department licensure for school nurses is optional.<sup>86</sup>

<sup>83</sup> A diploma degree was a three-year course of study which is no longer offered as an option.

<sup>84</sup> Wis. Stat. §441.06(4)

<sup>85</sup> Wis. Stat. §115.001(11)

<sup>86</sup> Wis. Admin. Code §PI34.31(2)

## Appendix A: Questions and Answers

### 2. Which federal laws relate to school districts' legal responsibilities for the provision of nursing procedures and health services for students?

Two federal laws provide guidance to school districts for the provision of nursing services for children. Section 504 of the Rehabilitation Act of 1973 is an anti-discrimination law requiring school districts to ensure that students with disabilities<sup>87</sup> have an equal opportunity to participate in academic, nonacademic, and extra-curricular activities available to all students enrolled in the school district. To ensure an equal opportunity of participation for students with disabilities, school districts must develop a verbal or written plan to meet student health needs or provide accommodations relating to handicapping conditions. This Section 504 Plan may include school nurse or school health services. A student's Healthcare Plan, developed by a school nurse, can be a critical element of a Section 504 Plan.

The Individuals with Disabilities Education Act (IDEA) is a federal law that requires a school district to provide students who have a disability with a free and appropriate public education<sup>88</sup> by implementing an Individualized Educational Plan (IEP) designed to meet each child's unique academic, physical, social, and emotional needs. The IEP must include health and nursing services if these are necessary for the student to receive a free and appropriate public education.<sup>89</sup>

If the Section 504 Plan or IEP includes school health services or school nursing services, the school district must arrange for an appropriately licensed health care professional to offer the service or have that person delegate the performance of the procedure to a trained unlicensed person. Federal law defines the difference between school nursing and school health services in the related services section of the individual education plans. School nurse services are provided by a qualified school nurse. School health services are services that may be provided by either a qualified school nurse or other qualified person.<sup>86</sup>

### 3. Are Wisconsin public schools required to have a school nurse?

While Wisconsin public school districts are not specifically required to employ a school nurse, school districts are required to provide for emergency nursing services.<sup>90</sup> Furthermore, school districts must provide these services under a written policy adopted and implemented by the school board.<sup>91</sup> A registered nurse must develop the policies in cooperation with other school district personnel and representatives from community health agencies and services. Also, keep in mind, the two federal laws discussed in Question 2 (above) dictate situations where a school district must provide the necessary nursing care for students with disabilities so they can benefit from their education.

### 4. Are school districts authorized to employ an emergency medical technician (EMT) or a licensed practical nurse (LPN) instead of a registered nurse (RN) to provide health care to children with special health needs?

School districts may hire an EMT as a health aide/assistant but not as a school nurse, unless they hold a registered nursing license. Appropriately trained and supervised EMTs may perform health-related procedures under the delegation of a RN. However, an EMT, just like any other state licensed health care provider, must follow the laws and rules that govern the practice for which they hold a license. An EMT is licensed to provide pre-hospital first-aid under specific guidelines and under the supervision of a physician. If an EMT is employed as a health assistant in a school, the EMT would be held to the standards of their EMT license, as well as to the standards of care for the tasks in their job description. An LPN may be hired as a health aide/assistant.

87 As defined in 34 C.F.R. §104.3(j)

88 34 C.F.R. §300.101

89 34 C.F.R. §300.34(c)(13)

90 Wis. Stat. §121.02(1)(g)

91 Wis. Admin. Code §PI 8.01(2)(g)

## Appendix A: Questions and Answers

### 5. Can a school nurse refuse to administer a prescribed medication or nursing procedure?

Yes, under certain circumstances a school nurse may refuse to provide certain nursing services. A nurse can only accept a medical act or task delegated by a medical provider for which the nurse is competent to perform, based on the nurse's education, training, or experience. However, the nurse's inability to perform the task does not erase the school district's obligation to provide the nursing service for the student to benefit from his/her education. The nurse may have to secure specialized training or another health care provider may need to be employed by the school district to meet the student's health care needs. The nurse must refuse to perform a delegated task if the nurse suspects performance of the task may harm the student. If a nurse believes that medical directive is not safe or not appropriate, the nurse cannot legally comply with the order.<sup>92</sup> If the nurse complies, the nurse could face disciplinary action by the Wisconsin board of nursing.<sup>93</sup> If a nurse refuses to administer a medication or perform a procedure, he/she must notify the prescribing medical provider and parent/guardian.

### 6. What is nursing delegation as it applies to the school setting?

A registered nurse may decide to delegate a nursing task to a licensed practical nurse (LPN) or trained school personnel without a health care license if a student requires the administration of medications or performance of nursing procedures during the school day to benefit from their education. Delegation is a legal term that refers to the transferring to a competent individual the authority to perform a selected nursing task in a selected situation. The registered nurse retains accountability for the delegation.<sup>94</sup> The registered nurse must determine if the task is appropriate to the educational preparation and demonstrated abilities of the personnel being asked to perform the task. When the registered nurse delegates a nursing task, the process starts by training school personnel to perform a nursing task. After the initial training, the registered nurse must also provide ongoing observation, monitoring, direction, and assistance to those performing the task.<sup>95</sup> When nurses delegate, they should have adequate time in the school or the school district to perform these required tasks.<sup>96</sup>

### 7. What types of nursing tasks may be delegated and to whom?

There is not a state statute listing nursing tasks that are appropriate for delegation to school staff without a health care license. The decision to delegate the nursing task is based on the nurse's assessment of the complexity of the nursing task and care, predictability of the health status of the student, and the educational preparation and demonstrated abilities of the school staff without a health care license. Nursing tasks are categorized as simple or complex. Simple nursing tasks are more likely eligible for delegation than complex nursing tasks. Simple nursing tasks are described as tasks that do not require substantial nursing skill, knowledge, or training, or the application of nursing principles based on biological, physical, or social sciences or the understanding of cause and effect of the act.<sup>97</sup>

Similarly, there is a distinction between basic and complex nursing care. When a student's health is predictable and does not require frequent or complex modifications in the health care provider's orders or the plan of care, then the student requires basic nursing care. Complex nursing care is when the student's health condition and response to intervention is not predictable, requiring frequent changes or modification of the health care provider's orders and the nursing plan of care.<sup>98</sup> Complex nursing care cannot be delegated to people without a health care license. Nursing tasks may be delegated when the

92 Wis. Admin. Code §N6.03(2)(b,c)

93 Wis. Admin. Code §N6.05

94 National Council of State Boards of Nursing. (1995). *Concepts and Decision-Making Process National Council Position Paper*. Retrieved from: <https://www.ncsbn.org/323.htm>.

95 Wis. Admin. Code §N6.03(3)

96 Wisconsin Board of Nursing. (2004). *Position Paper on Delegation*. Retrieved from: <http://drl.wi.gov/boards/nur/pap/pap05.pdf>.

97 Wis. Stat. §441.001(3)

98 Wis. Admin. Code §N6.02(3)

## Appendix A: Questions and Answers

task does not require assessment and evaluation of the student's health and modifications to the plan of care. The school nurse determines the necessary training required to safely delegate the nursing task to school staff without a health care license.

While employers and administrators may suggest which nursing acts to delegate and/or to whom the delegation may be made, it is the nurse who must make, and is legally responsible for making, the decision whether, and under what circumstances, the delegation occurs. If the nurse decides that the delegation may not appropriately or safely take place, then the school nurse should not engage in such delegation.<sup>99</sup> Nurses are encouraged to work with school district administrators to problem solve solutions to assist with issues of delegation.

### 8. What are some of the criteria that a nurse might use in determining delegation of a nursing-related task?

The delegated nursing task must fall within the responsibilities of the nursing license. The nurse must have the nursing education, training, and experience to delegate the nursing task. The nursing task that is delegated must be commensurate with the educational preparation and abilities of the employee accepting the delegation. The nurse must provide supervision, direction, and assistance to the employee and provide observation and monitoring of the delegated tasks.<sup>100</sup> School employees, other than health care personnel, must be willing to accept a nursing task, such as administration of non-oral medication, for a nurse to legally delegate the task to the employee.<sup>101</sup> It is also considered best practice by the National Association of School Nurses that delegated tasks be routine, predictable, and repetitive and not require any nursing judgment for completion of the task.<sup>102</sup> The Wisconsin Nurse's Association has provided an algorithm for decision making regarding delegation.<sup>103</sup> The National Council of State Boards of Nursing also has an available delegation decision-making tree.<sup>104</sup>

### 9. May a parent delegate to a nurse?

No, a parent may not delegate to a nurse. Nurses are mandated by the Standards of Practice to accept delegation from health care providers.<sup>105</sup> Individuals who are employed in an educational setting and administering medication in the school must receive appropriate instruction.<sup>106</sup> The parent could come into a school and instruct school staff regarding medication administration without the assistance of a nurse. In this model, the authority for performing the task comes from the parent. However, written permission from the health care provider and parent/guardian is still required.<sup>107</sup>

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99 Wis. Admin. Code §N6.03(3); Wisconsin Board of Nursing. (2004). *Position Paper on Delegation*. Retrieved from: <http://drl.wi.gov/boards/nur/pap/pap05.pdf>.

100 Wis. Admin. Code §N6.03(2-3)

101 Wis. Stat. §118.29(5)

102 National Association of School Nurses. (2006). *Position Statement on Delegation*. Retrieved from: <http://www.nasn.org/Default.aspx?tabid=349>.

103 Wisconsin Nurses Association. (2002). *Guidelines for Registered Nurse Delegation to Unlicensed Assistive Personnel*. Retrieved from: [http://www.wisconsinnurses.org/work\\_advoc/pdf\\_files/uaps.pdf](http://www.wisconsinnurses.org/work_advoc/pdf_files/uaps.pdf).

104 National Council of State Boards of Nursing, Inc. (1997). *Delegation Decision-Making Tree*. Retrieved from: <https://www.ncsbn.org/delegationtree.pdf>.

105 Wis. Admin. Code §N6.03(2)(a,d)

106 Wis. Stat. §118.29(4)

107 Wis. Stat. §118.29(2); Wisconsin Board of Nursing. (2004). *Position Paper on Delegation*. Retrieved from: <http://drl.wi.gov/boards/nur/pap/pap05.pdf>.

## Appendix A: Questions and Answers

### 10. Can a licensed practical nurse (LPN) provide school health services as long as supervision is provided by a nurse, physician, podiatrist, dentist, or optometrist?

Yes. An LPN's scope of practice requires they practice under the general supervision and direction of an RN or the direction of physician, podiatrist, dentist, or optometrist. An RN may delegate a task to an LPN provided that the LPN has adequate knowledge to perform the task and the nurse is available for consultation and direction. Delegated tasks must either be part of a student's Healthcare Plan that is developed, maintained, and evaluated by a school nurse, or under approved practice protocols or policies. Direction does not necessarily need to be on-site, but adequate supervision including, at a minimum, availability by telephone of the registered nurse, physician, podiatrist, dentist, or optometrist, is essential.<sup>108</sup>

### 11. What are the legal definition and educational requirements of a licensed practical nurse (LPN)?

The legal definition of an LPN is outlined in Chapter 441 of the Wisconsin Statutes, also known as the Nurse Practice Act. Licensed practical nursing is defined as the performance for compensation of any simple acts in the care of the sick, injured or convalescing person, or more acutely ill or injured person under the specific direction of a registered nurse, dentist, podiatrist, optometrist, or medical provider.<sup>109</sup> "Simple act" is defined as an act that "does not require any substantial nursing skill, knowledge, or training or the application of nursing principles based on biological, physical, or social sciences, or the understanding of cause and effect in the act."<sup>110</sup> The law goes on to say that an LPN can do the following under the general supervision of a registered nurse, or direction of physician, podiatrist, dentist, or optometrist:

1. Accept only patient care assignments which the LPN is competent to perform
2. Provide basic nursing care
3. Record nursing care given and report to the appropriate person changes in the condition of a patient
4. Consult with an RN, physician, podiatrist, dentist, or optometrist in cases where an LPN knows or should know a delegated nursing or medical act may harm the patient
5. Perform the following other acts when applicable
  - Assist with the collection of data
  - Assist with the development and revision of a nursing care plan
  - Reinforce the teaching provided by an RN, physician, podiatrist, dentist, or optometrist and provide basic health care instruction; or,
  - Participate with other health team members in meeting basic patient needs

A licensed practical nurse's education is a one year program, focused on basic practical nursing skills.<sup>111</sup> LPNs must practice under supervision of a registered nurse or medical provider.<sup>112</sup>

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108 Wis. Admin. Code §N6.04

109 Wis. Stat. §441.001(3)(a)

110 Wis. Stat. §441.001(3)(b)

111 Wis. Stat. §441.001(3)

112 Wis. Admin. Code §N6.04(3)

## Appendix A: Questions and Answers

### 12. What are the Wisconsin board of nursing directives regarding nursing tasks that may not be delegated to LPNs and school personnel without a health care license?

The Wisconsin board of nursing has indicated that there are two nursing tasks that nurses may not delegate. The first nursing task is the performance of intravenous (IV) therapy, including starting peripheral IV lines, adding medication to the intravenous fluids and monitoring of IV fluids for hydration purposes. It is the opinion of the Wisconsin board of nursing that delegation of these nursing acts requires direct supervision, and the board has interpreted direct supervision,<sup>113</sup> as necessitating on-site supervision. Accordingly, the nurse supervising the LPN in the performance of IV therapy must be physically present in the facility and immediately available. It is not the board's intent that observation of IV infusions on controlled infusion pumps by the LPN requires direct supervision. If the nurse pre-programs the IV infusion on a controlled pump and performs the client assessment, then the LPN may monitor the infusion under general supervision of the nurse and report any concerns or problems with the infusion to the nurse.

Second, the Wisconsin board of nursing also indicated that a nurse may not delegate the nursing tasks of assessment and evaluation to a less skilled individual. LPNs and school personnel without a health care license may assist the nurse in these functions by providing health information, but may not perform the tasks in their entirety.

### 13. How often should the registered nurse monitor the delegation of a procedure?

Frequency and extent of monitoring depends on the health status of the student, the complexity of the procedure, as well as the learning style of the person doing the procedure. For example, monitoring a tube feeding that has very predictable steps for a child with a history of tolerating this procedure well may require less supervision than for insulin administration to a child newly diagnosed with type 1 diabetes. The complexity of the task and the need for monitoring an oral medication administration is usually less involved than that for an injectable medication. The level of training, experience, and educational preparation of the person assuming the delegation from the registered nurse will also determine the monitoring needs. The registered nurse may rescind delegation of the nursing task whenever he or she believes that the student's safety is being compromised or for other reasons according to the judgment of the nurse.<sup>114</sup>

### 14. What is the difference between training and delegation?

Training is the process of providing general health information to others regarding a health skill, condition, injury, medication, or procedure. When the training becomes specific to a certain student's health care needs, medications, and/or procedures, then the training by the nurse is part of the process of delegation. The process of delegation includes instruction regarding the plan of care, administration of medication and/or procedure; direction, assistance, and observation of those supervised; and evaluation of the effectiveness of the delegated nursing act.

For example, a nurse providing instruction to school personnel regarding the effectiveness of administration of rectal valium to students who are experiencing ongoing continuous seizure activity is considered training. When a nurse provides training to school personnel who will be responsible to administer rectal valium to a specific student after three minutes of continuous seizure activity, then training becomes part of the process of the delegation. The nurse must provide direction, assistance, observation, and monitoring of activities to those supervised and evaluation of the effectiveness of the task performed under their supervision.

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113 Wis. Admin. Code §N6.02(6)

114 National Association of School Nurses. (2006). *Position Statement on Delegation*. Retrieved from: <http://www.nasn.org/Default.aspx?tabid=349>.

## Appendix A: Questions and Answers

### 15. What are the primary state laws regarding emergency nursing services in schools?

Wisconsin state law defines necessary emergency nursing services.<sup>115</sup> School districts must develop emergency nursing policies and protocols dealing with management of illness, accidental injury, and medication administration at all school-sponsored activities. School districts must make available emergency pupil information, first aid supplies, and appropriate and accessible space for the rendering of emergency nursing services.<sup>116</sup> The school board needs to review and evaluate emergency nursing services annually.<sup>117</sup>

### 16. Do public schools across the state have to follow similar procedures and provide health services in a consistent manner?

Wisconsin is a “local control” state. Basically, this means the local school board is the governing body for the school district and, as such, must develop policies and procedures that comply with federal and state regulations. The school board is free to decide how to implement the law by taking into account the desires and resources of the community. Additionally, as long as all legal requirements are met, the school district may decide to exceed the requirements stated within the law.

### 17. What elements should be considered in developing a student’s Emergency Action Plan?

The goal of an Emergency Action Plan is to provide critical information necessary to help school personnel and emergency responders act appropriately for the student in a variety of emergency situations. Each student situation must be examined individually. Consider these critical questions when developing a student’s Emergency Action Plan:

- What might happen that would require immediate action?
- What are the precipitating factors that may trigger an event at school?
- What action is required to respond to the emergency?
- What knowledge, skill, and attitude is required of someone to act, or more importantly, to prevent the emergency in the first place?
- Is there a person with the required ability to act available?
- What are the availability, skill level, and response time of community emergency medical services?
- Who has a need to know about the potential situation?
- Who will have the responsibility to act, including “back-up” individuals?

### 18. How does the Administration of Drugs to Pupils and Emergency Care Law differ from the Nurse Practice Act?

The school medication law is the only Wisconsin law that allows individuals who are not licensed in a health care field to administer prescription medications to non-family members. School administrators may assign school personnel to administer oral medications to students with appropriate training. The medication law requires school districts to develop policies regarding medication administration in school to ensure safety.<sup>118</sup>

The Nurse Practice Act defines scope of nursing practice in the state of Wisconsin, describing what a registered nurse (RN) and licensed practical nurse (LPN) can do and how it must be done.<sup>119</sup> Associated rules for the practice of nursing outline the nurse’s responsibilities and the duties associated with the delegation of medication administration to others.<sup>120</sup>

115 Wis. Admin. Code §PI8.01(2)(g). These services are commonly known as “Standard G.”

116 Wis. Stat. §121.02(1)(g)

117 Wis. Admin. Code §PI8.01(2)(g)(6)

118 Wis. Stat. §118.29

119 Wis. Stat. Ch. 441

120 Wis. Admin. Code §§N6.03-.04; National Council of State Boards of Nursing. (1995). *Concepts and Decision-Making Process National Council Position Paper*. Retrieved from: <https://www.ncsbn.org/323.htm>.

## Appendix A: Questions and Answers

### 19. Who may administer over-the-counter medication and prescription medication to pupils?

By law, the following individuals are able to administer over-the-counter and prescription medications to students:

- health care provider
- school board employee
- county Children with Disabilities Education Board employee
- cooperative education service agency employee
- bus driver
- volunteer

A school or public health nurse may delegate the administration of medication to personnel without a health care license in the school setting with appropriate training, supervision, and evaluation of school personnel.<sup>121</sup>

### 20. What route of medication administration can be given at school?

Route describes the method of administering medication to the pupil and includes: oral, topical, inhalant, eye, ear, nasal, rectal, intravenous, intramuscular, and subcutaneous. State statute dictates that no employee, other than a health care provider, is required to administer a drug or prescription drug to a pupil by any other means other than ingestion.<sup>122</sup> An employee may assume the responsibility of giving a medication by non-oral route, if they are willing, appropriate instruction is available,<sup>123</sup> and it is a task that can be delegated to an employee without a health care license.<sup>124</sup>

### 21. Can a school accept telephone orders for a medication from a licensed health care provider or parent?

No. The school medication law specifically states written instructions and consent are required for administration of prescription medication.<sup>125</sup> School personnel are not permitted to accept verbal or telephone medical provider orders because accuracy can be compromised and, therefore, presents a safety concern. Providers may generate written instructions and consent and send electronically if school personnel maintain the student's privacy and confidentiality with all transmitted communications. According to the Wisconsin board of nursing, a registered nurse may accept a telephone order for a medication from a licensed health care provider, but not from a parent. The medical provider must confirm a telephone order through a written order.<sup>126</sup>

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121 Wis. Admin. Code §N6.03(3)

122 Wis. Stat. §118.29(5)

123 Wis. Stats. §118.29(4)

124 Wis. Admin. Code §N6.03(3)

125 Wis. Stat. §118.29

126 Wis. Admin. Code §N6.03(2)(a)

## Appendix A: Questions and Answers

### 22. Does the school medication administration law apply to private schools?

Yes. Private schools must follow all requirements listed in the school medication administration law.<sup>127</sup> Private school employees and volunteers who are authorized in writing by their administrator(s) or principal(s) may administer medication in the private school setting.

### 23. Does Wis. Stat. §118.29 address the administration of medication given on an “as needed” or emergency basis?

Yes. The medication law applies to any medication regardless if given “as needed” or on an emergency basis. Over-the-counter drugs require written consent and instructions from a parent or guardian. Prescription medications require written instructions from a licensed health care provider and written consent from the parent/guardian. The written instructions should include under what circumstances the drug is to be given to the student.<sup>128</sup>

There are two emergency situations addressed in state law including severe allergic reactions and hypoglycemic events. State law permits an individual to administer epinephrine via an epinephrine auto-injector to a student who appears to be experiencing a severe allergic reaction without written consent or instructions from parent/guardian or health care provider. Similarly, the law permits an individual to administer Glucagon to a pupil who appears to be experiencing a severe hypoglycemic event.<sup>129</sup> The individual who administers the epinephrine or Glucagon is required to call 9-1-1, or if 9-1-1 is not available, the phone number for an emergency medical service provider, as soon as practical.

### 24. How should school districts handle the issue of administering medications when students go on field trips or participate in after-school activities?

School districts must have policies that include protocols for emergency medication administration at all school-sponsored activities, including fieldtrips or after school activities.<sup>130</sup> The parent or guardian may attend the activity and administer the medication to their child, but the school has the ultimate responsibility to ensure that a responsible individual is available to administer the medication. In addition, a student’s 504 Plan or individualized education program (IEP) should include a plan for medication administration and provision of health services at all school-sponsored activities, so all students can receive a free, appropriate public education.

### 25. Does the Nurse Practice Act apply to the delivery of health services for children attending preschool programs, day care centers, summer programs, residential programs, and camp programs?

The Nurse Practice Act applies to all people licensed as an RN or LPN in any setting in which they practice, including a volunteer position. Different settings may have policies and procedures that govern activity in that particular setting. However, the state law and administrative rules governing the practice of nursing in Wisconsin apply to all settings. A school district, day care setting, or another agency or organization cannot do less than what the law requires.<sup>131</sup>

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127 Wis. Stat. §118.29

128 Wis. Stat. §118.29(2)

129 Wis. Stat. §118.29(2)(a)(2r)

130 Wis. Admin. Code §PI8.01(2)(g)(2)

131 Wis. Stat. Ch. 441





## Appendix B: Required Elements of an Office of Civil Rights Complaint

A student's rights under Section 504 may be enforced through administrative complaints to the Department of Education's Office for Civil Rights (OCR) through an impartial hearing or through a private lawsuit in state or federal court. The OCR will only investigate complaints filed within 180 days of the discriminatory action.<sup>132</sup>

In addition, schools must provide for impartial hearings (sometimes know as "due process" hearings) to address Section 504 complaints and violations. The hearing officer must be impartial and cannot be employed by or have a significant business relationship with the school district or the Department of Public Instruction.

An OCR complaint may be filed by mail, fax, online, or in person at an OCR office. No special form is required, but must be in writing.<sup>133</sup> The complaint should contain the following elements:

- Person filing the complaint: name, contact information (address, day and evening phone numbers, fax number, and e-mail address), and relationship to student (unless student is an adult)
- Identity of attorney or advocate (if applicable): name, contact information, and relationship to person complaining, if any
- Identity of person or entity discriminating: name of person or institution (school and school district), name of school or program attended by student, and school or program contact information
- Basis of the claim: state type of rights violation (e.g., discrimination on basis of diabetes or retaliation for filing a complaint)
- Facts supporting the claim of discrimination, for each action, provide:
  - Date(s) action or inaction occurred
  - Name(s) of individual(s) who took that action or inaction
  - Witness(es) (if any)
  - Why the actions were discriminatory or retaliatory

If the allegations concern a failure to provide diabetes care to a student, include medical information showing that the care requested is appropriate and necessary for the student to attend school safely. This can include statements by the student's doctor and position statements of the American Diabetes Association and other organizations. Also, state any basis for believing that the refusal to provide care or other discriminatory action was the result of district policy.

- All written information or documentation available related to the complaint
- Date of the last act of discrimination (also state whether the act is continuing)
- Identify other efforts made to resolve the complaint

<sup>132</sup> A complaint may also address earlier matters where continuing discriminatory policies or practices are alleged. See OCR Case Resolution and Investigation Manual, Section 107.

<sup>133</sup> See <http://www.ed.gov/about/offices/list/ocr/complaintprocess.html>

## Appendix B: Required Elements of an Office of Civil Rights Complaint

Provide information on any grievance procedure, due process hearing, or other efforts made to resolve the issues, including the name of the agency with which these efforts were pursued, when they were pursued, what position was taken by the agency, the current status of the grievance or complaint, and information on any procedural or legal deficiencies in the process. Where the process is not comparable to the OCR's, identify these differences. Also identify instances where proper legal standards were not followed.

- Identify remedy being sought (be as specific as possible) and why the remedy sought is necessary, appropriate, and reasonable.



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## Glossary

### A

**A1C** (Pronounced A-one-C) – A test that measures how well a person’s diabetes is controlled over 2-3 months. A1C results can be used to adjust treatment to improve control.

**Acanthosis Nigricans** – A common symptom characterized by a dark, thick velvety appearance to the skin in the major skin-fold areas (e.g., neck, armpits). This type of skin change is often a sign of insulin resistance.

**Ace –inhibitor** – A certain type of blood pressure medication commonly used in people with diabetes.

**Americans with Disabilities Act** – A federal law enacted in 1990 to protect people with disabilities from discrimination. Under this law, diabetes can be considered a disability.

### B

**Blood glucose** (*also called: blood sugar*) – Food is digested and metabolized (broken down) into glucose. This glucose is released into the bloodstream and referred to as blood glucose. Glucose is carried through the bloodstream to provide energy to the body.

**Blood glucose meter** (*also called: blood sugar meter or glucometer*) – A device that measures how much glucose is in the blood.

**Blood glucose monitoring** (*also called: blood sugar testing, blood sugar monitoring, blood glucose testing, self-monitoring of blood glucose, self-monitoring of blood sugar*) – The act of checking the amount of glucose in the blood using a blood glucose meter.

**Blood pressure** – The force of the blood against the artery walls. Two levels of blood pressure are measured: the highest, or systolic, occurs when the heart pumps blood into the blood vessels, and the lowest, or diastolic, occurs when the heart rests.

**Blood sugar** – See blood glucose.

**Body mass index (BMI)** – A measurement of body weight relative to height. BMI can be used by professionals or others to determine if a person is at a healthy weight, overweight, or obese.

**Bolus dose/boluses** – A single dose of insulin delivered at a specific time. A bolus is commonly given before a meal to reduce the after-meal blood glucose level.

### C

**Carbohydrate** – One of the three main nutrients found in foods. Carbohydrates break down quickly into sugar and are a quick source of energy for the body.

**Cholesterol** – A substance similar to fat that is found in the blood, muscles, liver, brain, and other body tissues. Cholesterol is manufactured by the body and obtained from animal products in the diet. Cholesterol is transported in the blood.

**Complications (of diabetes)** – Diabetes complications can be either short-term or long-term. Short-term complications result from either low or high blood glucose levels. Long-term complications result from persistent high blood glucose levels. These complications include blindness, kidney disease, heart disease, circulation problems, and nerve problems.

### D

**Diabetes** – A chronic disease that causes high blood glucose.

**Diabetic Ketoacidosis (DKA)** – A dangerous, life-threatening condition that may occur when blood glucose levels are high (usually >250 mg/dL) and ketones are detected. DKA is a medical emergency. A common cause of DKA is not taking insulin or not taking enough insulin. Illness can also increase the risk of DKA.

**Diabetes Medical Management Plan (DMMP)** (*also called: Physician order, Diabetes Care Plan*) A specific diabetes management plan that outlines daily diabetes care for students during school.

## Glossary

**Diabetes Prevention and Control Program (DPCP)** – Statewide program funded by the Centers for Disease Control and Prevention and located in the Wisconsin Department of Health Services, Division of Public Health. The DPCP is dedicated to improving the health of people at risk for, or with, diabetes.

### E

**Emergency Action Plan** (*also called: Emergency Plan, Quick Reference Emergency Plan*) Generated by the school nurse for students with diabetes, this document describes a short, detailed plan for handling a student's diabetes treatment care plan during an emergency, such as low blood glucose or high blood glucose.

### F

**Fast-acting glucose** (*also called fast-acting sugar*) – A certain type of food or drink containing simple glucose that are used to raise blood glucose levels quickly during a low blood glucose (hypoglycemic) episode.

### G

**Gastroparesis** – A gastric disorder of diabetes with symptoms of post-meal fullness, pain, nausea, vomiting, and heartburn, causing slowing or impaired gastric emptying.

**Gestational diabetes** – A type of diabetes that can occur in pregnant women who are not previously known to have diabetes. Although gestational diabetes usually subsides after pregnancy, these women are at higher risk of developing type 2 diabetes later in life.

**Glucagon** – A hormone that raises the level of glucose in the blood. Glucagon, given by injection, is used to treat severe low blood glucose (hypoglycemia) when a person is not able to take food or drink, is unconscious, or is having a seizure or convulsion.

**Glucose** – A simple glucose found in the blood that is the body's main source of energy.

**Glucose tablets or gel** – Special products that provide a pre-measured amount of simple glucose. These fast-acting forms of glucose are used to treat low blood glucose (hypoglycemia).

**Goal range (of blood glucose)** – A selected range for blood glucose levels that a person with diabetes tries to maintain. The target range is usually determined by the health care team.

### H

**Healthcare Plan** (*also called: Individual Care Plan, Individual Health Care Plan, Nursing Health Care Plan*) A plan developed by a school nurse which identifies nursing care for students with diabetes. This plan includes a health assessment, nursing diagnoses, goals, interventions, and expected outcomes.

**High blood glucose** (*also called: high blood sugar, hyperglycemia*) A condition that occurs when blood glucose levels are high, usually defined as > 250 mg/dL.

**Hormone** – A chemical substance that is released by special cells in the body in order to help other cells work.

**Hyperglycemia** – Another name used for high blood glucose levels.

**Hyperosmolar Hyperglycemic Nonketotic Coma** – A serious complication of diabetes resulting in elevated blood glucose levels (usually over 600 mg/dL) and dehydration. This condition is more common with type 2 diabetes and among the elderly.

**Hypoglycemia** – Another name used for low blood glucose levels.

**Hypoglycemia Unawareness** – complication of diabetes in which a person is unaware of the symptoms of low blood glucose (hypoglycemia).

### I

**Individualized Education Program (IEP)** – A written plan that designs and documents a student's educational program based on an identified disability.

**Individuals with Disabilities Education Act (IDEA)** – A federal law that supported special education and related services for children with disabilities, administered by the Office of Special Education Programs in the U.S. Department of Education. To be eligible for services under

## Glossary

IDEA, a student's diabetes must impair his or her ability to learn so that he or she requires special education and related services.

**Insulin** – A hormone produced by the pancreas that helps the body use glucose. Insulin is used to treat diabetes.

**Insulin injections** – The process of delivering insulin into the body with a needle and syringe or an insulin pen.

**Insulin pen** – A pen-like device used to inject insulin into the body.

**Insulin pump** – A device (a mini-computer about the size of a cell phone) that is programmed to deliver insulin.

**Insulin resistance** – A condition in which fat and muscle cells become less sensitive to insulin action. If insulin is less sensitive, glucose will build up in the blood stream.

**Interstitial fluid** – The fluid surrounding the tissue and/or organs in a person's body.

### K

**Ketoacidosis** – A state in which the body has increased production of ketone bodies due to diabetes or, in some cases, starvation.

**Ketones** – With not enough insulin to help the body use glucose, the body uses fat as a source of energy. When the body uses fat for energy, toxic by-products called ketones are released into the blood.

**Ketone testing** – A procedure for measuring the level of ketones in the urine or blood.

### L

**Lancet** – A fine, sharp-pointed needle used for pricking through the skin to obtain a sample of blood for blood glucose monitoring.

**Low blood glucose** (*Also called: low blood sugar, hypoglycemia*) – A condition that occurs when blood glucose levels are too low, usually defined as < 70 mg/dL.

### M

**Meal planning** – A specific approach that assists in balancing food consumed evenly throughout the day. A meal plan is individualized and takes into account other important aspects, such as growth and nutritional requirements.

**Medical alert identification** – An identification card, necklace, or bracelet worn by a person to inform emergency responders of critical health information.

**Metabolism** – A term used to describe the breakdown or synthesis of nutrients in the body.

**mg/dL** – Milligrams per deciliter; a unit of measure used to describe how much glucose is in a specific amount of blood.

**Microalbumin** – A test that measures small amounts of protein (albumin) in the urine to detect kidney damage from diabetes.

### O

**Obesity** – An excess of subcutaneous fat in proportion to lean body mass. Children and adolescents (ages 2 through 20) who are at or above the 95th percentile on growth charts are termed obese. When determining obesity in children and adolescents, it's important to consider BMI, as well as gender and age, using the Body Mass Index-for-Age growth charts.

**Overweight** – Increased body weight in relation to some standard of acceptable or desirable weight. Children and adolescents (ages 2 through 20) who are between the 85th and 95th percentiles are considered overweight. When determining overweight in children and adolescents, it's important to consider BMI, as well as gender and age, using the Body Mass Index-for-Age growth charts.

### P

**Pancreas** – An organ in the body that makes a hormone called insulin. The pancreas also makes enzymes that help the body digest food.

**Peak insulin time** – The time when insulin has its major impact on reducing blood glucose levels. Also see: insulin.

## Glossary

**Polycystic Ovarian Syndrome** – A medical condition that affects a woman’s menstrual cycle, causing missed or irregular periods, and affects the ability to have children. The condition involves abnormal levels of hormones (e.g., high levels of androgens [male hormones]), as well as other hormones. Symptoms can include acne and facial hair.

**Post-physical activity delayed hypoglycemia** – The symptoms of low blood glucose (hypoglycemia) can be experienced hours after an activity.

**Pre-diabetes** – A condition in which blood glucose levels are higher than normal but are not yet high enough to be diagnosed as type 2 diabetes. Fasting blood glucose level is  $\geq 100$  mg/dL but  $< 126$  mg/dL.

### S

**Section 504 of the Rehabilitation Act (Section 504)** – A federal law that prohibits recipients of federal funds from discriminating against people on the basis of a disability, such as diabetes.

**Self-management** (*also called: self-care*) – Day-to-day activities undertaken by an individual to control and monitor his or her diabetes.

**Syringe** – A device used to inject medications such as insulin into body tissue.

### T

**Trained school personnel** – Nonmedical personnel who have a basic knowledge of diabetes and have received training in diabetes care, including the performance of blood glucose monitoring, insulin and Glucagon administration, recognition and treatment of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia), and performance of urine or blood ketone testing.

**Type 1 diabetes** – A chronic condition in which the pancreas makes little or no insulin. Treatment for type 1 diabetes requires insulin to control the amount of glucose in the blood.

**Type 2 diabetes** – A chronic condition in which the body either makes some but not enough insulin or the body is not able to use the insulin as it normally should.

*Glossary Adapted from:*

National Diabetes Education Program. (2003). *Helping the Student with Diabetes Succeed: A Guide for School Personnel*. Retrieved from [http://www.ndep.nih.gov/media/youth\\_NDEPSchoolGuide.pdf](http://www.ndep.nih.gov/media/youth_NDEPSchoolGuide.pdf).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Diabetes Translation. (2007). *Take Charge of Your Diabetes* (4th edition).

## DIABETES PREVENTION AND CONTROL PROGRAM MATERIALS ORDER FORM

Name of Requestor: \_\_\_\_\_ County Name: \_\_\_\_\_

Organization/Company Name: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: ( \_\_\_\_\_ ) \_\_\_\_\_ Email Address: \_\_\_\_\_  
 (including area code)

| Resource  | Primary Audience                      | Language<br><small>(circle if appropriate)</small> | Quantity |
|---|---------------------------------------|--|----------|
| Diabetes Self-Management Information and Record Booklet, <i>12 pages</i> (revised <b>2010*</b> )  | Consumers                             | English<br>Spanish<br>Hmong                        |          |
| Personal Diabetes Care Record/Wallet Card, <i>two-sided card</i> (revised <b>2010*</b> )  | Consumers                             | English<br>Spanish<br>Hmong                        |          |
| Quick Reference Guide for People with Diabetes, <i>12 pages</i> (new in <b>2008</b> )   | Consumers<br>Healthcare Professionals | English<br>Spanish<br>Hmong                        |          |
| Diabetes Resource Guide for Consumers and Health Professionals, <i>63 pages</i> (revised <b>2010*</b> )   | Consumers<br>Healthcare Professionals | English  |          |
| Students with Diabetes: A Resource Guide for Wisconsin Schools and Families (revised <b>2010</b> )<br><b>Option:</b> Paper copy or DVD (please specify) | Consumers<br>Healthcare Professionals | English  |          |
| Wisconsin Diabetes Mellitus Essential Care Guidelines, <i>220 pages</i> (revised <b>2010*</b> )   | Healthcare Professionals              | English  |          |
| 2008 Burden of Diabetes in Wisconsin, <i>48 pages</i><br><b>Option:</b> entire document or specific counties (please list):                             | Healthcare Professionals              | English  |          |
| Wisconsin Diabetes Surveillance Report, <i>43 pages</i> ( <b>2005</b> )   | Healthcare Professionals              | English  |          |
| The Wisconsin Collaborative Diabetes Quality Improvement Project Report, <i>20 pages</i> ( <b>2010*</b> )   | Healthcare Professionals              | English  |          |
| Wisconsin Diabetes Strategic Plan, <i>48 pages</i> ( <b>2010-2015*</b> )  | Consumers<br>Healthcare Professionals | English  |          |

\*At the time of printing, these DPCP resources were being revised with expected dates of completion throughout 2010. Page numbers for these documents are estimated.

The resource materials listed on this sheet are available **FREE OF CHARGE** to Wisconsin residents. To place an order, please indicate the quantity of each item and **fax to (608) 266-8925** or mail to the **Diabetes Prevention and Control Program, Room 218, PO Box 2659, Madison, WI 53701-2659**. These resources are also available for viewing and downloading at <http://www.WisconsinDiabetesInfo.org>. **Materials are not copyrighted.**

**Note:** The National Diabetes Education Program (NDEP) has a number of campaign tools and downloadable materials including: *Control Your Diabetes for Life* Campaign Guide for Partners, *Small Steps Big Rewards: Preventing Type 2 Diabetes*, *A Diabetes Community Partnership Guide* and *Making a Difference: The Business Community Takes on Diabetes*. You can view, order or download materials from the NDEP website: <http://www.YourDiabetesInfo.org>. **Materials are not copyrighted.**

# Wisconsin Diabetes Prevention and Control Program

Bureau of Community Health Promotion  
Division of Public Health  
Department of Health Services



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