Helping the Student with Diabetes Succeed

A Guide for School Personnel

Updated Edition 2010

U.S. Department of Health and Human Services

NDEP National Diabetes Education Program

A Joint Program of the National Institutes of Health and the Centers for Disease Control and Prevention

Supporting Organizations

This guide was produced by the National Diabetes Education Program (NDEP), a federally sponsored partnership of the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health and the Division of Diabetes Translation of the Centers for Disease Control and Prevention, and more than 200 partner organizations. The following organizations support its use by school personnel.

American Academy of Pediatrics

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National Institute of Diabetes and Digestive and Kidney Diseases

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Acknowledgments

Many National Diabetes Education Program (NDEP) partners contributed to developing this revised edition of *Helping the Student with Diabetes Succeed: A Guide for School Personnel*. A core writing and review team, a subcommittee of the NDEP's Children and Adolescents Work Group, helped research, write, and refine drafts of the guide. Their dedication and assistance were invaluable.

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Foreword

For students with diabetes, major advances in diabetes management, medical research, and technology mean a brighter and healthier future. Research shows that well-managed blood glucose levels not only can help young people stave off the long-term complications of diabetes but also help them feel better, happier, and more productive at school. In a supportive school environment, where school personnel understand the needs of students with diabetes and can respond appropriately in emergency situations, young people can manage their diabetes effectively throughout the school day and at school-sponsored activities.

In 2003, the National Diabetes Education Program (NDEP) produced the first edition of *Helping the Student with Diabetes Succeed: A Guide for School Personnel* to educate and inform school personnel about diabetes, how it is managed, and how each member of the school staff can help meet students' needs and make the school experience safe for students with diabetes. NDEP has distributed over 100,000 copies of the guide and thousands more copies have been downloaded from the NDEP website.

In just a short time, there have been many advances in diabetes care, such as new technologies for checking blood glucose levels and administering insulin. More children are being diagnosed with type 1 and type 2 diabetes, resulting in more students with diabetes who need support and care in the school setting. In addition, many users of the 2003 edition gave us suggestions for information they felt would be helpful to them, should the guide be revised in the future.

Working with a group of diabetes and education experts concerned about diabetes in the school setting, NDEP has revised the school guide to reflect updates in diabetes management and to incorporate user feedback. In this updated edition, you will find new and revised information on topics, including:

- effective diabetes management for children with type 2 diabetes
- diabetes equipment and supplies for blood glucose monitoring and administering insulin meal planning and carbohydrate counting
- stages of child development and students' abilities to perform diabetes care tasks
- diabetes management training for school personnel
- roles and responsibilities for key school personnel, the parents/guardian, and students with diabetes
- Federal laws and diabetes education and training resources.

Continued

NDEP wishes to thank all of the individuals and organizations who have lent their support to producing and promoting this edition of *Helping the Student with Diabetes Succeed*. We hope that schools will take advantage of the important information contained in this guide, and share it with school staff, parents, and students. Most importantly, please use the guide to ensure that all students with diabetes are educated in a medically safe environment and have the same access to educational opportunities as their peers.

Sincerely,

Martha Funnell

Martha Funnell, M.S., R.N., C.D.E.
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September 2010

Introduction

Diabetes is one of the most common chronic diseases in school-aged children, affecting about 208,000 young people in the United States. According to recent estimates, about 23,500 youths are diagnosed with type 1 and type 2 diabetes each year.

Diabetes is a serious chronic disease in which blood glucose (sugar) levels are above normal due to defects in insulin production, insulin action, or both. Diabetes is the sixth leading cause of death by disease in the United States. Long-term complications of diabetes include heart disease, stroke, blindness, kidney failure, nerve disease, gum disease, and amputation of the foot or leg. Although there is no cure, diabetes can be managed and complications can be delayed or prevented.

Diabetes must be managed 24 hours a day, 7 days a week. For students with type 1 diabetes, and for some with type 2 diabetes, that means careful monitoring of their blood glucose levels throughout the school day and administering multiple doses of insulin by injection or with an insulin pump to control their blood glucose and minimize complications. As a result, coordination and collaboration among members of the school health team and the student's personal diabetes health care team are essential for helping students manage their diabetes in the school setting.

Members of the School Health Team
Student with diabetes
Parents/guardian
School nurse
Other school health care personnel
Trained diabetes personnel
Administrators
Principal
504/IEP coordinator
Office staff
Student's teacher(s)
Guidance counselor
Coach, lunchroom, and other school staff members

Members of the Student's Personal Diabetes Health Care Team
Student with diabetes
Parents/guardian
Doctor
Nurse
Registered dietitian
Diabetes educator
Other health care providers involved with the student's care

Purpose of the School Guide

The purpose of this guide is to educate school personnel about effective diabetes management and to share a set of practices that enable schools to ensure a safe learning environment for students with diabetes, particularly those who use insulin to control the disease (all students with type 1 and some with type 2 diabetes). **The school health team and the training approach for school-based diabetes management explained in this guide build on what schools already are doing to support children with chronic diseases**.

The purpose of this guide is to educate school personnel about effective diabetes management and to share a set of practices that enable schools to ensure a safe learning environment for students with diabetes.

The practices shared in this guide are not necessarily required by the Federal laws enforced by the U.S. Department of Education for each student with diabetes. This guide can be used, however, in determining how to address the needs of students with diabetes. The individual situation of any particular student with diabetes will affect what is legally required for that student.

In addition, this guide does not address State and local laws, because the requirements of these laws may vary from State to State and school district to school district. **This guide should be used in conjunction with Federal as well as State and local laws.**

Effective diabetes management is crucial:

- For the immediate safety of students with diabetes
- For the long-term health of students with diabetes
- To ensure that students with diabetes are ready to learn and participate fully in school activities
- To minimize the possibility that diabetes-related emergencies will disrupt classroom activities

Diabetes management training for school personnel is essential to ensure effective school-based diabetes management. Three levels of training are needed.

Level 1. **All school personnel should receive training** that provides a basic understanding of diabetes, how to recognize and respond to the signs and symptoms of low blood glucose (hypoglycemia) and high blood glucose (hyperglycemia), and who to contact immediately in case of an emergency.

Level 2. **Classroom teachers and all school personnel who have responsibility for students with diabetes throughout the school day** should receive Level 1 training plus additional training to carry out their individual roles and responsibilities and to know what to do in case of a diabetes emergency.

Level 3. **One or more school staff members should receive in-depth training about diabetes and routine and emergency care for each student with diabetes** from a diabetes-trained health care professional such as the school nurse or a certified diabetes educator. This training will help ensure that a school staff member is always available to help all students with diabetes in case of an emergency and to help younger or less-experienced students or those with additional physical or mental impairments perform diabetes care tasks (e.g., administering insulin or checking their blood glucose).

See the section on Training School Personnel in the Primer (pages 27-31) and the Resources section for information on training resources related to diabetes management in the school setting.

Nonmedical school personnel who receive Level 3 training, called "trained diabetes personnel" in this guide, can be supervised by the school nurse to perform diabetes care tasks safely in the school setting. In your school, these individuals may be known as unlicensed assistive personnel, assistive personnel, paraprofessionals, or trained nonmedical personnel.

Assignment of diabetes care tasks, however, must take into account State laws that may be relevant in determining which tasks may be performed by trained diabetes personnel.

When trained diabetes personnel carry out tasks specified in the student's health care plans, under no circumstances should they make independent decisions about the daily, ongoing management of a student with diabetes.

Overview of the School Guide

Organized in seven sections, the guide includes background information and tools for school personnel to help students manage diabetes effectively. You will find additional ideas for how to use the guide at the beginning of each section.

Section 1, Diabetes Primer for School Personnel, provides key information about diabetes, how the disease is managed, health care and education plans for students with diabetes, and the essential elements for planning and implementing effective diabetes management in school. This section also addresses the importance of diabetes self-management and the typical ages at which children are able to perform various diabetes care tasks.

Please copy and distribute the Primer to all school personnel who may be responsible for the safety of students with diabetes.

Please copy and distribute the Primer to all school personnel who may be responsible for the safety of students with diabetes. School nurses are the likely leaders in distributing this information and providing the education and training that school personnel will need. This leadership may vary, however, from one school system to another because of State laws, staffing levels, and other considerations.

Section 2, Actions for School Personnel, Parents or Guardian, and Students, defines the roles and responsibilities of key school staff members, the parents/guardian, and the student with diabetes—all members of the school health team.

Please copy and distribute the pages in this section to all school personnel who may be responsible for the safety of students with diabetes. The recommended actions do not represent legal checklists of what people must do to comply with relevant Federal and State laws. Rather, they are steps that administrators, school nurses, school personnel, the parents/guardian, and students should take to ensure effective diabetes management at school.

Section 3, Tools for Effective Diabetes Management, contains three important tools for helping schools implement effective diabetes management—a sample Diabetes Medical Management Plan, a sample template for an Individualized Health Care Plan, and sample Emergency Care Plans for Hypoglycemia and Hyperglycemia.

- The **Diabetes Medical Management Plan** is to be completed by the student's personal diabetes health care team and contains the medical orders that are the basis for the student's health care and education plans.
- The **Individualized Health Care Plan** is developed by the school nurse in collaboration with the student's personal diabetes health care team and the family to implement the student's Diabetes Medical Management Plan in the school setting.
- The **Emergency Care Plans for Hypoglycemia and Hyperglycemia,** based on the medical orders, summarize how to recognize and treat hypoglycemia and hyperglycemia and who to contact for help. These plans, developed by the school nurse, should be distributed to all school personnel who have responsibility for students with diabetes during the school day and during school-sponsored activities.

Section 4, School Responsibilities under Federal Laws, was prepared by the U.S. Department of Education. This section provides an overview of Federal laws that address schools' responsibilities for students with diabetes, including confidentiality requirements. In applying the laws, schools must consider each student on an individualized basis; what is appropriate for one student may not be appropriate for another student.

Section 5, Resources, lists the school guide supporting organizations and their resources related to diabetes and youth. You may contact them for more information about diabetes and youth, educational materials about diabetes management for lay audiences and school personnel, health care professionals who can train school personnel about diabetes, training programs,

resources, and guidelines and position statements on care of children with diabetes.

Section 6, Glossary of Diabetes Terms, provides explanations of the medical and technical terms used in this guide.

Section 7, Bibliography, lists publications related to children and diabetes management in the school setting.

School personnel, health care professionals, and parents are encouraged to visit the NDEP website, www.YourDiabetesInfo.org, to download copies of this guide and for additional resources on diabetes and youth. Feel free to link your website to the NDEP website and to this guide.

To obtain additional copies of the school guide and other information about diabetes and youth

Call the National Diabetes Education Program

1-888-693-6337

Visit the program's website

www.YourDiabetesInfo.org

What's New
in the 2010 Edition of the School Guide

Updated Edition 2010

Users of the 2010 edition of *Helping the Student with Diabetes Succeed* will find new, revised, or updated information on:

- Designing diabetes management training for school personnel using a three-tiered approach (page 27)
- Diabetes equipment and supplies for blood glucose monitoring (page 33) and administering insulin (page 44)
- Meal planning, carbohydrate counting, and administering insulin (page 50)
- Developmental stages and students' abilities to perform diabetes care tasks (page 60)
- Roles and responsibilities for key school personnel, the parents/guardian, and students with diabetes (page 63)
- Sample forms and tools (page 97)
- Federal laws (page 113)
- Resources for diabetes information, education, and training (page 119)
- Glossary of diabetes terms (page 135)

Section 1

Diabetes Primer for School Personnel

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How To Use the Diabetes Primer

- Copy and distribute the Diabetes Primer to all school personnel who are responsible for students with diabetes during the school day.
- Incorporate the content into diabetes management training for school personnel.
- Use the National Diabetes Education Program's electronic slide presentation about diabetes for school district and other staff. Visit: **http://ndep.nih.gov/hcp-businesses-and-schools/Schools.aspx**
- Review sections of the Diabetes Primer at school health team meetings.
- Share the Diabetes Primer with the parents/guardian, other school personnel, and health care professionals who are seeking the latest information about children with diabetes.
- Prepare a science or health education lesson about diabetes using the information in the Diabetes Primer.

What Is Diabetes?

Diabetes is a chronic disease in which blood glucose (sugar) levels are above normal. People with diabetes have problems converting food to energy. After a meal, food is broken down into a sugar called glucose, which is carried by the blood to cells throughout the body. Insulin, a hormone made in the pancreas, allows glucose to enter the cells of the body where it is used for energy.

People develop diabetes because the pancreas produces little or no insulin or because the cells in the muscles, liver, and fat do not use insulin properly. As a result, the glucose builds up in the blood, is transported into the urine, and passes out of the body. Thus, the body loses its main source of fuel even though the blood contains large amounts of glucose.

When insulin is no longer made, it must be obtained from another source—insulin injections or an insulin pump. When the body does not use insulin properly, people with diabetes may take insulin or other glucose-lowering medications. **Neither insulin nor other medications, however, are cures for diabetes; they only help to control the disease.**

Taking care of diabetes is important. Over the years, ongoing high blood glucose, also called hyperglycemia, can lead to serious health problems. If not managed effectively, diabetes can affect the blood vessels, eyes, kidneys, nerves, gums, and teeth, making it the leading cause of adult blindness, kidney failure, and non-traumatic lower limb amputations. Diabetes also increases a person's risk for heart disease and stroke.

Some of these problems can occur in teens and young adults who develop diabetes during childhood. The good news is that research shows these problems can be greatly reduced, delayed, or possibly prevented through intensive treatment that keeps blood glucose levels near normal.

Taking care of diabetes is important. Over the years, ongoing high blood glucose, also called hyperglycemia, can lead to serious health problems.

The three main types of diabetes are type 1, type 2, and gestational diabetes.

Type 1 Diabetes

Type 1 Diabetes

Symptoms:

- Increased thirst and urination
- Weight loss
- Blurred vision
- Feeling tired all the time

Risk Factors:

- Genetics
- Environment

Type 1 diabetes, formerly called juvenile diabetes, is a disease of the immune system, the body's system for fighting infection. In people with type 1 diabetes, the immune system attacks the beta cells (the insulin-producing cells of the pancreas) and destroys them. Because the pancreas can no longer produce insulin, people with type 1 diabetes must take insulin daily to live.

Type 1 diabetes can occur at any age, but onset of the disease occurs most often in children and young adults. Most cases of diabetes in children under age 10 are type 1 diabetes. In adults, type 1 diabetes accounts for 5 to 10 percent of all cases of diagnosed diabetes.

Symptoms. The symptoms of type 1 diabetes are due to an increase in the level of glucose in the blood and include increased thirst and urination, weight loss, blurred vision, and feeling tired all the time. These symptoms may be mistaken for severe flu or another rapid-onset illness. If not diagnosed and treated with insulin, the child with type 1 diabetes can lapse into a life-threatening condition known as diabetic ketoacidosis (KEY-toe-asi-DOE-sis) or DKA. Signs of DKA include vomiting, sleepiness, fruity breath, difficulty breathing, and if untreated, coma and death. (For more information about DKA, see page 44.)

Risk factors. Although scientists have made much progress in predicting who is at risk for type 1 diabetes, they do not yet know what triggers the immune system's attack on the pancreas' beta cells. They believe that type 1 diabetes is due to a combination of genetic and environmental factors that are beyond the individual's control. Researchers are working to identify these factors and to stop the autoimmune process that leads to type 1 diabetes.

Type 2 Diabetes

Type 2 diabetes, formerly called adult-onset diabetes, is the most common form of the disease. People can develop it at any age, even during childhood. A progressive disease, type 2 diabetes usually begins with insulin resistance, a condition in which muscle, liver, and fat cells do not use insulin properly. At first, the pancreas keeps up with the added demand by producing more insulin. Over time, however, the pancreas loses its ability to secrete enough insulin in response to meals or to even control the glucose level overnight or during periods of fasting.

Managing type 2 diabetes includes lifestyle changes such as making healthy food choices and getting regular physical activity. In addition, people with type 2 diabetes may take insulin and/or other glucose-lowering medications to control their diabetes.

In the past, type 2 diabetes used to be found mainly in overweight or obese adults ages 40 or older. Now, as more children and adolescents in the United States have become overweight and inactive, type 2 diabetes is occurring in young people.

Symptoms. Symptoms of type 2 diabetes in children may be similar to those of type 1 diabetes. A child or teen may feel very tired or thirsty and have to urinate often due to high blood glucose levels. Other symptoms include weight loss, blurred vision, frequent infections, and slow-healing wounds. High blood pressure or elevated blood lipids (cholesterol) are associated with insulin resistance. In addition, physical signs of insulin resistance may appear, such as acanthosis nigricans (A-can-tho-sis NIG-reh-cans), a condition in which the skin around the neck, armpits, or groin looks dark, thick, and velvety. Often, this condition is mistaken for poor hygiene.

Some children or adolescents (and adults) with type 2 diabetes may have no recognized symptoms when they are diagnosed. For that reason, it is important for the parents/guardian to talk to their health care providers about screening children or teens who are at high risk for type 2 diabetes.

Type 2 Diabetes

Symptoms:

- Feeling tired all the time
- Increased thirst and urination
- Weight loss
- Blurred vision
- Frequent infections
- Slow-healing wounds

Risk Factors:

- Being overweight
- Having a family member who has type 2 diabetes
- Being African American, Hispanic/Latino, American Indian, Alaska Native, Asian American, or Pacific Islander including Native Hawaiian

Risk factors. The key risk factors for type 2 diabetes include being overweight or obese and having a family member who has type 2 diabetes. In addition, type 2 diabetes is more common in certain racial and ethnic groups such as African Americans, Hispanics/Latinos, American Indians, Alaska Natives, Asian Americans, and Pacific Islanders including Native Hawaiians. Other risk factors include having a mother who has had diabetes during her pregnancy (gestational diabetes), having high blood pressure, high cholesterol, abnormal lipid levels, polycystic ovary syndrome, and being inactive.

For children and teens at risk, health care professionals can encourage, support, and educate the entire family to make lifestyle changes that may delay—or prevent—the onset of type 2 diabetes. Changes include making healthy food choices, reaching and maintaining a healthy weight, and engaging in regular physical activity.

Gestational Diabetes

Gestational diabetes develops during pregnancy and is caused by the hormones of pregnancy. These hormones can cause insulin resistance or a shortage of insulin. Although gestational diabetes usually goes away after the baby is born, a woman who has had it is at increased risk for developing diabetes for the rest of her life. In addition, the offspring of that pregnancy are at increased risk for obesity and developing type 2 diabetes.

What Is Effective Diabetes Management at School?

- Maintaining optimal blood glucose control
- Assisting the student with performing diabetes care tasks
- Designating trained diabetes personnel

Maintaining Optimal Blood Glucose Control

The goal of effective diabetes management is to control blood glucose levels by keeping them within a target range determined by the student's personal diabetes health care team. Optimal blood glucose control helps to promote normal growth and development and to prevent the immediate dangers of glucose levels that are too high or too low. Maintaining blood glucose levels within the target range also can help prevent or delay the long-term complications of diabetes such as heart disease, stroke, blindness, kidney failure, gum disease, nerve disease, and amputations of the foot or leg.

The key to maintaining optimal blood glucose control is to balance carefully food intake, physical activity, insulin, and/or medication. **As a general rule, food makes blood glucose levels go up. Physical activity, insulin, and diabetes medications make blood glucose levels go down.** Several other factors, such as growth and puberty, physical and emotional stress, illness, or injury, also can affect blood glucose levels.

With all of these factors coming into play, maintaining optimal blood glucose control is a constant juggling act—24 hours a day, 7 days a week.

Students with diabetes should check their blood glucose levels throughout the day using a blood glucose meter and/or a sensor if prescribed. The meter gives a reading of the level of glucose in the blood at the time it is being monitored. When blood glucose levels are too low (hypoglycemia) or too high (hyperglycemia),

students need to take corrective actions. **Low blood glucose levels, which can be life-threatening, present the greatest immediate danger to people with diabetes.** (See hypoglycemia, page 36.)

All students with diabetes will need help during an emergency.

Assisting the Student with Performing Diabetes Care Tasks

Diabetes management is needed 24 hours a day, 7 days a week. Many students will be able to handle all or almost all of their nonemergency diabetes care tasks by themselves. Others, because of age, developmental level, or inexperience, will need help from school personnel. (See section on diabetes self-management, page 60.) In addition to the routine care required to meet daily needs, diabetes emergencies may happen at any time. School personnel need to be prepared to provide diabetes care at school and at all school-sponsored activities in which a student with diabetes participates.

The school nurse is the most appropriate person in the school setting to provide care for a student with diabetes. Many schools, however, do not have a full-time nurse, and sometimes a single nurse must cover more than one school. Few middle schools and high schools in the United States have a nurse on staff. Moreover, even when a nurse is assigned to a school full time, she or he may not always be available during the school day, during extracurricular activities, or on field trips. The school nurse or another qualified health care professional plays a major role in selecting and training appropriate staff and providing professional supervision and consultation regarding routine and emergency care of the student with diabetes.

Designating Trained Diabetes Personnel

Nonmedical school personnel—called "trained diabetes personnel" in this guide—can be trained and supervised to perform diabetes care tasks safely in the school setting. Some schools may call these individuals unlicensed assistive personnel,

assistive personnel, paraprofessionals, or trained nonmedical personnel.

Care tasks performed by trained diabetes personnel may include blood glucose monitoring, insulin and glucagon administration, and urine or blood ketone testing. In addition to learning how to perform general diabetes care tasks, trained diabetes personnel should receive student-specific training and be supervised by the school nurse or another qualified health care professional. (See Level 3 training, pages 28-29.)

The school nurse has a critical role in training and supervising trained diabetes personnel to ensure the health and safety of students with diabetes. Given the rapid changes in diabetes technology, therapies, and evidence-based practice, the school nurse who provides care to students with diabetes and facilitates diabetes management training for school personnel has the professional responsibility to acquire and maintain knowledge and competency related to diabetes management. See the section on Training School Personnel (pages 27-31) and the Resources section for information on training resources related to diabetes management in the school setting.

Assignment of diabetes care tasks, however, must take into account State laws that may be relevant in determining which tasks are performed by trained diabetes personnel.

Once it has been determined that a student-specific diabetes care task may be delegated, the school nurse should be involved in the decision making process to identify which school personnel are most appropriate to be trained. A diabetes-trained health care professional, such as a school nurse or a certified diabetes educator, develops and implements the training program, evaluates the ability of the trained diabetes personnel to perform the task, and establishes a plan for ongoing supervision throughout the school year. **When trained diabetes personnel carry out tasks specified in the student's health care plans, under no circumstances should they make independent decisions about the daily, ongoing management of a student with diabetes.**

Trained diabetes personnel may include:

- Health aides
- Teachers
- Physical education personnel
- School principal
- School secretary
- Guidance counselor
- Food service personnel
- Other appropriate personnel

How Do Schools Plan and Implement Effective Diabetes Management?

- Assembling a school health team
- Reviewing the Federal laws
- Assembling health care plans
  - Diabetes Medical Management Plan (prepared by the student's personal diabetes health care team)
  - Individualized Health Care Plan (prepared by the school nurse)
  - Emergency Care Plans for Hypoglycemia and Hyperglycemia (prepared by the school nurse)
- Preparing an education plan (if needed)
  - 504 Plan
  - Other education plans
  - Individualized education program
- Training school personnel

Students with diabetes are more likely to succeed in school when the student's school health team and the student's personal diabetes health care team work together.

Assembling a School Health Team

Collaboration and cooperation are key elements in planning and implementing successful diabetes management at school. **As is true for children with other chronic diseases, students with diabetes are more likely to succeed in school when the student's school health team and the student's personal diabetes health care team work together.**

To work collaboratively, a school health team should be assembled that includes people who are knowledgeable about diabetes, the school environment, and Federal and State education and nursing laws. **School health team members** should include the student with diabetes, the parents/guardian, the school nurse and other health care personnel, the staff members designated as trained diabetes personnel, administrators, the principal, the 504/IEP coordinator, office staff, the student's teacher(s), the guidance counselor, the coach, lunchroom and other school staff members.

The school health team is distinct from the **student's personal diabetes health care team.** Members of this team include the student with diabetes, the parents/guardian, the student's doctor, nurse, registered dietitian, diabetes educator, and other health care providers involved in the student's care.

The school health team members work together to implement the medical orders in the Diabetes Medical Management Plan (see page 21) **developed by the student's personal diabetes health care team, using the strategies outlined by the school nurse in the Individualized Health Care Plan** (see page 22). In addition, the school health team should be part of the group that develops and implements the student's Section 504 Plan, other education plan, or individualized education program (IEP). These plans are developed to address students' needs for services to manage diabetes safely and effectively in school, where required under Section 504 of the Rehabilitation Act of 1973 or the Individuals with Disabilities Education Act.

Members of the School Health Team
Student with diabetes
Parents/guardian
School nurse
Other school health care personnel
Trained diabetes personnel
Administrators
Principal
504/IEP coordinator
Office staff
Student's teacher(s)
Guidance counselor
Coach, lunchroom, and other school staff members

Members of the Student's Personal Diabetes Health Care Team
Student with diabetes
Parents/guardian
Doctor
Nurse
Registered dietitian
Diabetes educator
Other health care providers involved with the student's care

Reviewing the Federal Laws

Three Federal laws address the school's responsibilities to help students with diabetes:

- Section 504 of the Rehabilitation Act of 1973 (Section 504)
- Americans with Disabilities Act of 1990 (ADA)[1]
- Individuals with Disabilities Education Act (IDEA)

In addition, the Family Educational Rights and Privacy Act (FERPA) and IDEA protect the student's privacy. FERPA and IDEA prohibit schools, with certain exceptions, from disclosing personally identifiable information in a student's education record, unless the school obtains the prior written consent of the student's parents/guardian or the eligible student (a student who is 18 years old or older or who attends an institution of post-secondary education).

These Federal laws provide a framework for planning and implementing effective diabetes management in the school setting, for preparing the student's education plan, and for protecting the student's privacy. The requirements of Federal laws must always be met. (See Section 4 for additional information on these Federal laws.) School administrators and nursing personnel also should determine whether applicable State and local laws need to be factored into helping the student with diabetes.

[1] Both the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA) were amended in 2008. See ADA Amendments Act of 2008, P.L. 110–325.

Assembling Health Care Plans

Health care plans outline how each student's diabetes will be managed. These plans help students, their families, school personnel, and the student's personal diabetes health care team to know what is expected of each of them. These expectations should be laid out in writing in the following health care plans:

- Diabetes Medical Management Plan (prepared by the student's personal diabetes health care team)
- Individualized Health Care Plan (prepared by the school nurse)
- Emergency Care Plans for Hypoglycemia and Hyperglycemia (prepared by the school nurse)

The **Diabetes Medical Management Plan**, prepared by the student's personal diabetes health care team, contains the medical orders tailored for each student.

Diabetes Medical Management Plan

The Diabetes Medical Management Plan (DMMP) contains the medical orders prepared by the student's personal diabetes health care team. (See Section 3 for a sample plan.) The student's health care provider should sign this plan. The DMMP is the basis for all of the health care and education plans designed to help the student manage diabetes effectively at school and must be in place for the student's diabetes care plan to be implemented in the school. Although the DMMP is not required by Section 504, ADA, or IDEA, the information it contains can be useful in addressing the requirements of these Federal laws for the student with diabetes.

The school nurse uses the information in the DMMP to develop the student's Individualized Health Care Plan and the Emergency Care Plans. This information also should be incorporated into any Section 504, other education plan, or IEP.

Information in the DMMP may include:

- Date of diagnosis
- Current health status
- Emergency contact information
- Specific medical orders
- 72-hour disaster or emergency plan
- Assessment of student's self-care skills for performing diabetes care tasks
- List of diabetes equipment and supplies
- Blood glucose monitoring requirements
- Insulin, glucagon, and other medications to be given at school
- Meal and snack plan
- Physical activity requirements
- Additional monitoring (e.g., for ketones)
- Typical signs, symptoms, and prescribed treatment for hypoglycemia
- Typical signs, symptoms, and prescribed treatment for hyperglycemia

The student's personal diabetes health care team should complete and approve the DMMP before the child returns to school, after diagnosis, or when a child transfers to a new school. The DMMP should be reviewed and updated each school year or upon a change in the student's prescribed care plan, level of self-management, school circumstances (e.g., a change in schedule), or at the request of the student or his or her parents/guardian.

Individualized Health Care Plan

The Individualized Health Care Plan (IHP) is a written plan developed by the school nurse in collaboration with the student's personal diabetes health care team and the family to implement the student's DMMP. (See Section 3 for a sample plan template.) The IHP, sometimes called the nursing care plan, is based on the medical orders in the student's DMMP and

incorporates an assessment of the school environment as well as student-specific information (e.g., familial, psychosocial, and developmental information).

The school nurse uses the information in the DMMP and the nurse's additional assessment findings to outline the diabetes management strategies and personnel needed to meet the student's health goals, as outlined in the DMMP. The school nurse reviews the IHP with the student and the parents/guardian before it is implemented and establishes a timeline to revisit the plan periodically to evaluate progress toward desired health goals throughout the school year.

The **Individualized Health Care Plan** is developed by the school nurse in collaboration with the student's personal diabetes health care team and the family to implement the student's Diabetes Medical Management Plan.

Information in the IHP may include:

- Plan for maintaining the student's blood glucose within the target range specified in the DMMP (which includes strategies for blood glucose monitoring, administering insulin, treating hypoglycemia and hyperglycemia, adhering to the student's meal plan, and participating in physical activity)
- Supplies needed and where they will be kept
- Need for free access to the restroom and water
- Nutritional needs, including provisions for meals and snacks
- Participation in all school-sponsored activities and field trips, with coverage provided by trained diabetes personnel
- Guidelines for communicating with the family and the student's personal diabetes health care team
- List of trained diabetes personnel and the diabetes care tasks they will perform
- Plan and timeline for training and supervising trained diabetes personnel
- Plan and timeline to train other school personnel (e.g., teachers, physical education instructors, food service, and transportation personnel)
- Timeframe for ongoing review of student outcomes
- Strategies to ensure the student avoids inappropriate penalties

for health care appointments and to provide accommodations during the school day

- Plan for the student who independently manages diabetes at school
- Maintenance of confidentiality and the student's right to privacy

The **Emergency Care Plans** summarize how to recognize and treat hypoglycemia and hyperglycemia and what to do in an emergency.

Emergency Care Plans for Hypoglycemia and Hyperglycemia

The Emergency Care Plans for Hypoglycemia and Hyperglycemia are based on the medical orders in the student's DMMP. (See Section 3 for sample emergency plans.) The school nurse usually will coordinate developing these plans. The plans summarize how to recognize and treat hypoglycemia and hyperglycemia and what to do in an emergency. **Distribute the plans to all school personnel who have responsibility for students with diabetes.**

Preparing an Education Plan (If Needed)

The school health team should be part of the group that plans how the DMMP will be implemented and be part of the group that determines the student's eligibility under Section 504 or IDEA as well as the student's needs for services to manage diabetes safely and effectively in school. This information should be included in any Section 504 Plan, other education plan, or IEP developed for the student and should be distributed to all school personnel who will be involved with implementing these plans.

- **A "504 Plan"** is the commonly used term for a plan of services developed under Section 504 of the Rehabilitation Act. For a student with diabetes, the plan would be developed and reviewed by a team that usually includes the school nurse, the parents/guardian, 504 coordinator, school administrator, guidance counselor, and teacher.
- **An IEP** is required for students with disabilities who receive special education and related services under the IDEA. For a student with diabetes, the IEP would be developed and reviewed by the IEP team, including the parents/guardian; at least one regular education teacher and one special education

teacher of the child; a qualified school district representative such as the IEP coordinator or school administrator; an individual who can interpret the instructional implications of the student's needs; and, at the discretion of the parent or school district, other personnel with knowledge or special expertise regarding the child, usually the school nurse, guidance counselor and/or trained diabetes personnel.

The information in the DMMP and IHP should be used in developing either a 504 Plan or an IEP, but it is not a substitute for these plans.

The **504 Plan**, other education plan, or IEP, address each student's needs for services to manage diabetes safely and effectively in school, where required under Section 504 or the Individuals with Disabilities Education Act (IDEA).

Individual students with diabetes have different needs, but their education plans are likely to address the following common elements:

- Where and when blood glucose monitoring and treatment will take place
- Identity of trained diabetes personnel—the staff members who are trained to perform diabetes care tasks such as monitoring blood glucose, administering insulin and glucagon, and treating hypoglycemia and hyperglycemia
- Location of the student's diabetes management supplies
- Need for free access to the restroom and water
- Nutritional needs, including provisions for meals and snacks
- Full participation in all school-sponsored activities and field trips, with coverage provided by trained diabetes personnel
- Alternative times and arrangements for academic exams if the student is experiencing hypoglycemia or hyperglycemia
- Permission for absences without penalty for health care appointments and prolonged illness
- Maintenance of confidentiality and the student's right to privacy

It is strongly recommended that the information in the education plan be agreed upon before each school year begins (or upon diagnosis of diabetes) and be written down and signed by a representative of the school and the parents/guardian.

Written plans help ensure that school personnel, the parents/guardian, and students know their responsibilities. Parents/guardian must be notified in a timely manner of any proposed changes in the provision of services and must be included in related discussions. (See Section 4 for more information about the Federal laws related to education plans.)

Plans for Diabetes Management

Plan	Contents	Who Develops It
Diabetes Medical Management Plan (DMMP)	**Medical orders:** all aspects of routine and emergency diabetes care	**Student's personal diabetes health care team**
Individualized Health Care Plan (IHP)	**School nursing care plan:** how diabetes care, as prescribed in the Diabetes Medical Management Plan, will be delivered in the school	**School nurse**
Emergency Care Plans	**Tool for school staff:** how to recognize and treat hypoglycemia or hyperglycemia and what to do in an emergency	**School nurse**
504 Plan, Other Education Plan, or Individualized Education Program	**Education plans:** address each student's needs for services to manage their diabetes safely and effectively in school, where required under Section 504 or the Individuals with Disabilities Education Act	**504 team** **IEP team**

Training School Personnel

Diabetes management training for school personnel is essential to facilitate appropriate care for students with diabetes. **Knowledgeable and trained school personnel can help to ensure that students with diabetes are safe, ready to learn, and able to participate in all school-sponsored events.** All school personnel should receive the appropriate level of diabetes care training suited to their responsibilities for students with diabetes. See the section on Diabetes Management Training Resources (page 30) and the Resources section for examples of standardized training programs and materials.

Diabetes management training should be facilitated by a diabetes-trained health care professional such as the school nurse or a certified diabetes educator. Training should occur at the beginning of each school year and should be repeated when an enrolled student is first diagnosed with diabetes or when a student with diabetes enrolls in the school. Periodic refresher training is recommended.

Three levels of training are needed to keep students with diabetes safe at school. Training should be designed to include the elements outlined below using standardized training materials.

Level 1. Diabetes Overview and How to Recognize and Respond to an Emergency Situation

Level 1 training is for all school personnel and should cover:

- An overview of diabetes
- How to recognize and respond to hypoglycemia and hyperglycemia
- Who to contact for help in an emergency

Level 2. Diabetes Basics and What to Do in an Emergency Situation

Level 2 training builds on Level 1 and is designed for school personnel who have responsibility for the student with

diabetes throughout the school day (e.g., classroom, physical education, music, and art teachers and other personnel such as lunchroom staff, coaches, and bus drivers).

Level 2 training should cover:

- Content from Level 1 with specific instructions for what to do in case of an emergency
- Roles and responsibilities of individual staff members (outlined in Section 2, Actions for School Personnel, Parents, and Students)
- Expanded overview of diabetes (types of diabetes, the role of blood glucose monitoring, the importance of balancing insulin/medication with physical activity and nutrition and how it is done)
- Procedures and brief overview of the operation of devices (or equipment) commonly used by students with diabetes
- Impact of hypoglycemia or hyperglycemia on behavior, learning, and other activities
- The student's Individualized Health Care Plan, 504 Plan, other education plan, or IEP
- The student's Emergency Care Plans
- How to activate Emergency Medical Services in case of a diabetes emergency
- Tips and planning needed for the classroom and for special events
- Overview of the legal rights of students with diabetes in the school setting

Level 3. General and Student-Specific Diabetes Care Tasks

Level 3 training is for one or more school staff members designated as trained diabetes personnel who will perform or assist the student with diabetes care tasks when allowed by State law. Level 3 training should be provided by a diabetes-trained

health care professional such as the school nurse or a certified diabetes educator.

Level 3 training should cover:

- All the information from Level 1 and Level 2 training
- General training on diabetes care tasks specified in the student's DMMP:
  - Blood glucose monitoring
  - Ketone testing (urine and blood)
  - Insulin administration
  - Glucagon administration
  - Basic carbohydrate counting
- Student-specific training, when addressing each diabetes care task, includes:
  - Clear identification and understanding of the task as outlined in the student's DMMP
  - Each student's symptoms and treatment for hypoglycemia and hyperglycemia
  - Step-by-step instruction on how to perform the task using the student's equipment and supplies
  - Clear parameters on when to perform the task, when not to do so, and when to ask for help from a health care professional
- How to document all care tasks performed
- Plan for ongoing evaluation

A diabetes-trained health care professional such as the school nurse or a certified diabetes educator develops the instruction on performing the care tasks, provides for demonstration and return demonstration of the tasks, evaluates the trained diabetes personnel's competency, and establishes a plan for ongoing supervision to occur throughout the school year. The school nurse or other qualified health care professional also documents the instruction, competency evaluation, and ongoing supervision that are provided.

Diabetes Management Training Resources

There are many resources available for training school nurses and staff about diabetes management.

- The **National Association of School Nurses** offers a continuing education program for school nurses about managing diabetes in the school setting, called Helping Administer to the Needs of the Student with Diabetes in School (H.A.N.D.S.℠). Information about H.A.N.D.S. can be found on the Internet at:
  - **http://www.nasn.org/Default.aspx?tabid=411**
- The **American Diabetes Association** offers "Diabetes Care Tasks at School: What Key Personnel Need to Know," a curriculum containing a set of training modules and corresponding DVD video segments. These materials are designed for use by the school nurse or other diabetes-trained health care professionals when training a school's trained diabetes personnel. Information about the association's resources can be found on the Internet at:
  - **www.diabetes.org/schooltraining** (Training curriculum)
  - **http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/training-resources.html** (Training resources)
- A number of **State Diabetes Prevention and Control Programs** have developed training curricula based on the American Diabetes Association's curriculum, including California, New York, Texas, and Virginia. These training resources can be found on the Internet at the following locations:
  - **http://www.diabetes.org/assets/pdfs/state-school-laws/ca_glucagontrainingstds.pdf**
  - **http://www.nyhealth.gov/diseases/conditions/diabetes/for_health_care_providers.htm**
  - **http://www.diabetes.org/assets/pdfs/state-school-laws/tx_guidelinestrainingschempl_hb984.pdf**
  - **http://www.diabetes.org/assets/pdfs/state-school-laws/va_trainingmanual_insulin-glucagon.pdf**

Diabetes Management Training for School Personnel

Level 1. Diabetes Overview and How To Recognize and Respond to an Emergency Situation	
WHO:	**All school personnel**
WHAT:	• General overview of diabetes • How to recognize and respond to signs and symptoms of hypoglycemia and hyperglycemia • Who to contact for help in an emergency
Level 2. Diabetes Basics and What To Do in an Emergency Situation	
WHO:	**Classroom teachers and all school personnel who have responsibility for the student with diabetes during the school day**
WHAT:	• Content from Level 1 • Specific instruction on the Emergency Care Plans • How to activate Emergency Medical Services in case of a diabetes emergency • Roles and responsibilities of individual staff members (see Actions, pages xx-yy) • Expanded overview of diabetes • Impact of hypoglycemia or hyperglycemia on behavior and learning • Tips and planning needed for the classroom and for special events • The student's health care and education plans • Legal rights of students with diabetes
Level 3. General and Student-Specific Diabetes Care Tasks	
WHO:	**Trained diabetes personnel**
WHAT:	• Content from Level 1 and Level 2 training • General training on diabetes care tasks specified in the student's Diabetes Medical Management Plan • Student-specific training, using the student's equipment and supplies for each diabetes care task

What Are the Elements of Effective Diabetes Management in School?

- Checking glucose levels
- Planning for disposal of sharps and materials that come in contact with blood
- Recognizing and treating hypoglycemia (low blood glucose)
- Recognizing and treating hyperglycemia (high blood glucose)
- Administering insulin
- Planning for disasters and emergencies
- Following an individualized meal plan
- Getting regular physical activity
- Maintaining a healthy weight
- Planning for special events, field trips, and extracurricular activities
- Dealing with emotional and social issues

Diabetes management involves checking blood glucose levels throughout the day, following an individualized meal plan, getting regular physical activity, and administering insulin and/or glucose-lowering medications. These actions are taken to try to maintain blood glucose levels in the target range and to prevent hypoglycemia or hyperglycemia. **Students with diabetes must have access to supplies and equipment for immediate treatment of high and low blood glucose levels.**

Additional elements of effective diabetes management in school include planning for appropriate disposal of sharps and materials that come in contact with blood, planning for disasters and emergencies, planning for school-sponsored events outside the usual school day, and dealing with the emotional and social aspects of living with diabetes.

Checking Glucose Levels

One of the most important diabetes management tasks is regular checking (or monitoring) of blood glucose levels, which is done with a blood glucose meter. Some students use a meter in combination with a continuous glucose monitor.

Blood Glucose Meter

A blood glucose meter is a small portable machine used to check blood glucose levels. After pricking the skin with a lancet (a small needle inserted in a spring-loaded device), one places a drop of blood on a test strip that is inserted in the machine. The meter then gives the blood glucose level as a number on the meter's digital display. The skin may be pricked at the fingertip (called a finger prick), forearm, or other test site. Before using the blood glucose meter, wash and dry hands and the test site.

Use of the forearm or other test site to obtain a drop of blood (called alternative site testing) requires a specific type of blood glucose meter. The fingertip always should be used if hypoglycemia is suspected.

Continuous Glucose Monitor

Some students use a continuous glucose monitor (CGM), a device that records blood glucose levels throughout the day. The CGM works through a sensor inserted under the skin that measures interstitial glucose (the glucose found in the fluid between cells) levels at regular intervals and sends the current glucose level wirelessly to a monitor. The monitor may be part of the insulin pump or a separate device that is carried or worn by the student in a pocket, a backpack, or a purse. The CGM sets off an alarm when glucose levels are too high or too low.

Treatment decisions and diabetes care plan adjustments should not be based solely on CGM results. The sensor blood glucose levels should be confirmed with a blood glucose meter. Appropriate action should be taken in accordance with the student's DMMP. The CGM is a useful tool for identifying trends and can enhance the ability of the student's personal diabetes health care team to make needed adjustments to the student's diabetes care plan.

Checking Glucose During the School Day

The student's personal diabetes health care team may order blood glucose checking with a meter several times during the school day. Blood glucose levels may need to be checked before and after eating snacks and meals, before physical activity, or when there are symptoms of hypoglycemia or hyperglycemia. In some children, symptoms may be subtle; blood glucose should be checked whenever symptoms are suspected.

Many students can check their own blood glucose level. Other students need supervision. Still others need to have this task performed by a school nurse or trained diabetes personnel. **All students, even those who can independently perform blood glucose monitoring, may need assistance when experiencing low blood glucose.**

Students must be able to check their blood glucose levels and respond to levels that are too high or too low as quickly as possible. If recommended by the student's personal diabetes health care team, **it is medically preferable to permit students to check blood glucose levels and respond to the results in the classroom, at every campus location, or at any school activity.** When in doubt, taking immediate action is important to prevent symptoms of severe hypoglycemia such as coma or seizures and to prevent the student from missing class time.

Advantages of Checking Blood Glucose Levels Any Time and Any Place

- The student can confirm a low blood glucose level immediately. As a result, the student is less likely to develop seizures or a coma.
- The student is safer when he or she does not have to go to a designated place and does not have to delay treatment for low or high blood glucose levels.
- The student spends less time out of class.
- The student gains independence in diabetes management when the blood glucose meter is easily accessible and monitoring can be conducted as needed.
- The student can achieve better blood glucose control to prevent onset of severe symptoms of high and low blood glucose levels and decrease the risk of long-term complications of diabetes.
- When the student can check at any time and in any place, blood glucose monitoring is handled as a normal part of the school day.

Students Usually Check Their Blood Glucose:

- Before and after eating snacks and meals
- Before and after physical activity
- When they have symptoms of low or high blood glucose levels

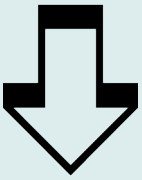
Planning for Disposal of Sharps and Materials That Come Into Contact With Blood

Checking blood glucose does not present a danger to other students or staff members when there is a plan for proper disposal of lancets and other materials that come into contact with blood. The school health team should agree on the plan, which should be consistent with standard precautions and local waste-disposal laws.

Disposal of sharp objects such as lancets and needles may be in a heavy-duty plastic or metal container with a tight-fitting lid that may be kept at school or in the student's personal container. Some students may leave the lancet in their lancet device and bring it home for disposal. These arrangements should be agreed upon in advance by the school health team. Used blood glucose

test strips and other materials may be discarded in the regular trash. Check with the local health department about health and safety requirements in your area.

Hypoglycemia means LOW blood glucose.



Recognizing and Treating Hypoglycemia (Low Blood Glucose)

Hypoglycemia, also called "low blood glucose" or "low blood sugar," is a serious condition associated with diabetes that can happen very suddenly and requires immediate treatment. Hypoglycemia can impair a student's cognitive abilities and adversely affect academic performance. Sometimes, its symptoms are mistaken for misbehavior.

Hypoglycemia occurs when a student's blood glucose level falls too low, usually as a result of too much insulin, missing or delaying meals or snacks, not eating enough food (carbohydrates), or participating in extra, intense, or unplanned physical activity. Low blood glucose levels are more likely to occur before lunch, at the end of the school day, during or after physical education classes, or in the event of unanticipated physical activities. Hypoglycemia may occur due to illness, particularly gastrointestinal illness, or it may occur for no obvious reason.

Hypoglycemia occurs when a student's blood glucose level falls too low, usually as a result of:

- Too much insulin
- Missing or delaying meals or snacks
- Not eating enough food (carbohydrates)
- Getting extra, intense, or unplanned physical activity
- Being ill, particularly with gastrointestinal illness

Hypoglycemia, which is not always preventable, is the greatest immediate danger to students with diabetes.

Hypoglycemia usually can be treated easily and effectively. If it is not treated promptly, however, hypoglycemia can lead to loss of consciousness and seizures and can be life threatening.

Early recognition of hypoglycemia symptoms and prompt treatment, in accordance with the student's DMMP, are necessary to prevent the onset of severe symptoms that may place the student in danger. **This information, contained in the student's Hypoglycemia Emergency Care Plan, should be provided to all school personnel who have responsibility for the student with diabetes during the school day.** (See sample plan on page 109.)

Not all students, especially young children, will recognize hypoglycemia symptoms with every episode. Some older children and adolescents may have "hypoglycemia unawareness." In other words, they do not experience early physical warning signs such as shaking or jitteriness, or sweating, and the only clue that their blood glucose levels are low is sudden behavior change. Even students who usually recognize when their blood glucose is low may sometimes have a sudden "low" without symptoms. Although symptoms of hypoglycemia may vary from student to student, each student will tend to have the same symptoms each time hypoglycemia occurs. **Therefore, all school personnel should know how to recognize hypoglycemia and know what to do if they observe its onset.**

In the event of suspected or actual hypoglycemia, treat the student immediately, and do not leave the student alone or send the student to another location. No student should ever be charged with accompanying another student who is experiencing hypoglycemia to another location.

As soon as the student exhibits symptoms (see chart on the following page), treat the situation as a hypoglycemic emergency as outlined in the student's Hypoglycemia Emergency Care Plan. Immediately contact the school nurse or trained diabetes personnel who will check the student's blood glucose level and treat the student for hypoglycemia. If the school nurse or trained diabetes personnel are not available, or if the blood glucose level cannot be checked, school personnel should treat the student for hypoglycemia as outlined in the Emergency Care Plan. Symptoms will progress if not treated immediately. When in doubt, always treat for hypoglycemia.

The student should never be left alone or sent to another location alone or with another student when experiencing hypoglycemia.

When in doubt, always treat for hypoglycemia.

Hypoglycemia Symptoms		
Mild to Moderate		Severe
• Shaky or jittery • Sweaty • Hungry • Pale • Headache • Blurry vision • Sleepy • Dizzy • Confused • Disoriented • Uncoordinated	• Irritable or nervous • Argumentative • Combative • Changed personality • Changed behavior • Inability to concentrate • Weak • Lethargic	• Inability to eat or drink • Unconsciousness • Unresponsiveness • Seizure activity or convulsions (jerking movements) •

Treatment for Mild to Moderate Hypoglycemia

For mild to moderate hypoglycemia symptoms, or for a blood glucose level less than the level indicated on the Hypoglycemia Emergency Care Plan (usually 70–80 mg/dL), give the student a quick-acting glucose (sugar) product equal to 15 grams of carbohydrate (or the amount specified in the Emergency Care Plan) such as:

- 3 or 4 glucose tablets or
- 1 tube of glucose gel or
- 4 ounces of fruit juice (not low-calorie or reduced sugar) or
- 6 ounces (half a can) of soda (not low-calorie or reduced sugar)

Wait 10 to 15 minutes. The school nurse, trained diabetes personnel, or student should recheck the blood glucose level. Repeat treatment if the blood glucose level is still below the blood glucose level indicated in the Hypoglycemia Emergency Care Plan. Contact the student's parents/guardian.

Treatment for Mild to Moderate Hypoglycemia Symptoms Checklist

- ❑ As soon as symptoms are observed, notify the school nurse or trained diabetes personnel. Check the student's blood glucose level to determine if it is low.
- ❑ If the blood glucose level is below the level in the Hypoglycemia Emergency Care Plan or if the student has symptoms, give the student a quick-acting glucose product equal to 15 grams of carbohydrate (or the amount specified in the Emergency Care Plan) such as:
  - ○ 3 or 4 glucose tablets or
  - ○ 1 tube of glucose gel or
  - ○ 4 ounces of fruit juice (not low-calorie or reduced sugar) or
  - ○ 6 ounces (half a can) of soda (not low-calorie or reduced sugar)
- ❑ Wait 10 to 15 minutes.
- ❑ Recheck the blood glucose level.
- ❑ Repeat the quick-acting glucose product if the blood glucose level is below the level indicated in the Hypoglycemia Emergency Care Plan.
- ❑ Contact the student's parents/guardian.

Treatment for Severe Hypoglycemia

Severe hypoglycemia is rare at school and generally can be prevented with prompt treatment of mild to moderate symptoms of low blood glucose. When hypoglycemia symptoms are severe, the school nurse or trained diabetes personnel must be notified and must respond immediately.

Symptoms of severe hypoglycemia may include inability to eat food or drink fluids, unconsciousness, unresponsiveness, and seizure activity or convulsions (jerking movements). At this point, school personnel should never attempt to give the student food or a drink or to put anything in the mouth because it could cause choking.

Severe hypoglycemia is treated by administering glucagon by injection. Glucagon is a hormone that raises blood glucose levels by causing the release of glycogen (a form of stored carbohydrate) from the liver. In schools, glucagon is given by the school nurse or trained diabetes personnel. Although it may cause nausea and vomiting when the student regains consciousness, **glucagon is a potentially life-saving treatment that cannot harm a student.**

When a student has severe hypoglycemia, school personnel should position the student on his or her side to prevent choking. Immediately contact the school nurse or trained diabetes personnel who will administer an injection of glucagon, as indicated in the student's Hypoglycemia Emergency Care Plan. While the glucagon is being administered, another school staff member should call for emergency medical assistance (911) and notify the parents/guardian. If administration of glucagon is not authorized by the student's Diabetes Medical Management Plan or Emergency Care Plan, or it is not available, staff should call 911 immediately.

Treatment for Severe Hypoglycemia Checklist

- ❑ Position the student on his or her side to prevent choking.
- ❑ Contact the school nurse or trained diabetes personnel immediately.
- ❑ Don't attempt to give anything by mouth.
- ❑ School nurse or trained diabetes personnel should administer glucagon, as prescribed.
- ❑ Call 911 (Emergency Medical Services).
- ❑ Call the student's parents/guardian.
- ❑ Stay with the student until emergency medical services arrive.
- ❑ Notify the student's personal diabetes health care team.

Glucagon Emergency Kit

The parents/guardian should supply the school with a glucagon emergency kit. The kit usually contains a bottle (vial) of glucagon in powder form and a prefilled syringe with special liquid; the two ingredients should only be mixed just before a glucagon injection is given. The glucagon emergency kit may be stored at room temperature.

The school nurse and/or trained diabetes personnel must know where the kit is stored and have access to it at all times. They also should be aware of the expiration date on the kit and notify the student's parents/guardian when a new kit is needed.

Recognizing and Treating Hyperglycemia (High Blood Glucose)

Hyperglycemia means HIGH blood glucose.

Hyperglycemia means blood glucose levels are above the target range, as specified in the student's DMMP. Almost all children with diabetes will experience blood glucose levels above their target range at times throughout the day. For many children, these elevations in blood glucose will be only minimally above the target range (less than 250 mg/dL) and are short in duration. Other children may experience daily spikes of the blood glucose level that are high (in excess of 250 mg/dL) and of longer duration.

Hyperglycemia may be caused by too little insulin or other glucose-lowering medications, food intake that has not been covered by insulin, or decreased physical activity. Other causes include illness, infection, injury, or severe physical or emotional stress. Onset of hyperglycemia may occur over several hours or days.

Symptoms of hyperglycemia include increased thirst, dry mouth, frequent or increased urination, change in appetite and nausea, blurry vision, and fatigue. In the short term, hyperglycemia can impair cognitive abilities and adversely affect academic performance. **In the long term, moderately high blood glucose levels can increase risk for serious complications such as heart disease, stroke, blindness, kidney failure, nerve disease, gum disease, and amputations.**

Hyperglycemia needs to be recognized and treated in accordance with the student's DMMP. **All school personnel who have responsibility for the student with diabetes should receive a copy of the Hyperglycemia Emergency Care Plan and be prepared to recognize and respond to the signs and symptoms of hyperglycemia.** (See sample plan on page 111.)

Hyperglycemia Symptoms
• Increased thirst and/or dry mouth • Frequent or increased urination • Change in appetite and nausea • Blurry vision • Fatigue

Hyperglycemia Treatment

As soon as symptoms of hyperglycemia are recognized, notify the school nurse or trained diabetes personnel. Treatment of hyperglycemia begins with checking the student's blood glucose level to determine if it is above the target range.

In accordance with the DMMP, the student's urine or blood should be checked for ketones, the chemicals the body makes when there is not enough insulin in the blood and the body must break down fat for energy. The **urine ketone test** involves dipping a special strip into the urine, waiting for a specified amount of time, and then comparing the resulting color to a color chart. The **blood ketone test** is done with a finger stick using a special meter and a test strip, similar to blood glucose monitoring with a blood glucose meter. If the test indicates ketones are present, notify the parents/guardian.

Administer supplemental insulin in accordance with the DMMP or Hyperglycemia Emergency Care Plan and give the student extra water or non-sugar-containing drinks (no fruit juices) slowly, but steadily. Allow free and unrestricted access to the restroom and to liquids, as high blood glucose levels can cause increased urination and may lead to dehydration if the student

cannot replace the fluids. If insulin is administered, recheck the blood glucose in 2 hours. If the student uses an insulin pump, check to see if it is connected and functioning properly and still delivering insulin.

Physical activity should be modified, as indicated in the student's DMMP. If the student is not nauseous or vomiting and ketones are not present, increasing physical activity might help to lower the blood glucose level. However, if moderate to large ketones are present, and the blood glucose is above the level specified in the DMMP (usually >250 or 300 mg/dL), the student should avoid exercise.

Treatment for Hyperglycemia Checklist

- ☐ Check the student's blood glucose level.
- ☐ Check the student's urine or blood for ketones.
- ☐ If the student uses an insulin pump, check the pump to see if it is connected and functioning properly.
- ☐ Administer supplemental insulin to bring down the blood glucose.
- ☐ Give the student extra water or non-sugar-containing drinks.
- ☐ Provide free and unrestricted access to the restroom.
- ☐ Modify physical activity, as specified in the Diabetes Medical Management Plan.
- ☐ Notify the parents/guardian if ketones are present.

Ketones and Diabetic Ketoacidosis

Hyperglycemia does not usually result in a medical emergency. The following situations, however, may lead to a breakdown of fat causing ketones to form along with the hyperglycemia:

- Significant or prolonged insulin deficiency from failure to take any insulin or the correct amount of insulin
- A pump malfunction causing an interruption in insulin delivery

- Physical or emotional stress that causes the insulin not to work effectively

Ketones are usually associated with high blood glucose, but also may occur when a student is ill and blood glucose levels fall below the student's target range. At first, ketones will be cleared by the kidneys into the urine but as their production increases, they build up in the bloodstream causing diabetic ketoacidosis (DKA), a potential medical emergency.

Diabetic ketoacidosis develops over hours to days and is associated with hyperglycemia, a buildup of ketones (ketosis) in the blood, and dehydration. As a result of these conditions, the classic signs of diabetic ketoacidosis include severe abdominal pain with vomiting, dry mouth and extreme thirst, fruity breath, heavy breathing and shortness of breath, chest pain, increasing sleepiness or lethargy, and depressed level of consciousness. As soon as these symptoms are observed, the school nurse or trained diabetes personnel should call 911, the parents/guardian, and the student's health care provider.

Administering Insulin

Students with type 1 diabetes, and some students with type 2 diabetes, need to administer or be given insulin at regular times during the school day. Students may need to take insulin to cover meals and/or snacks and may need additional or corrective dosages of insulin to treat hyperglycemia or to cover a rise in blood glucose levels. It is medically preferable that the student be allowed to self-administer insulin in the classroom, at every campus location, or at any school activity, if indicated in the DMMP.

The DMMP, which will be different for each student, specifies the dosage, delivery system, and schedule for insulin administration. The Individualized Health Care Plan and the student's education plan, based on the DMMP, should specify who will administer prescribed insulin and under what circumstances.

Today, new types of insulin and new delivery systems help keep blood glucose levels within the target range. These options,

however, require more frequent blood glucose monitoring and more assistance for the student with diabetes.

Insulin is classified in four types by how it works:

- Rapid-acting
- Short-acting
- Intermediate-acting
- Long-acting

Insulin has three characteristics:

- **Onset** is the length of time before insulin reaches the bloodstream and begins lowering blood glucose levels.
- **Peak** is the time at which insulin is at its maximum strength in terms of lowering blood glucose levels.
- **Duration** is the number of hours insulin continues to lower blood glucose levels.

Insulin has three characteristics:

- Onset of effect
- Peak time of effect
- Duration of effect

Basal/Bolus Insulin Plan (Adjustable Insulin Therapy)

Most students with type 1 diabetes use a basal/bolus insulin plan. This type of insulin plan, sometimes referred to as adjustable insulin therapy, reproduces or mimics the way a normally functioning pancreas produces insulin.

A coordinated combination of different types of insulin is used to achieve target blood glucose levels at meals, snacks, during periods of physical activity, and through the night.

- **Basal insulin is long-acting or intermediate-acting insulin** delivered once or twice a day. This type of insulin is used to control blood glucose levels overnight and between meals.
- **Bolus insulin refers to a dose of rapid-acting or short-acting insulin** that is given to cover the carbohydrate in a meal or snack and to lower blood glucose levels that are above target.

Students using a basal/bolus insulin plan require multiple injections during the school day, or they receive their insulin through a programmable insulin pump.

Fixed Insulin Therapy

Other students may take the same dose of insulin each day with rapid-acting or short-acting insulin and intermediate-acting insulin. This type of plan is sometimes referred to as fixed insulin therapy.

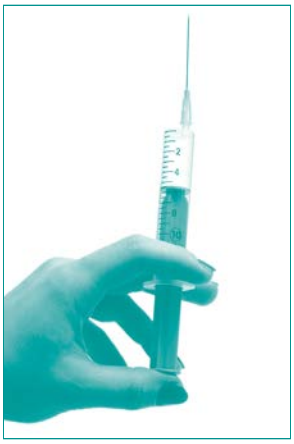
The three most common ways to administer insulin:

- Insulin syringe
- Insulin pen
- Insulin pump

Insulin Storage

The shelf life of insulin after opening varies according to the type of insulin, the type of container (vial or cartridge), and how insulin is administered (through a syringe, a pen, or a pump). Review the product storage instructions on the manufacturer's package insert and check the expiration date.

In general, most opened vials of insulin may be left at room temperature (below 86 degrees Fahrenheit) for 30 days and then discarded. Most opened disposable pens or pen cartridges may be left at room temperature for less than 30 days, depending on the type of insulin and the type of pen or cartridge. Unopened vials should be stored in a refrigerator. They may be used until their expiration date and then must be discarded.



Insulin syringe

Insulin Delivery

The three most common ways to administer insulin are with a syringe, an insulin pen, or an insulin pump. The manufacturers of insulin, insulin syringes, insulin pens, and insulin pumps have websites where school personnel can learn more about these products.

Insulin syringes, available in several sizes, make it easy to draw up the proper dosage. Shorter, smaller needles make injections easy and relatively painless.

Insulin pen

An **insulin pen** holds a cartridge of insulin. A needle is screwed onto its tip just before use. The user dials the pen to the prescribed dose and injects the insulin. Insulin pens are convenient and appropriate when children need a single type of insulin. During the school day, pens are used most often with rapid-acting insulin to cover a meal or to treat a high blood glucose level.

An **insulin pump** is a computerized device that is programmed to deliver small, steady doses of insulin throughout the day; additional doses are given to cover food intake and to lower high blood glucose levels. Pump users must test their blood glucose frequently to figure out the dose they need.

Rapid-acting insulin is used in the insulin pump. Students using the insulin pump will not be taking any long-acting insulin. Therefore, a pump malfunction or extended disconnection from the pump (longer than 2 hours) increases the student's risk of developing DKA much more quickly. The parents/guardian should provide the school with a backup supply of syringes and rapid-acting insulin or insulin pens in the event of a pump failure. Keep supplies in a secure location.

There are two types of insulin pumps:

- **The first type of pump looks like a pager,** and students usually wear it on their waistband, belt, or in their pocket. The pump holds a reservoir of insulin attached to an infusion set that leaves a very small needle or plastic cannula (a tiny, flexible plastic tube) under the skin. Infusion sets are started with a guide needle, then the cannula is left in place, taped with dressing, and the needle is removed. The cannula usually is changed every 2 or 3 days or when blood glucose levels remain above the target range or ketones are present. Routine site changes are a responsibility of the family and generally are done at home.
- **The second type of pump, the pod or patch,** is attached directly to the skin and a guide needle inserts the cannula under the skin automatically. The student usually wears the pod on his or her abdomen, buttocks, leg, or arm. The pod contains the insulin (there is no tubing). The pod type pump is controlled by a small hand-held computer device that is kept nearby. This type of insulin pump needs to be changed every 2 to 3 days.

Administering Insulin during the School Day

Some students who need insulin during the school day are able to administer it on their own, others will need supervision, and yet others will need someone to administer the insulin for them. The school nurse and/or trained diabetes personnel should assist with insulin administration in accordance with the student's health care plans and education plans.

Trained diabetes personnel who assist with the student's diabetes care tasks should be knowledgeable about and trained in using and operating each student's insulin delivery system in the event that a school nurse is not available to administer insulin.

Why Do Many Children Like Insulin Pump Therapy?

- Users are freed from multiple daily insulin injections.
- The pump delivers insulin in a way that is similar to what the body does naturally.
- Users may achieve improved blood glucose control.
- The pump uses frequent pulses of rapid-acting insulin, allowing for more consistent action on blood glucose than with intermediate- or long-acting insulin.
- The pump gives users more flexibility about when and what they eat.
- Users may be able to participate in unplanned physical activity without eating extra food.
- The pump is durable and contains many child safeguards.
- The pump can be preprogrammed with insulin-to-carbohydrate ratios and blood glucose correction factors (see page 52 for more information).
- When additional insulin, called a bolus, is needed to balance the carbohydrates in a meal or snack, or when blood glucose levels are high, the pump calculates the bolus dosage after the student enters the number of grams of carbohydrate to be eaten and his or her blood glucose level (see page 52 for more information).

A diabetes-trained health care professional such as the school nurse or a certified diabetes educator should teach, monitor, and supervise trained diabetes personnel to administer insulin. Assignment of diabetes care tasks, however, must take into account State laws that may be relevant in determining which tasks may be performed by trained diabetes personnel. (See the Resources section for organizations that offer diabetes management training for school personnel.)

Planning for Disasters and Emergencies

The parents/guardian must provide an emergency supply kit for use in the event of natural disasters or emergencies when students need to stay at school. This kit should contain enough supplies for at least 72 hours to carry out the medical orders in the DMMP.

Disaster or Emergency Supply Kit
• Blood glucose meter, testing strips, lancets, and batteries for the meter • Urine and/or blood ketone test strips and meter • Insulin, syringes, and/or insulin pens and supplies • Insulin pump and supplies, including syringes, pens, and insulin in case of pump failure • Other medications • Antiseptic wipes or wet wipes • Quick-acting source of glucose • Water • Carbohydrate-containing snacks with protein • Hypoglycemia treatment supplies (enough for three episodes): quick-acting glucose and carbohydrate snacks with protein • Glucagon emergency kit

Following an Individualized Meal Plan

In the past, meal planning for diabetes was much less flexible. Students often were prescribed a rigid meal plan using "exchange lists" to match insulin dosing. Current nutrition recommendations for children with diabetes are designed to provide maximum flexibility to meet each child's nutritional needs, appetite, eating habits, and schedules. Insulin regimens are then individualized to fit each child's lifestyle. The student's diabetes care plan, as set out in the written health care plans, must be followed to avoid hypoglycemia or hyperglycemia.

All students need a variety of healthy foods.

The nutritional needs of students with diabetes do not differ from the needs of students without diabetes. **All students need a variety of healthy foods to maintain normal growth and development. The meal plan recommended for students with diabetes is usually healthy for everyone.** The major difference is that the timing, amount, and content of the food that students with diabetes eat, especially the carbohydrates (or carbs), are carefully matched to balance the action of the insulin and other medications that they take.

Although there usually are no forbidden foods for people with diabetes, students are advised to avoid "liquid carbs" such as sugar-containing soda and juices (including 100 percent fruit juice) and regular pancake syrup. The "liquid carbs" raise blood glucose rapidly, contain large amounts of carbs in small volumes, are hard to balance with insulin, and provide little or no nutrition. (Sugar-containing drinks are used, however, in treating hypoglycemia as explained on page 38.)

Many children with type 2 diabetes follow a meal plan designed to help them achieve a healthy weight. These students may be prescribed a calorie target for the day as well as consistent carb amounts to aim for at each meal and snack to help control their weight and blood glucose. Assuring that healthy foods such as whole grains, low-fat protein and dairy, fruits, and vegetables are available is critical to their diabetes management.

Meal Planning Approaches for Children and Youth

Most students with diabetes have an individualized meal plan using a method of carbohydrate counting. The meal plan takes into account the student's nutritional needs, insulin plan, oral medications, and physical activity level.

The nutritional needs of students with diabetes do not differ from the needs of students without diabetes.

Carbohydrate Counting

Carbohydrate (carb) counting is the most popular meal planning approach for children and youth. It involves calculating the number of grams of carbohydrate, or choices of carbohydrate, the student eats. One carb choice equals 15 grams of carbohydrate. Sources of carbs include starches (breads, crackers, cereal, pasta, rice), fruits and vegetables, dried beans and peas, milk, yogurt and sweets.

The food service manager or staff and/or the school nurse should provide the carb content of foods to the parents/guardian and the student. If the food service manager or the school district does not have this information, the school can identify a registered dietitian through the state or local chapter of the American Dietetic Association who can work with the food service staff to make this information available.

There are two methods of meal planning using carb counting: following a consistent carb intake meal plan and adjusting insulin for changing carb intake. This information will be provided in the student's DMMP.

Method 1—Following a Consistent Carb Intake Meal Plan. Students who follow a consistent carb meal plan aim for a set amount of carb grams at each meal and snack and do not adjust their mealtime insulin for the amount of carb intake (e.g., 60 grams of carbs at each lunch). The student's personal diabetes health care team helps determine the amount of carbs that is right for each child at each meal. This method of meal planning is

often used by students who take an intermediate-acting insulin in the morning or students who receive a preset amount of rapid- or short-acting insulin at lunch.

Students who follow a consistent carb meal plan need to maintain consistency in the timing and content of meals and snacks. The student should eat lunch at the same time each day. Snacks often are necessary to achieve a balance with the peak times of insulin action and with physical activity.

Method 2—Adjusting Insulin for Changing Carb Intake. Students who use multiple daily injections or an insulin pump usually use this method of meal planning. This method requires adjusting insulin doses to cover the amount of carbs consumed using an **insulin-to-carb ratio. The insulin-to-carb ratio is used to determine the number of units of insulin needed to cover the number of grams of carb in the food the student plans to eat.**

In addition to the amount of insulin needed to cover the carbs (called the carb dosage), extra insulin might be needed if the student's blood glucose is above the target range before a meal or snack. **The blood glucose correction factor—also known as the insulin sensitivity factor—is used to determine the amount of insulin the student needs to lower blood glucose to target level.** See the example on the next page for instructions on how to compute the insulin dose using a student's insulin-to-carb ratio and blood glucose correction factor.

The insulin-to-carb ratio and the blood glucose correction factor are individualized and determined by the student's personal diabetes health care team. This information should be included in the student's DMMP.

Other Dietary-Related Medical Conditions

A small percentage of children with diabetes may have other medical conditions that require dietary restrictions. For example, **about 8 percent of children with type 1 diabetes have a condition called celiac disease.** They should not eat any food products

Use this Three-Step Process To Compute the Insulin Dose Using an Insulin-to-Carb Ratio and Blood Glucose Correction Factor

All values are provided only for example.*

EXAMPLE:

- **Insulin-to-Carb Ratio =** 1 unit of rapid-acting insulin for each 15 grams of carb*
- **Blood glucose correction factor =** 1 unit of rapid-acting insulin for each **50 mg/dL** that the blood glucose level is over target of 150 mg/dL*

Step 1: Insulin-to-carb ratio

- Determine how much rapid-acting insulin is needed for carbs.
  EXAMPLE: Meal carbs = 60 grams
- Divide the total number of grams of carbs in the meal by the insulin-to-carb ratio:
  EXAMPLE: 60 grams divided by 15 grams = 4 units

Step 2: Blood Glucose Correction Factor

- Determine how much rapid-acting insulin is needed to lower blood glucose to target level.
  EXAMPLE: Pre-meal blood glucose = 250 mg/dL and target blood glucose = 150 mg/dL
- Subtract the target blood glucose of 150 from the pre-meal blood glucose of 250. Then divide by the blood glucose correction factor of 50.
  EXAMPLE: 250 mg/dL (pre-meal blood glucose) - 150 mg/dL (target) = 100
  EXAMPLE: 100 divided by 50 (blood glucose correction factor) = 2 units

Step 3: Total Dose

- Add the number of units from **Step 1 + Step 2** together to get the total dose.
  EXAMPLE: Total Dose = 4 + 2 = 6 units (Amount of rapid-acting insulin needed for carbs plus high blood glucose)

* The insulin-to-carb ratio and blood glucose correction factor values in this chart are for example only and are not a recommendation for dosing. Insulin-to-carb ratios and blood glucose correction factors are individualized by the student's personal diabetes health care team for each student and specified in the Diabetes Medical Management Plan.

Carbohydrate Counting for Children with Diabetes, ©Eli Lilly and Company. All Rights Reserved. Used with Permission.

that contain gluten or that have been prepared in a gluten-contaminated environment. Gluten is found in many grains, including wheat, rye, and barley, which are found in many pastas, cereals, and processed foods. These dietary restrictions should be outlined in the student's DMMP.

Getting Regular Physical Activity

Physical activity is a critical element of effective diabetes management. Everyone can benefit from regular physical activity, but it is even more important for students with diabetes. In addition to maintaining cardiovascular fitness and controlling weight, physical activity can help to lower blood glucose levels.

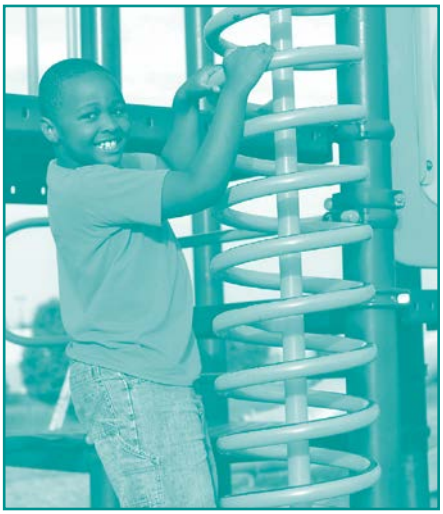
Students with diabetes should participate fully in physical education classes and team or individual sports. To maintain blood glucose levels within the target range during extra physical activity, students will need to adjust their insulin and food intake. To prevent hypoglycemia, they also may need to check their blood glucose levels more frequently while engaging in physical activity. The student's DMMP should specify when physical activity should be restricted because the blood glucose level is either too high or too low or if ketones are present.

Physical education teachers and sports coaches must be able to recognize the symptoms of hypoglycemia and be prepared to call for help with a hypoglycemia emergency. The student's Emergency Care Plans, a quick-acting source of glucose (see page xx), and the student's blood glucose meter should always be available, along with plenty of water.

Students using pager-type pumps may disconnect from the pump for sports activities; the pod type pump remains attached. If students keep the pump on, they may set a temporary, reduced insulin delivery rate or suspend use of insulin while they are playing. School personnel should provide the student with a safe location for storing the pump when the student does not wear it. The student's written health care plans should include specific instructions for pump use during physical activity.

Students with diabetes should participate fully in physical education classes and team or individual sports. Having diabetes does not excuse a student from physical education classes unless this is indicated in the student's DMMP.

Maintaining a Healthy Weight



Maintaining a healthy weight is very important for students with diabetes to help them improve their blood glucose control and to teach them habits that will allow them to control their weight as they grow older. Students with diabetes who need to lose weight or maintain a healthy weight need to be active every day. They also must consume fewer calories by eating smaller amounts of healthy foods for meals and snacks.

More children and adolescents in the U.S. are either overweight or obese than ever before. School personnel can help all students reach and maintain a healthy weight by encouraging them to make healthful lifestyle choices while they are young. They also can provide nonfood rewards and encourage healthy foods for class parties. Working with the school wellness

committee and the school-parents organization [e.g., Parent Teacher Association (PTA)/Parent Teacher Organization (PTO)], the parents/guardian can help by encouraging schools to offer healthy food choices at breakfast and lunch and in vending machines, to sell nonfood items for school fundraisers, and to include physical education in the school curriculum.

See the Resources section for organizations that offer information and education related to healthy eating and physical activity for youth.

Tips for Helping Students Reach and Maintain a Healthy Weight

Students with diabetes who need to lose weight can be encouraged to:

- ❑ **Be active every day for at least 60 minutes.** Students do not have to join a gym or be on a sports team to stay active. Dancing, riding a bike, walking the dog, or doing any physical activity they enjoy for at least 60 minutes a day will work. Activity can be broken up into three 20-minute sessions or whatever works for the student. Limit TV and computer time to 1 to 2 hours per day.
- ❑ **Cut some calories.** Encourage students to read food labels to learn about the number of calories in the foods and beverages they consume. Some healthy ways to cut calories include drinking water instead of sweetened fruit drinks or soda, eating fruit instead of chips or candy, eating a small serving of french fries or sharing a large serving, and measuring snacks in small portions instead of grazing.
- ❑ **Eat a healthy breakfast.** Eating breakfast will help students stay focused during the day and help to control their blood glucose.
- ❑ **Lose weight slowly.** One or 2 pounds of weight loss per month are recommended because students are still growing. Losing weight slowly may help students keep it off.

Planning for Special Events, Field Trips, and Extracurricular Activities

Meeting the needs of students with diabetes requires advance planning for special events such as classroom parties, field trips, and school-sponsored extracurricular activities held before or after school. With proper planning for coverage by the school nurse or trained diabetes personnel and possible adjustments to insulin dosage and meal plans, students with diabetes can participate fully in all school-related activities.

With proper planning, students with diabetes can participate fully in all school-related activities.

Although there usually are no forbidden foods in a meal plan for students with diabetes, school parties often include foods high in carbohydrates and fats. Serving more nutritious snacks will be healthier for all students and will encourage good eating habits. The parents/guardian should decide whether the student with diabetes should be served the same food as other students or food provided by the parents/guardian. If possible, give the parents/guardian advance notice about parties so they can incorporate special foods in the student's meal plan or adjust the insulin dosage.

Students often view field trips among the most interesting and exciting activities of the school year. Students with diabetes must be allowed to have these school-related experiences. **Although it is not unusual to invite the parents/guardian to chaperone field trips, parental attendance should never be a prerequisite for participation by students with diabetes.**

The school nurse or trained diabetes personnel should accompany the student with diabetes on field trips. They should ensure that all of the student's snacks and supplies for checking blood glucose, administering insulin, and treating hypoglycemia are packed and taken on the trip. Diabetes management strategies for school-sponsored field trips should be included in the student's health care and education plans.

The plan for coverage and care during school-sponsored extra-curricular activities and field trips that take place outside of school hours also should be carefully noted in the student's health care and education plans. As with field trips, the school nurse or trained diabetes personnel must be available at these activities.

Dealing with Emotional and Social Issues

Students with diabetes must not only deal with the usual developmental issues of growing up but also with learning to manage this complex chronic disease. **Diabetes can affect every facet of life, complicating the task of mastering normal developmental challenges.**

For the most part, children do not want to be singled out or made to feel different from their peers. Diabetes care tasks, however, can set them apart and make them feel angry or resentful about having diabetes.

Children react differently to having diabetes. They may be accepting, resentful, open to discussing it, or attempt to hide it. Often, the same child will experience all of these feelings over time. School personnel should be aware of the student's feelings about having diabetes and identify ways to ensure the student is treated the same as others.

Sometimes, children and teens feel pressured to please their care providers, but cannot always comply with their requests. To appease their parents/guardian or members of their personal diabetes health care team, some children report fictitious glucose levels. On the other hand, some children use their diabetes to assert their independence and control and do not comply with their diabetes care plan.

Still others are afraid or embarrassed by the potential for hypoglycemia and do not take all their insulin to avoid a low blood glucose. If this is a concern, the parents/guardian and the student's personal diabetes health care team can check the information in the memory of the blood glucose meter or the insulin pump for problems or inconsistencies.

Diabetes care tasks can set children and teens apart from their peers and make them feel resentful or angry about having diabetes.

Diabetes can be a focal point for conflict within families. One of the biggest tasks for children and adolescents is to become increasingly independent from their parents/guardian. Yet, diabetes may compromise independence because the parents/guardian are concerned about their children's ability to perform self-care tasks and take responsibility for their diabetes.

The parents/guardian, who are ultimately responsible for their child's well-being, may be reluctant to allow normal independence in children or teens who have not been able to take care of themselves properly. This parental concern can lead to increasing struggles with dependence, oppositional behavior, and rebellion.

Children with type 2 diabetes may be struggling with maintaining a healthy weight. The parents/guardian and school personnel can help by encouraging them to make healthy food choices and to get more physical activity.

Increasingly, depression is being recognized as quite common among children and teens, and even more so in those with diabetes. The student's personal diabetes health care team and school health team must be aware of emotional and behavioral issues and refer students with diabetes and their families for counseling and support as needed.

See the National Diabetes Education Program Resources listing for **"Transitions From Pediatric to Adult Care"** and **"Tips for Teens With Diabetes: Dealing With the Ups and Downs of Diabetes."**

Why Is Diabetes Self-Management Important?

The student's personal diabetes health care team and school health team must be aware of emotional and behavioral issues and refer students with diabetes and their families for counseling and support as needed.

Diabetes care depends upon self-management. The students' competence and capability for performing diabetes-related care tasks should be specified in the Diabetes Medical Management Plan and then applied to the school setting by the school health team, as outlined in the student's Individualized Health Care Plan and any education plan.

Although students must receive assistance with and supervision of their diabetes care when needed, it is equally important to enable students to take on the responsibility of diabetes self-management with ongoing guidance and support from the parents/guardian, the student's personal diabetes care team, and the school health team. The age for transfer of responsibility from caregiver to child varies from student to student and from task to task because children develop and mature at different rates.

Students' abilities to participate in self-care also depend upon their willingness to do so. It is medically preferable that students be permitted to perform diabetes care tasks in the classroom, at every campus location, or at any school activity.

Although the ages at which children are able to perform diabetes care tasks are highly individualized and differ for each child, their ability and levels of self-care generally occur as follows:

- **Toddlers and preschool-aged children** are unable to perform diabetes care tasks independently and will need an adult to provide all aspects of diabetes care. Many of these young children will have difficulty recognizing hypoglycemia, so it is important that the caregiver be able to recognize and provide prompt treatment. Children in this age range, however, usually can determine which finger to prick, choose an injection site, and are generally cooperative.

- **Elementary school-aged children** often are able to perform their own blood glucose monitoring, but usually will require supervision. Older elementary school-aged children are beginning to self-administer insulin with supervision and understand the impact of insulin, physical activity, and nutrition on blood glucose levels. Unless children have hypoglycemic unawareness (inability to tell when their blood glucose level is low), most should be able to let an adult know when they are experiencing hypoglycemia.
- **Middle- and high school-aged children** should be able to provide self-care depending upon the length of time since diagnosis and level of maturity, but they always will need help when experiencing hypoglycemia. As older children mature, they should be encouraged and empowered to perform diabetes care tasks on their own.

Ultimately, each person with diabetes becomes responsible for all aspects of self-care, including blood glucose monitoring and insulin administration. Regardless of their level of self-management, however, all students with diabetes may require assistance when blood glucose levels are out of the target range. Regardless of their age, there are times when all children who have diabetes need someone else to share in their diabetes care tasks.

Note: Students with diabetes may be in a research study that could require medication administration at school, a change in their blood glucose monitoring schedule, or more frequent medical visits. The school should be aware of student participation in research and discuss with the student and family how to address any additional requirements.

Where Can I Learn More About Diabetes?

The Resources section, beginning on page 119, lists the major diabetes and other health care and education organizations (and their websites) that offer related information, resources, and training on children and diabetes and effective diabetes management at school.

To obtain additional copies of the School Guide and other information about diabetes and youth

Call the National Diabetes Education Program

1-888-693-6337

Visit the program's website

www.YourDiabetesInfo.org

Section 2

Actions for School Personnel, Parents or Guardian, and Students

Actions

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Actions for School Personnel, Parents or Guardian, and Students

The health, safety, and educational progress of a student with diabetes depends on cooperation and collaboration among members of the school health team and the student's personal diabetes health care team. Working together, members of the school health team implement the provisions of the student's health care and education plans and provide the necessary assistance in the school setting. (Refer to the Primer for more information on the school health team (page 18) and the health care and education plans (page 21-26).

Health care plans include:

- **Diabetes Medical Management Plan**—Prepared by the student's personal diabetes health care team, this plan contains the medical orders for all aspects of the student's routine and emergency care. (See page 21 and sample plan, page 99.)
- **Individualized Health Care Plan**—Prepared by the school nurse, this plan specifies how diabetes care, as prescribed in the Diabetes Medical Management Plan, will be delivered in the school. (See page 22 and sample plan template, page 107.)

Members of the School Health Team
Student with diabetes
Parents/guardian
School nurse
Other school health care personnel
Trained diabetes personnel
Administrators
Principal
504/IEP coordinator
Office staff
Student's teacher(s)
Guidance counselor
Coach, lunchroom, and other school staff members

Members of the Student's Personal Diabetes Health Care Team
Student with diabetes
Parents/guardian
Doctor
Nurse
Registered dietitian
Diabetes educator
Other health care providers involved with the student's care

- **Emergency Care Plans**—Prepared by the school nurse, these plans describe how to recognize and treat hypoglycemia or hyperglycemia and what to do in an emergency. (See page 24 and sample plans, pages 109-112.)

Education plans include the 504 plan, other education plan, or individualized education program (IEP). The education plan is developed to address the students' needs for services to manage diabetes safely and effectively in school, where required under Section 504 or the Individuals with Disabilities Education Act. (See page 24 and Section 4.)

The school nurse is the most appropriate person to implement the student's plans.

The school nurse is the most appropriate person to implement the student's plans. When a school nurse is not available, nonmedical personnel—called "trained diabetes personnel" in this guide—can be trained and supervised by a diabetes-trained health care professional such as the school nurse or a certified diabetes educator to safely provide and assist with diabetes care tasks in the school setting. These tasks may include blood glucose monitoring, insulin and glucagon administration, and urine or blood testing for ketones.

A diabetes-trained health care professional, such as the school nurse or a certified diabetes educator, is best qualified to train and supervise trained diabetes personnel assigned to provide routine or emergency care to a student with diabetes. Assignment of diabetes care tasks, however, must take into account State laws that may be relevant in determining which tasks may be performed by trained diabetes personnel.

Once it has been determined that a student-specific diabetes care task may be delegated, the school nurse should be involved in the decision making process to identify which school personnel are most appropriate to be trained. A diabetes-trained health care professional, such as a school nurse or a certified diabetes educator, develops and implements the training program, evaluates

the ability of trained diabetes personnel to perform the task, and establishes a plan for ongoing supervision throughout the school year. **When trained diabetes personnel carry out tasks specified in the student's health care plans, under no circumstances should they make independent decisions about the daily, ongoing management of a student with diabetes.**

In addition, to ensure that students with diabetes are safe, ready to learn, and able to participate in all school-sponsored events, **all school personnel should receive training that provides a basic understanding of diabetes, how it is managed, how to recognize the signs and symptoms of hypoglycemia and hyperglycemia, and who to contact for help.** See pages 27-31 for more information about training school personnel to facilitate effective diabetes management for students with diabetes.

What Actions Should School Personnel, the Parents or Guardian, and Students Take?

The following pages describe the actions and responsibilities of each key school staff member, the parents/guardian, and the student. One staff member may fill more than one role. For example, a teacher or a coach also may be a trained diabetes personnel.

The recommended actions do not represent legal checklists of what school personnel must do to comply with relevant Federal and State laws. Rather, they are steps that administrators, school nurses, school personnel, the parents/guardian, and students should take to ensure effective diabetes management at school.

How to Use the Actions Section

- Copy and distribute the Actions sheets on the following pages to the appropriate staff members, the parents/guardian, and students with diabetes who are able to take responsibility for their self-management.
- Make copies of the Actions sheets for substitute personnel so that they understand their respective roles in diabetes management.
- Review the Actions sheets with school personnel during Level 2 and Level 3 diabetes management training to ensure that all staff members understand their roles and responsibilities.

Actions for the School District Administrator

(Includes superintendent, 504/IEP coordinator, or other school administrator responsible for coordinating student services)

- ❑ **Understand and ensure compliance with the Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. (See Section 4.)
- ❑ **Provide leadership in developing district policy** related to all aspects of diabetes management at school that is consistent with the standards of care recommended for children with diabetes and with Federal and State laws. This includes delegation of responsibilities, required staff training, medication administration, blood glucose monitoring, and activation of Emergency Medical Services (EMS) in case of a diabetes emergency on or off the school campus. Obtain input from local or regional experts on developing appropriate policies. (See the Resources section for organizations that offer standards of care for children with diabetes.)
- ❑ **Support implementation of district policy.** Support school district health professionals and other school administrators regarding: 1) development, coordination, and implementation of diabetes management 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. (See diabetes management training, pages 27-31.)
- ❑ **Allocate sufficient resources** to help students with diabetes.
- ❑ **Monitor schools attended by students with diabetes** for compliance with district policy.
- ❑ **Meet with members of the school health team, as needed.** Address issues of concern about the provision of diabetes care by the school district, as appropriate.
- ❑ **Learn about diabetes** by reviewing the materials contained in this guide and by participating in Level 1 training.
- ❑ **Treat the student with diabetes the same as other students**, except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Actions for the Principal, School Administrator, or Designee

- ❑ **Understand and ensure compliance with the Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4).
- ❑ **Participate in developing and implementing school policy** related to diabetes management at school.
- ❑ **Implement policy on availability of trained staff for students with diabetes.** Address the availability of the school nurse, another diabetes-trained health care professional, or trained diabetes personnel when the student is in school or participating in school-sponsored activities and events. Coordinate with the school nurse to identify staff members who will receive training to serve as trained diabetes personnel to assist with or perform diabetes care tasks. (See diabetes management training, pages 27-31.)
- ❑ **Implement the policy for activation of Emergency Medical Services (EMS)** in case of a diabetes emergency on or off the school campus.
- ❑ **Develop and implement a system to inform school health services** of the pending enrollment of a student with diabetes.
- ❑ **Participate in a meeting with the school health team**, which includes the student, the parents/guardian, school nurse, trained diabetes personnel, the principal, office personnel, the 504/IEP coordinator, teacher(s), and other staff members who have responsibility for the student. (For a list of members of the school health team, see page 19.) Plan to schedule and attend a meeting of the school health team before the school year starts, when the child is newly diagnosed, or other times as appropriate, to discuss the health care-related services the student may need based on the student's Diabetes Medical Management Plan (DMMP).
- ❑ **Allocate sufficient resources for helping students with diabetes in the school setting**, including resources for the three levels of diabetes management training described in this guide.

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Actions for the Principal, School Administrator, or Designee *Continued*

- ❑ **Identify all staff members who have responsibility for the student with diabetes throughout the school day.** Ensure that they receive the appropriate level of training and receive copies of the student's Emergency Care Plans informing them about the signs and symptoms of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose) and who to contact in case of a diabetes emergency.
- ❑ **Alert all school staff members and all substitute personnel who teach or supervise the student with diabetes** (including playground monitors, bus drivers, lunchroom personnel) about the student's needs. Ensure they are familiar with the services and emergency procedures contained in the student's health care plans, emergency care plans, and education plans.
- ❑ **Facilitate diabetes management training for school personnel as suggested in this guide** (see pages 27-31). Arrange for a diabetes-trained health care professional such as the school nurse or a certified diabetes educator to plan and provide the three levels of diabetes management training for school personnel.
- ❑ **Learn about diabetes** by participating in Level 1 training and by reviewing the information in this guide.
- ❑ **Be able to respond to signs and symptoms of hypoglycemia and hyperglycemia** in accordance with the student's Emergency Care Plans. Know when and how to contact the school nurse or trained diabetes personnel, where emergency supplies are kept, and the procedures for handling emergencies.
- ❑ **Continue to work with the school health team to ensure implementation of the student's health care and education plans.** Monitor compliance with these plans.
- ❑ **Support and facilitate ongoing communication** between the parents/guardian of students with diabetes and the school health team.
- ❑ **Promote a supportive learning environment for students with diabetes** to manage their diabetes safely and effectively at school. This includes enabling students to monitor blood glucose levels, administer insulin and other medications, eat snacks for routine diabetes management and for treating low blood glucose levels, have bathroom privileges and access to drinking water, participate in all school-sponsored activities, and provide accommodations for health care appointments or prolonged illnesses.
- ❑ **Treat students with diabetes the same as other students**, except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Actions for the School Nurse

When a school nurse is assigned to the school (or school district), he or she is the key school staff member who leads and coordinates the provision of health care services for a student with diabetes at school and at school-related activities. The school nurse, in collaboration with the principal, takes the lead in identifying, training, and providing ongoing supervision of trained diabetes personnel.

Diabetes technology, therapies, and evidence-based practice all are changing rapidly. The school nurse, who provides care to students with diabetes and facilitates diabetes management training for school personnel, has the professional responsibility to acquire and maintain current knowledge and competency related to diabetes management on a regular and ongoing basis. See the section on Training School Personnel in the Primer and the Resources section for information on training resources related to diabetes management in the school setting.

When notified that a student with diabetes is enrolled in the school, annually, or more often as necessary, the school nurse is responsible for the following actions.

- ❑ **Understand your role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Understand State laws** regarding delegation of nursing tasks.
- ❑ **Obtain and review the student's current Diabetes Medical Management Plan (DMMP)** and other pertinent information from the student's parents/guardian.
- ❑ **Using the medical orders in the DMMP and information obtained from a thorough nursing assessment, develop an Individualized Health Care Plan (IHP). Promote and encourage independence and self-care** consistent with the student's ability, skill, maturity, and development as indicated in the DMMP. After reviewing the IHP with the parents/guardian and student, implement, review, and update the plan throughout the school year as needed. (See sample IHP template on pages 107-108.)

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Actions for the School Nurse *Continued*

- ❑ **Prepare the student's Emergency Care Plans for Hypoglycemia and Hyperglycemia based on the medical orders in the DMMP.** (See sample plans, pages 109-112.) Provide copies of the emergency plans to all school personnel who have responsibility for the student with diabetes throughout the school day (for example, teachers, coach, physical education teacher, lunchroom staff, and bus driver).
- ❑ **Facilitate the initial school health team meeting** to discuss implementing the student's DMMP and IHP. Participate as a health expert on the teams that develop and implement the student's 504 Plan, other education plan, or Individualized Education Program. **Monitor compliance with these health care and education plans and facilitate follow-up meetings of the school health team** to discuss concerns, receive updates, and evaluate the need for changes to the student's plans, as appropriate.
- ❑ **Plan and implement diabetes management training for the trained diabetes personnel and all staff members who have responsibility for the student with diabetes.** Use the three levels of training described in this guide to design the diabetes management training and consider using standardized training materials that are available for training school personnel. See the section on Training School Personnel in the Primer (pages 27-31) and the Resources section for information on training resources related to diabetes management in the school setting. Ensure that all personnel mentioned in the health care and education plans know their roles in carrying out these plans, are trained in how to carry out their roles, know how their roles relate to each other, when and where to get help, where emergency supplies are kept, and the procedures for handling emergencies.
- ❑ **Obtain materials and medical supplies necessary for performing diabetes care tasks from the parents/guardian.** Arrange a system for notifying the student or the parents/guardian when supplies have expired or need to be replenished.
- ❑ **Perform routine and emergency diabetes care tasks**, including blood glucose monitoring, urine or blood ketone testing, insulin administration, and glucagon administration. Be aware of the policy on activating Emergency Medical Services in case of a diabetes emergency.
- ❑ **Maintain accurate documentation** of all diabetes care provided at school. Document communications with students, the parents/guardian, and the student's personal diabetes health care team, and document communications related to the training and supervision of trained diabetes personnel.

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Actions for the School Nurse *Continued*

- ❑ **Provide ongoing education and training as the school year progresses** for staff and new staff, as needed, and when the student's DMMP changes. (See the Resources section for organizations that provide training programs and materials.)
- ❑ **Assess competence and provide ongoing supervision of trained diabetes personnel** in carrying out the health care tasks outlined in the student's health care and education plans.
- ❑ **Conduct ongoing, periodic assessments of the student with diabetes and update the IHP.**
- ❑ **Help ensure that the student has a supportive learning environment** and is treated the same as students without diabetes, except to respond to medical needs.
- ❑ **Distribute the Diabetes Primer in this guide to all school personnel** who have responsibility for students with diabetes to ensure that they understand the basic elements of effective diabetes management and know how to recognize and respond to a diabetes emergency.
- ❑ **Provide education and act as a resource on managing diabetes** at school to the student, family, and school staff.
- ❑ **Act as an advocate** for students to help them meet their diabetes health care needs.
- ❑ **Assist the classroom teacher(s)** with developing a plan for substitute teachers.
- ❑ **Assist the physical education teacher** with managing the student's physical activity program at school.
- ❑ **Collaborate with coworkers and outside agencies** (e.g., school district registered dietitian and food service manager, food service personnel) to obtain nutrition information for parents/guardian.
- ❑ **Communicate with the student's parents/guardian—and with their permission—communicate with the student's personal diabetes health care team about progress as well as any concerns** about the student's diabetes management or health status, such as hypoglycemia episodes, hyperglycemia, general attitude, emotional issues, and self-management.
- ❑ **Treat the student with diabetes the same as other students**, except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Actions for the Trained Diabetes Personnel

With proper supervision and training, nonmedical school personnel or unlicensed assistive personnel, called trained diabetes personnel in this guide, can be trained and supervised to help students manage their diabetes safely at school. Trained diabetes personnel may include school staff members, health aides, and licensed practical nurses.

Depending on the size of the school, one or more school staff members should be trained to perform student-specific diabetes care tasks. **Assignment of diabetes care tasks, however, must take into account State laws that may be relevant in determining what tasks may be performed by nonmedical personnel.**

Once it has been determined that a student-specific diabetes care task may be delegated, the school nurse should be involved in the decision making process to identify which school personnel are most appropriate to be trained. A diabetes-trained health care professional, such as the school nurse or a certified diabetes educator, develops and implements the training program using standardized training materials such as those described in the section on Training School Personnel in the Primer, evaluates the ability of trained diabetes personnel to perform the task, and establishes a plan for ongoing supervision throughout the school year.

In general, the school nurse, in collaboration with the principal, takes the lead in identifying, training, and providing ongoing supervision of trained diabetes personnel. Ideally, the school nurse, another qualified health professional, or at least one of the trained diabetes personnel should be onsite during school hours and during school-sponsored activities that take place before, after school, or off campus in which a student with diabetes participates.

The specific roles and responsibilities of the trained diabetes personnel will be determined by the student's health care plans (the Diabetes Medical Management Plan prepared by the student's personal diabetes health care team and the Individualized Health Care Plan and Emergency Care Plans for Hypoglycemia and Hyperglycemia prepared by the school nurse) and education plan (504 Plan, other education plan, or Individualized Education Program). **When trained diabetes personnel carry out tasks specified in the student's health care plans, under no circumstances should they make independent decisions about the daily, ongoing management of a student with diabetes.**

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Actions for the Trained Diabetes Personnel *Continued*

- ❑ **Understand your role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Participate in school health team meetings** to discuss implementing the student's health care and education plans. (For a list of members of the school health team, refer to the Primer, page 19.)
- ❑ **Complete successfully the Level 3 training described in this guide and demonstrate competency** in student-specific diabetes care tasks. See the section on Training School Personnel in the Primer (pages 27-31) and the Resources section for information on training resources related to diabetes management in the school setting. Refer to the information in this guide to help students with diabetes. Participate in additional education and training, as needed, or if the student's Diabetes Medical Management Plan (DMMP) changes.
- ❑ **Perform routine and emergency diabetes care tasks,** including blood glucose monitoring, urine and/or blood ketone testing, insulin administration, and glucagon administration after receiving training under the direction of the school nurse or other assigned health care professional.
- ❑ **Know how to recognize the signs and symptoms of hypoglycemia and hyperglycemia, know where emergency supplies are kept, how to implement the student's Emergency Care Plans, and how to activate Emergency Medical Services (EMS) in case of a diabetes emergency.** (See sample plans, pages 109-112.)
- ❑ **Document the diabetes care provided** according to standards and requirements outlined by school policy.
- ❑ **Be available on campus during regular school hours and when the student participates in school-sponsored extracurricular activities** held before or after school, as determined by the student's health care and education plans.
- ❑ **Accompany the student on field trips or to off-campus school-sponsored sports events and activities,** as determined by the student's health care and education plans.
- ❑ **Communicate directly and regularly with the school nurse or the supervising health care professional.**

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Actions for the Trained Diabetes Personnel *Continued*

- ❑ **Consult with appropriate members of the school health team** when questions arise or the student's health status changes.
- ❑ **Help ensure that the student has a supportive learning environment** and is treated the same as students without diabetes, except to respond to medical needs.
- ❑ **Treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Please copy and distribute to the Teacher.

Actions for the Teacher

- ❑ **Understand your role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws (see Section 4).
- ❑ **Participate in school health team meeting(s).** The teacher(s) who has primary responsibility for the student participates in the school health team meeting(s) when the student's health care plans (Diabetes Medical Management Plan, Individualized Health Care Plan, Emergency Care Plans for Hypoglycemia and Hyperglycemia) and education plan (504 Plan, other education plan, or Individualized Education Program) are discussed. (See page 19 for a list of members of the school health team and pages 21-26 for more information about these plans.)
- ❑ **Work with other members of the school health team to implement** the student's health care and education plans.
- ❑ **Consult with the school nurse and the principal to determine the appropriate level of diabetes management training** you should attend for carrying out your responsibilities and complete the training.
- ❑ **Review the information about diabetes in this guide and refer to it,** as needed, to help the student with diabetes.
- ❑ **Recognize that a change in the student's behavior could be a symptom of blood glucose changes**. Be aware that a student with low or high blood glucose levels may have some cognitive impairment.
- ❑ **Be prepared to respond immediately to the signs and symptoms of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose)** in accordance with the student's Emergency Care Plans. These plans include information on when and how to contact the school nurse or trained diabetes personnel.
- ❑ **Be aware of the policy for activating Emergency Medical Services (EMS)** in case of a diabetes emergency. Know where supplies to treat low blood glucose are kept and where students with diabetes normally keep their supplies.

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Actions for the Teacher *Continued*

- ❑ **Provide a supportive learning environment for students with diabetes to manage their diabetes safely and effectively at school.** This includes enabling students to monitor blood glucose, administer insulin and other medications, eat snacks for routine diabetes management and for treatment of low blood glucose levels, have bathroom privileges, access to drinking water, and participate in all school-sponsored activities.
- ❑ **Provide accommodations for students with diabetes** such as alternative times and arrangements for exams and permission for absences—without penalty—for health care appointments and prolonged illness, as indicated in the student's health care and education plans.
- ❑ **Provide instruction to the student if he or she misses school** and opportunities to make up missed classroom assignments or exams due to diabetes-related care or illness.
- ❑ **Recognize that eating meals and snacks on time is a critical component of diabetes management.** Failure to eat lunch on time could result in low blood glucose levels, especially if a student has missed a morning snack or has had a physically strenuous or otherwise active morning at school.
- ❑ **Provide information for substitute teachers** about the day-to-day and emergency needs of the student. Leave a copy of the Emergency Care Plans for Hypoglycemia and Hyperglycemia readily available.
- ❑ **Notify the parents/guardian in advance of changes in the school schedule** such as class parties, field trips, and other special events.
- ❑ **Communicate with the school nurse, trained diabetes personnel, or the parents/guardian regarding the student's progress** or any concerns about the student.
- ❑ **Treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Please copy and distribute to the Physical Education Teacher, the Coach, Athletic Trainer, and if appropriate, to the playground/campus supervisor.

Actions for the Physical Education Teacher, the Coach, and Athletic Trainer

- ❑ **Understand your role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Work with other members of the school health team to implement the student's health care and education plans.** Health care plans include the Diabetes Medical Management Plan, Individualized Health Care Plan, and Emergency Care Plans for Hypoglycemia and Hyperglycemia; the education plan includes the 504 Plan, other education plan, or Individualized Education Program.
- ❑ **Consult with the school nurse and the principal to determine the appropriate level of diabetes management training** you should attend for carrying out your responsibilities and complete the training.
- ❑ **Review the information about diabetes in this guide and refer to it,** as needed, to help the student with diabetes. (See pages 54-55 about physical activity and participation in team sports.)
- ❑ **Make sure blood glucose monitoring equipment and a quick-acting form of glucose are available at all activity sites.**
- ❑ **Allow the student to monitor blood glucose levels and/or administer insulin,** as outlined in the student's health care plans and education plans.
- ❑ **Recognize that a change in the student's behavior could be a symptom of blood glucose changes.**
- ❑ **Understand and be aware that hypoglycemia (low blood glucose) can occur during and after physical activity.**

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Actions for the Physical Education Teacher, the Coach, and Athletic Trainer *Continued*

- ❑ **Be prepared to respond immediately to the signs and symptoms of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose).** Take initial actions to treat hypoglycemia by providing the student with immediate access to a quick-acting form of glucose in accordance with the student's Emergency Care Plan for Hypoglycemia. This plan includes information on when and how to contact the school nurse or trained diabetes personnel. Be aware of the school's policy for activating Emergency Medical Services (EMS) in case of a diabetes emergency.
- ❑ **Bring a quick-acting form of glucose to the gym or practice field (e.g., 3 or 4 glucose tablets or 1 tube of glucose gel or 4 ounces of fruit juice (not low-calorie or reduced sugar) or 6 ounces of soda (not low-calorie or reduced sugar),** as outlined in the student's health care and education plans. Consider taping glucose tablets to your clipboard.
- ❑ **Include the student's Emergency Care Plans for Hypoglycemia and Hyperglycemia and diabetes supplies in the First Aid pack** that goes out to physical education activities, practices, and games.
- ❑ **Allow students with diabetes to wear their medical ID during physical activity.**
- ❑ **Provide input to the student's school health team as needed.** (For a list of members of the school health team, see page 19.)
- ❑ **Communicate with the school nurse and/or trained diabetes personnel regarding any observations or concerns about the student.**
- ❑ **Provide information to the substitute physical education teacher about the day-to-day and emergency needs of the student.** Leave copies of the Emergency Care Plans for Hypoglycemia and Hyperglycemia and supplies readily available.
- ❑ **Encourage the same level of participation in physical activities and sports for students with diabetes** as for other students, except to meet medical needs.
- ❑ **Treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Please copy and distribute to the Food Service Manager.

Actions for the Food Service Manager

- ❑ **Ensure that the student with diabetes has timely access to food and sufficient time to finish eating.** Under certain circumstances, supervisory lunch personnel may need to encourage the student to go to the front of the line and eat appropriate foods.
- ❑ **Obtain a copy of the student's Emergency Care Plans for treating hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose)** and keep them in a known, yet secure, place in the lunchroom.
- ❑ **Ensure that you and your staff understand your roles in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Ensure that you and your staff work with the school health team to implement the student's written health care and education plans.** Health care plans include the Diabetes Medical Management Plan, Individualized Health Care Plan, and Emergency Care Plans; the education plan includes the 504 Plan, other education plan, or Individualized Education Program.
- ❑ **Consult with the school nurse and the principal to determine the appropriate level of diabetes management training that you and your staff should attend** for carrying out your responsibilities and complete the training.
- ❑ **Ensure that you and your staff review the information about diabetes in this guide and refer to it,** as needed, to help the student with diabetes. (See pages 50-54 for more information about meal plans and nutritional needs of students with diabetes.)
- ❑ **Obtain a copy of the student's meal plan from the health care plans** developed by the student's personal diabetes care team and the school nurse.
- ❑ **Provide breakfast and lunch menus and a meal schedule in advance to the student's parents/guardian,** including grams of carbohydrates and other necessary nutritional information for each meal or snack. If you or the school district do not have this information, the school can identify a registered dietitian through the local chapter of the American Dietetic Association who can work with food service staff to make this information available for students with diabetes.

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Actions for the Food Service Manager *Continued*

- ❑ **Ensure that your staff recognizes that eating meals and snacks on time is a critical component of diabetes management.** If students with diabetes fail to eat lunch on time, they could develop hypoglycemia (low blood glucose), especially if they have missed a morning snack or have had a physically strenuous or otherwise active morning at school.
- ❑ **Ensure that your staff recognizes that a student's behavior change could be a symptom of blood glucose changes.**
- ❑ **Ensure that you and your staff are prepared to respond immediately to the signs and symptoms of hypoglycemia and hyperglycemia,** and take appropriate action in accordance with the student's Emergency Care Plans. Know when and how to contact the school nurse or trained diabetes personnel for help. Be aware of the school's policy for activating Emergency Medical Services (EMS) in case of a diabetes emergency.
- ❑ **Ensure that you and your staff know where supplies (e.g., 3 or 4 glucose tablets or 1 tube of glucose gel or 4 ounces of fruit juice (not low-calorie or reduced sugar) or 6 ounces of soda (not low-calorie or reduced sugar) are kept to treat hypoglycemia** (e.g., with the student or in another place).
- ❑ **Provide input to the school health team when requested.**
- ❑ **Communicate with the school nurse and/or trained diabetes personnel regarding the student's progress or any concerns about the student.**
- ❑ **Ensure that your staff treats the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Ensure that your staff respects the student's confidentiality and right to privacy.**

Please copy and distribute to the Transportation Manager.

Actions for the Transportation Manager

- ❑ **Inform drivers about which students on their bus routes have diabetes,** consistent with the student's right to privacy and confidentiality.
- ❑ **Ensure that drivers understand their role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Consult with the school nurse and the principal to determine the appropriate level of diabetes management training that drivers should attend** for carrying out their responsibilities and ensure that they complete the training.
- ❑ **Ensure that drivers obtain a copy of the student's Emergency Care Plans for Hypoglycemia and Hyperglycemia** and keep them on the bus in a known, yet secure, place. Ensure that the plans are readily available for substitute drivers.
- ❑ **Ensure that drivers recognize that a student's behavior change could be a symptom of blood glucose changes.**
- ❑ **Ensure that drivers are prepared to respond immediately to the signs and symptoms of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose)** and take initial actions in accordance with the student's Emergency Care Plans. These plans include information on when and how to contact the school nurse, trained diabetes personnel, and Emergency Medical Services (EMS).
- ❑ **Ensure that drivers keep supplies to treat low blood glucose on the bus (e.g., 3 or 4 glucose tablets or 1 tube of glucose gel or 4 ounces of fruit juice (not low-calorie or reduced sugar) or 6 ounces of soda (not low-calorie or reduced sugar)** and are aware of where students with diabetes normally keep their supplies.
- ❑ **Ensure that drivers understand and are aware that hypoglycemia (low blood glucose) can occur at any time**—in the beginning of the day, on a field trip, or when children are going home.
- ❑ **Ensure that drivers allow the student with diabetes to eat snacks and drink beverages on the bus.**

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Actions for the Transportation Manager *Continued*

- ❑ **Ensure that drivers communicate with the school nurse, trained diabetes personnel, and other members of the school health team** regarding the student's progress as well as any concerns.
- ❑ **Ensure that drivers treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Ensure that drivers respect the student's confidentiality and right to privacy.**

Please copy and distribute to the Bus Driver.

Actions for the Bus Driver

- ❑ **If you are informed that students on your bus route have diabetes, understand that you may have certain responsibilities relating to those students.**
- ❑ **Know that Federal and State laws may apply to students with diabetes and management of their disease.**
- ❑ **Attend diabetes management training required by your supervisor** to learn more about diabetes and to understand what you need to do.
- ❑ **Obtain copies of the student's Emergency Care Plans for Hypoglycemia (low blood glucose) and Hyperglycemia (high blood glucose) from the school nurse** and keep them on the bus in a known, yet secure, place. Leave the plans readily available for substitute drivers.
- ❑ **Understand that a change in the student's behavior could be a symptom that the student's blood glucose is too high or too low.**
- ❑ **Understand and be aware that low blood glucose (sugar) is a serious condition that can happen suddenly and requires immediate treatment.** It can occur at any time—in the beginning of the day, on a field trip, or when children are going home.
- ❑ **Be prepared to respond immediately to the signs and symptoms of hypoglycemia and hyperglycemia.** Look over the student's Emergency Care Plans for instructions on what to do and when and how to contact the school nurse or trained diabetes personnel. Be aware of the policy for activating Emergency Medical Services (EMS) in case a student has a diabetes emergency.
- ❑ **Keep supplies to treat low blood glucose on the bus (for example, 3 or 4 glucose tablets or 1 tube of glucose gel or 4 ounces of fruit juice (not low-calorie or reduced sugar) or 6 ounces of soda (not low-calorie or reduced sugar),** and be aware of where students with diabetes normally keep their supplies.
- ❑ **Allow students with diabetes to eat snacks and drink beverages on the bus** because they may be needed at certain times to help manage their diabetes.
- ❑ **Communicate with the school nurse, trained diabetes personnel, and other members of the school health team** regarding the student's progress as well as any concerns. (See page 19 in the Primer for members of the school health team.)

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Actions for the Bus Driver *Continued*

- ❑ **Treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Actions for the School Psychologist, Counselor, and Social Worker

- ❑ **Understand your role in ensuring compliance with Federal and State laws** that may apply to students with diabetes, including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Work with the school health team to implement the student's health care and education plans.** Health care plans include the Diabetes Medical Management Plan, Individualized Health Care Plan, and Emergency Care Plans for Hypoglycemia and Hyperglycemia; the education plan includes the 504 Plan, other education plan, or Individualized Education Program.
- ❑ **Consult with the school nurse and the principal to determine the appropriate level of diabetes management training you should attend** for carrying out your responsibilities and complete the training.
- ❑ **Review the information about diabetes in this guide and refer to it,** as needed, to help the student with diabetes.
- ❑ **Be prepared to respond immediately to the signs and symptoms of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose)** in accordance with the student's Emergency Care Plans. These plans include information on when and how to contact the school nurse or trained diabetes school personnel. Be aware of the policy for activating Emergency Medical Services (EMS) in case of a diabetes emergency.
- ❑ **Participate in school health team meetings and communicate with the school nurse, trained diabetes personnel, and the parents/guardian regarding the student's progress or any concerns about the student.**
- ❑ **Work with school staff to promote a supportive learning environment for students with diabetes.**
- ❑ **Ensure that the student with diabetes is treated the same as students without diabetes,** except to respond to medical needs.
- ❑ **Be aware of and be prepared to respond to the emotional needs of the student.** Children react differently to having diabetes. Some are accepting and open to discussing it; others are resentful and may attempt to hide it. Often, a child will experience both types of feelings. Be aware of the student's feelings about having diabetes and

Continued on next page

Actions for the School Psychologist, Counselor, and Social Worker
Continued

identify ways to ensure the student is treated the same as other students. (See "Dealing with Emotional and Social Issues," pages 58-59.)

- ❑ **Recognize that students with chronic illnesses such as diabetes may rebel by discontinuing all or part of their medical regimen.** For example, some adolescents may stop testing their blood glucose or give their parents/guardian and health care providers incorrect information about their blood glucose levels.
- ❑ **Be aware that some students may not wish to share information about their diabetes with other students or school staff,** particularly if it makes them feel different from others.
- ❑ **Promote and encourage independence and self-care** consistent with the student's ability, skill, maturity, and development.
- ❑ **Treat the student with diabetes the same as other students,** except to respond to their medical needs.
- ❑ **Respect the student's confidentiality and right to privacy.**

Actions for the Parents/Guardian

- ❑ **Notify the school principal as well as the school nurse, guidance counselor, and teacher(s) that your child has diabetes** when the student enrolls in school or is newly diagnosed with the disease.
- ❑ **Work with your child's personal diabetes health care team to develop a Diabetes Medical Management Plan that contains the medical orders for your child.** Use the sample plan in this guide as an example of the information to include. (See pages 99-106.)
- ❑ **Submit the signed Diabetes Medical Management Plan** from your child's personal diabetes health care team to the school nurse or other member of the school health team as soon as possible after your child has been diagnosed with diabetes, at the beginning of each school year, and when there are changes in your child's diabetes care plan.
- ❑ **Permit sharing of medical information necessary for your child's safety** between the school and your child's health care providers. Talk with your child's personal diabetes health care team about communicating with the school health team and responding to student emergencies as they occur.
- ❑ **Provide accurate and current emergency contact information to the school,** and update the school about any changes.
- ❑ **Obtain completed copies from the school nurse of your child's Emergency Care Plans for Hypoglycemia and Hyperglycemia based on the medical orders in the Diabetes Medical Management Plan.** These plans inform school personnel about the symptoms of low and high blood glucose, what to do, and who to contact in case of an emergency. Be aware of the school's policy for activating Emergency Medical Services (EMS) in case of a diabetes emergency (see sample plans, pages 109-112).
- ❑ **Attend and participate in the initial and annual meetings of the school health team to discuss implementing the medical orders in your child's Diabetes Medical Management Plan, to review the services your child may need, and to develop a 504 Plan, other education plan, or Individualized Education Program.** The education plan is developed to manage the student's diabetes safely and effectively in school, where required under Section 504 of the Rehabilitation Act of 1973 or the Individuals with Disabilities Education Act. The school health team generally includes the student,

Continued on next page

Actions for the Parents/Guardian *Continued*

the parents/guardian, school nurse, principal, 504/IEP coordinator, teachers, and other school personnel who have responsibility for your child during the school day. (See pages 21-26 for more information about the education plans.)

- ❑ **Be knowledgeable about Federal and State laws that may apply to students with diabetes,** including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the Individuals with Disabilities Education Act. Understand the procedures for implementing these laws. (See Section 4.)
- ❑ **Review the information in this guide about effective diabetes management in the school setting and refer to it, as needed, to help your child and t**o work collaboratively with your child's personal diabetes health care team and the school health team.
- ❑ **Check the Resources section of this guide** for organizations that can help you and your child with managing diabetes in the school setting.
- ❑ **Provide specific information to the school health team about your child's diabetes and performance of diabetes care tasks at home.**
- ❑ **Inform the school nurse or designated school staff about any changes in your child's health status or medical orders.**
- ❑ **Provide all supplies and equipment necessary for implementing your child's health care and education plans.** These include blood glucose monitoring equipment, supplies for insulin administration and urine and blood ketone testing, snacks, quick-acting glucose products, and a glucagon emergency kit.
- ❑ **Consult with the school nurse to monitor supplies and replenish them, as needed; refill or replace supplies that have expired.**
- ❑ **Provide and maintain all supplies and equipment necessary to accommodate your child's long-term needs (72 hours) in case of a disaster or emergency.** (See page 49 for information about disaster planning supplies).
- ❑ **Inform appropriate school staff (principal, teachers, coaches, and others) when your child plans to participate in school-sponsored activities** that take place before or after school or off campus so that health care coverage can be coordinated to ensure your child's health and safety.
- ❑ **Respect your child's confidentiality and right to privacy.**

Actions for the Student with Diabetes

- ❑ **Find out who is on the school health team**—the people who will be helping you with your diabetes care. Know how to contact them if you need help.
- ❑ **Participate in the school health team meetings** to talk about your diabetes management plan and your health care and education plans.
- ❑ **Always wear a medical alert ID.**
- ❑ **Always carry a quick-acting source of glucose** as recommended by your health care team.
- ❑ **Tell your teachers and other school staff members if you feel symptoms of low or high blood glucose,** especially if you need help.
- ❑ **Work with the school health team members if you need help** monitoring your blood glucose, getting insulin, or eating the right amount of food, at the right time, during the school day.
- ❑ **Take charge of your diabetes care at school, as allowed in your health care and education plans.** You may be responsible for these diabetes care tasks:
  - Checking and writing down blood glucose levels.
  - Figuring out the correct insulin dose you need.
  - Giving yourself insulin.
  - Discarding your syringes and lancets in a proper container or taking them home with you according to your written care plans.
  - Throwing away needles, lancets, and other supplies you have used in a safe place.
  - Eating meals and snacks as planned.
  - Figuring out the carbohydrate (carb) content of food.
  - Treating low blood glucose with a quick-acting glucose product.
  - Carrying diabetes equipment and supplies with you at all times.

Continued on next page

Actions for the Student with Diabetes *Continued*

Things You Need To Know:
1. **What** your health care and education plans say about the help you will receive to manage your diabetes, which people at school will help you, and what is expected of you. 2. **Who** to contact and what to do when your blood glucose is too low or too high or you are not feeling well. 3. **When** you should monitor your blood glucose levels, give yourself insulin, have a snack, eat a meal, and who to ask for help. 4. **Where** your daily and emergency diabetes supplies are stored if you don't carry them and who to contact when you need to use the supplies or when you need help.

Section 3

Tools

Sample Diabetes Medical Management Plan ***Page 99***

Sample Template for an Individualized Health Care Plan ***Page 107***

Sample Emergency Care Plans for Hypoglycemia and Hyperglycemia ***Page 109***

Section 3 contains examples of three important tools for helping schools implement effective diabetes management—a sample Diabetes Medical Management Plan, a sample template for an Individualized Health Care Plan, and sample Emergency Care Plans for Hypoglycemia and Hyperglycemia.

- The **Diabetes Medical Management Plan (DMMP)** is completed by the student's personal diabetes health care team and contains the medical orders that are the basis for the student's health care and education plans.
- The **Individualized Health Care Plan (IHP)** is prepared by the school nurse and contains the strategies for implementing the medical orders in the DMMP in the school setting.
- The **Emergency Care Plans for Hypoglycemia and Hyperglycemia**, based on the DMMP, summarize how to recognize and treat hypoglycemia and hyperglycemia and who to contact for help. The school nurse will coordinate development of these plans. Emergency care plans should be completed for each student with diabetes and should be copied and distributed to all school personnel who have responsibility for students with diabetes during the school day and during school-sponsored activities. Provide completed copies to the parents/guardian as well.

How to Use the Tools for Effective Diabetes Management

- The parents/guardian should give the sample Diabetes Medical Management Plan (DMMP) to the student's personal diabetes health care team as a resource for preparing the medical orders.
- The student's personal diabetes health care team should fill out the plan, sign it, review it with the parents/guardian and the student, and return it to the school nurse before the student with diabetes returns to school after diagnosis, or when the student transfers to a new school.
- The student's personal diabetes health care team should review and update the DMMP at the beginning of each school year or upon a change in the student's prescribed care regimen, level of self-management, school circumstances (e.g., a change in schedule), or at the request of the student or parents/guardian or the school nurse.
- The school nurse should prepare the Individualized Health Care Plan (IHP) based on the medical orders in the DMMP and review it with the parents/guardian and the student.
- The school nurse should adapt the sample Emergency Care Plans for Hypoglycemia and Hyperglycemia to meet the needs of individual students, as prescribed in the student's DMMP.
- The Emergency Care Plans should be copied and distributed to all regular and substitute personnel who have responsibility for the student with diabetes during the school day and during school-sponsored activities. Consider laminating these plans for use throughout the school year. Provide copies to the parents/guardian.
- During all levels of training, information in the Emergency Care Plans on the signs and symptoms of hypoglycemia and hyperglycemia, how to respond, and who to contact for help in an emergency should be reviewed with school personnel.

Diabetes Medical Management Plan (DMMP)

This plan should be completed by the student's personal diabetes health care team, including the parents/guardian. It should be reviewed with relevant school staff and copies should be kept in a place that can be accessed easily by the school nurse, trained diabetes personnel, and other authorized personnel.

Date of Plan: _____ This plan is valid for the current school year: _____ - ____

Student's Name: _____ Date of Birth: _____

Date of Diabetes Diagnosis: _____ ❑ type 1 ❑ type 2 ❑ Other_____

School: _____ School Phone Number: _____

Grade: _____ Homeroom Teacher: _____

School Nurse: _____ Phone: _____

CONTACT INFORMATION

Mother/Guardian: _____

Address: _____

Telephone: Home _____ Work _____ Cell: _____

Email Address: _____

Father/Guardian: _____

Address: _____

Telephone: Home _____ Work _____ Cell: _____

Email Address: _____

Student's Physician/Health Care Provider: _____

Address: _____

Telephone: _____

Email Address: _____ Emergency Number: _____

Other Emergency Contacts:

Name: _____ Relationship: _____

Telephone: Home _____ Work _____ Cell: _____

CHECKING BLOOD GLUCOSE

Target range of blood glucose: ❑ 70–130 mg/dL ❑ 70–180 mg/dL

❑ Other: _____

Check blood glucose level: ❑ Before lunch ❑ _____ Hours after lunch

❑ 2 hours after a correction dose ❑ Mid-morning ❑ Before PE ❑ After PE

❑ Before dismissal ❑ Other: _____

❑ As needed for signs/symptoms of low or high blood glucose

❑ As needed for signs/symptoms of illness

Preferred site of testing: ❑ Fingertip ❑ Forearm ❑ Thigh ❑ Other: _____

Brand/Model of blood glucose meter:_____

Note: The fingertip should always be used to check blood glucose level if hypoglycemia is suspected.

Student's self-care blood glucose checking skills:

❑ Independently checks own blood glucose

❑ May check blood glucose with supervision

❑ Requires school nurse or trained diabetes personnel to check blood glucose

Continuous Glucose Monitor (CGM): ❑ Yes ❑ No

Brand/Model: _____ Alarms set for: ❑ (low) and ❑ (high)

Note: Confirm CGM results with blood glucose meter check before taking action on sensor blood glucose level. If student has symptoms or signs of hypoglycemia, check fingertip blood glucose level regardless of CGM.

HYPOGLYCEMIA TREATMENT

Student's usual symptoms of hypoglycemia (list below):

_____

_____

If exhibiting symptoms of hypoglycemia, OR if blood glucose level is less than _____mg/dL, give a quick-acting glucose product equal to _____ grams of carbohydrate.

Recheck blood glucose in 10–15 minutes and repeat treatment if blood glucose level is less than _____ mg/dL.

Additional treatment: _____

HYPOGLYCEMIA TREATMENT (Continued)

Follow physical activity and sports orders (see page 7).

- If the student is unable to eat or drink, is unconscious or unresponsive, or is having seizure activity or convulsions (jerking movements), give:
- Glucagon: ❑ 1 mg ❑ 1/2 mg Route: ❑ SC ❑ IM
- Site for glucagon injection: ❑ arm ❑ thigh ❑ Other: _____
- Call 911 (Emergency Medical Services) and the student's parents/guardian.
- Contact student's health care provider.

HYPERGLYCEMIA TREATMENT

Student's usual symptoms of hyperglycemia (list below):

_____

_____

Check ❑ Urine ❑ Blood for ketones every _____hours when blood glucose levels are above _____mg/dL.

For blood glucose greater than _____mg/dL AND at least _____hours since last insulin dose, give correction dose of insulin (see orders below).

For insulin pump users: see additional information for student with insulin pump.

Give extra water and/or non-sugar-containing drinks (not fruit juices): _____ounces per hour.

Additional treatment for ketones: _____

Follow physical activity and sports orders (see page 7).

- Notify parents/guardian of onset of hyperglycemia.
- If the student has symptoms of a hyperglycemia emergency, including dry mouth, extreme thirst, nausea and vomiting, severe abdominal pain, heavy breathing or shortness of breath, chest pain, increasing sleepiness or lethargy, or depressed level of consciousness: Call 911 (Emergency Medical Services) and the student's parents/guardian.
- Contact student's health care provider.

INSULIN THERAPY

Insulin delivery device: ❑ syringe ❑ insulin pen ❑ insulin pump

Type of insulin therapy at school:

❑ Adjustable Insulin Therapy
❑ Fixed Insulin Therapy
❑ No insulin

Adjustable Insulin Therapy

- **Carbohydrate Coverage/Correction Dose:**
  Name of insulin: _____
- **Carbohydrate Coverage:**
  Insulin-to-Carbohydrate Ratio:
  Lunch: 1 unit of insulin per _____ grams of carbohydrate
  Snack: 1 unit of insulin per _____ grams of carbohydrate

Carbohydrate Dose Calculation Example

$$\frac{\textit{Grams of carbohydrate in meal}}{\textit{Insulin-to-carbohydrate ratio}} = _____ \text{ units of insulin}$$

- **Correction Dose:**

Blood Glucose Correction Factor/Insulin Sensitivity Factor = _____
Target blood glucose = _____ mg/dL

Correction Dose Calculation Example

$$\frac{\textit{Actual Blood Glucose} - \textit{Target Blood Glucose}}{\textit{Blood Glucose Correction Factor/Insulin Sensitivity Factor}} = _____ \text{ units of insulin}$$

Correction dose scale (use instead of calculation above to determine insulin correction dose):

Blood glucose _____ to _____ mg/dL give _____units
Blood glucose _____ to _____ mg/dL give _____units
Blood glucose _____ to _____ mg/dL give _____units
Blood glucose _____ to _____ mg/dL give _____units

INSULIN THERAPY (Continued)

When to give insulin:

Lunch

- ❑ Carbohydrate coverage only
- ❑ Carbohydrate coverage plus correction dose when blood glucose is greater than _____mg/dL and ____ hours since last insulin dose.
- ❑ Other: _____

Snack

- ❑ No coverage for snack
- ❑ Carbohydrate coverage only
- ❑ Carbohydrate coverage plus correction dose when blood glucose is greater than _____mg/dL and ____ hours since last insulin dose.
- ❑ Other: _____

- ❑ Correction dose only:

  For blood glucose greater than _____mg/dL AND at least _____ hours since last insulin dose.
- ❑ Other: _____

Fixed Insulin Therapy

Name of insulin: _____

- ❑ ____ Units of insulin given pre-lunch daily
- ❑ ____ Units of insulin given pre-snack daily
- ❑ Other: _____

Parental Authorization to Adjust Insulin Dose:

❑ Yes ❑ No Parents/guardian authorization should be obtained before administering a correction dose.

❑ Yes ❑ No Parents/guardian are authorized to increase or decrease correction dose scale within the following range: +/- _____ units of insulin.

❑ Yes ❑ No Parents/guardian are authorized to increase or decrease insulin-to-carbohydrate ratio within the following range: _____ units per prescribed grams of carbohydrate, +/- ___ grams of carbohydrate.

❑ Yes ❑ No Parents/guardian are authorized to increase or decrease fixed insulin dose within the following range: +/- _____ units of insulin.

Tools

INSULIN THERAPY (Continued)

Student's self-care insulin administration skills:

❑ Yes ❑ No Independently calculates and gives own injections
❑ Yes ❑ No May calculate/give own injections with supervision
❑ Yes ❑ No Requires school nurse or trained diabetes personnel to calculate/give injections

ADDITIONAL INFORMATION FOR STUDENT WITH INSULIN PUMP

Brand/Model of pump: _____ Type of insulin in pump: _____

Basal rates during school: _____

Type of infusion set: _____

❑ For blood glucose greater than _____ mg/dL that has not decreased within _____ hours after correction, consider pump failure or infusion site failure. Notify parents/guardian.

❑ For infusion site failure: Insert new infusion set and/or replace reservoir.

❑ For suspected pump failure: suspend or remove pump and give insulin by syringe or pen.

Physical Activity

May disconnect from pump for sports activities ❑ Yes ❑ No
Set a temporary basal rate ❑ Yes ❑ No _____% temporary basal for _____ hours
Suspend pump use ❑ Yes ❑ No

Student's self-care pump skills:	**Independent?**	
Count carbohydrates	❑ Yes	❑ No
Bolus correct amount for carbohydrates consumed	❑ Yes	❑ No
Calculate and administer correction bolus	❑ Yes	❑ No
Calculate and set basal profiles	❑ Yes	❑ No
Calculate and set temporary basal rate	❑ Yes	❑ No
Change batteries	❑ Yes	❑ No
Disconnect pump	❑ Yes	❑ No
Reconnect pump to infusion set	❑ Yes	❑ No
Prepare reservoir and tubing	❑ Yes	❑ No
Insert infusion set	❑ Yes	❑ No
Troubleshoot alarms and malfunctions	❑ Yes	❑ No

OTHER DIABETES MEDICATIONS

Name: _____ Dose: _____ Route: _____ Times given: ____
Name: _____ Dose: _____ Route: _____ Times given: ____

MEAL PLAN

Meal/Snack	Time	Carbohydrate Content (grams)
Breakfast	_____	_____ to_____
Mid-morning snack	_____	_____ to_____
Lunch	_____	_____ to_____
Mid-afternoon snack	_____	_____ to_____

Other times to give snacks and content/amount:_____

Instructions for when food is provided to the class (e.g., as part of a class party or food sampling event): _____

Special event/party food permitted: ❑ Parents/guardian discretion
❑ Student discretion

Student's self-care nutrition skills:

❑ Yes ❑ No Independently counts carbohydrates

❑ Yes ❑ No May count carbohydrates with supervision

❑ Yes ❑ No Requires school nurse/trained diabetes personnel to count carbohydrates

PHYSICAL ACTIVITY AND SPORTS

A quick-acting source of glucose such as ❑ glucose tabs and/or ❑ sugar-containing juice must be available at the site of physical education activities and sports.

Student should eat ❑ 15 grams ❑ 30 grams of carbohydrate ❑ other_____

❑ before ❑ every 30 minutes during ❑ after vigorous physical activity

❑ other _____

If most recent blood glucose is less than _____ mg/dL, student can participate in physical activity when blood glucose is corrected and above _____ mg/dL.

Avoid physical activity when blood glucose is greater than _____ mg/dL or if urine/blood ketones are moderate to large.

(Additional information for student on insulin pump is in the insulin section on page 6.)

Tools

DISASTER PLAN

To prepare for an unplanned disaster or emergency (72 HOURS), obtain emergency supply kit from parent/guardian.

- ☐ Continue to follow orders contained in this DMMP.
- ☐ Additional insulin orders as follows: _____
- ☐ Other: _____

SIGNATURES

This Diabetes Medical Management Plan has been approved by:

_____

Student's Physician/Health Care Provider Date

I, (parent/guardian:) _____ give permission to the school nurse or another qualified health care professional or trained diabetes personnel of (school:) _____ to perform and carry out the diabetes care tasks as outlined in (student:) _____'s Diabetes Medical Management Plan. I also consent to the release of the information contained in this Diabetes Medical Management Plan to all school staff members and other adults who have responsibility for my child and who may need to know this information to maintain my child's health and safety. I also give permission to the school nurse or another qualified health care professional to contact my child's physician/health care provider.

_____

Acknowledged and received by:

_____

Student's Parent/Guardian Date

_____

Student's Parent/Guardian Date

_____

School Nurse/Other Qualified Health Care Personnel Date

Sample Template

Individualized Health Care Plan (IHP)

Student: _____

Grade: _____

Dates: _____

School Year: _____

IHP Completed by and Date: _____

IHP Review Dates: _____

Nursing Assessment Review: _____

Nursing Assessment Completed by and Date: _____

Nursing Diagnosis	Sample Interventions and Activities	Date Implemented	Sample Outcome Indicator	Date Evaluated
Managing Potential Diabetes Emergencies (risk for unstable blood glucose)	Establish and document student's routine for maintaining blood glucose within goal range including while at school: **Blood Glucose Monitoring** • Where to check blood glucose: ❑ Classroom ❑ Health room ❑ Other • When to check blood glucose: ❑ Before breakfast ❑ Mid-morning ❑ Before lunch ❑ After lunch ❑ Before snack ❑ Before PE ❑ After PE ❑ 2 hours after correction dose ❑ Before dismissal ❑ As needed ❑ Other: _____ • Student Self-Care Skills: ❑ Independent ❑ Supervision ❑ Full assistance • Brand/model of BG meter: _____ • Brand/model of CGM: _____		**Blood glucose remains in goal range** Percentage of Time 0% 25% 50% 75% 100% **1 2 3 4 5**	

Tools

Individualized Health Care Plan (IHP) (Continued)

Nursing Diagnosis	Sample Interventions and Activities	Date Implemented	Sample Outcome Indicator	Date Evaluated
Supporting the Independent Student (effective therapeutic regimen management)	**Hypoglycemia Management** **STUDENT WILL:** • Check blood glucose when hypoglycemia suspected • Treat hypoglycemia (follow Diabetes Emergency Care Plan) • Take action following a hypoglycemia episode: _____ • Keep quick-acting glucose product to treat on the spot Type: _____ Location: _____ • Routinely monitor hypoglycemia trends r/t class schedule (e.g., time of PE, scheduled lunch, recess) and insulin dosing • Report and consult with parents/ guardian, school nurse, HCP, and school personnel as appropriate		**Monitors Blood Glucose** (records, reports, and correctly responds to results) Never Demonstrated — Consistently Demonstrated **1 2 3 4 5**	
Supporting Positive Coping Skills (readiness for enhanced coping)	**Environmental Management** • Ensure confidentiality • Discuss with parents/guardian and student preference about who should know student's coping status at school • Collaborate with parents/guardian and school personnel to meet student's coping needs • Collaborate with school personnel to create an accepting and understanding environment		**Readiness to Learn** Severely Compromised — Not Compromised **1 2 3 4 5**	

Hypoglycemia Emergency Care Plan

(For Low Blood Glucose)

Student's Name: _____

Grade/Teacher: _____

Date of Plan: _____

Emergency Contact Information

Mother/Guardian: _____

Email address: _____ Home phone: _____

Work phone: _____ Cell: _____

Father/Guardian: _____

Email address: _____ Home phone: _____

Work phone: _____ Cell: _____

Health Care Provider: _____

Phone number: _____

School Nurse: _____

Contact number(s): _____

Trained Diabetes Personnel: _____

Contact number(s): _____

The student should never be left alone, or sent anywhere alone, or with another student, when experiencing hypoglycemia.

Causes of Hypoglycemia	Onset of Hypoglycemia
• Too much insulin • Missing or delaying meals or snacks • Not eating enough food (carbohydrates) • Getting extra, intense, or unplanned physical activity • Being ill, particularly with gastrointestinal illness	• Sudden—symptoms may progress rapidly

Tools

Hypoglycemia Symptoms Circle student's usual symptoms.		
Mild to Moderate		**Severe**
• Shaky or jittery • Sweaty • Hungry • Pale • Headache • Blurry vision • Sleepy • Dizzy • Confused • Disoriented	• Uncoordinated • Irritable or nervous • Argumentative • Combative • Changed personality • Changed behavior • Inability to concentrate • Weak • Lethargic • Other:_____	• Inability to eat or drink • Unconscious • Unresponsive • Seizure activity or convulsions (jerking movements) •

Actions for Treating Hypoglycemia	
Notify School Nurse or Trained Diabetes Personnel as soon as you observe symptoms. If possible, check blood glucose (sugar) at fingertip. Treat for hypoglycemia if blood glucose level is less than ____mg/dL. **WHEN IN DOUBT, ALWAYS TREAT FOR HYPOGLYCEMIA AS SPECIFIED BELOW.**	
Treatment for Mild to Moderate Hypoglycemia	**Treatment for Severe Hypoglycemia**
• Provide quick-acting glucose (sugar) product equal to _____ grams of carbohydrates. Examples of 15 grams of carbohydrates include: ❍ 3 or 4 glucose tablets ❍ 1 tube of glucose gel ❍ 4 ounces of fruit juice (not low-calorie or reduced sugar) ❍ 6 ounces of soda (½ can) (not low-calorie or reduced sugar) • Wait 10 to 15 minutes. • Recheck blood glucose level. • Repeat quick-acting glucose product if blood glucose level is less than_____mg/dL. • Contact the student's parents/guardian.	• Position the student on his or her side. • Do not attempt to give anything by mouth. • Administer glucagon: _____ mg at _____ site. • While treating, have another person call 911 (Emergency Medical Services). • Contact the student's parents/guardian. • Stay with the student until Emergency Medical Services arrive. • Notify student's health care provider. •

Hyperglycemia Emergency Care Plan

(For High Blood Glucose)

Student's Name: _____

Grade/Teacher: _____

Date of Plan: _____

Emergency Contact Information

Mother/Guardian: _____

Email address: _____ Home phone: _____

Work phone: _____ Cell: _____

Father/Guardian: _____

Email address: _____ Home phone: _____

Work phone: _____ Cell: _____

Health Care Provider: _____

Phone number: _____

School Nurse: _____

Contact number(s): _____

Trained Diabetes Personnel: _____

Contact number(s): _____

Causes of Hyperglycemia	Onset of Hyperglycemia
• Too little insulin or other glucose-lowering medication • Food intake that has not been covered adequately by insulin • Decreased physical activity • Illness • Infection • Injury • Severe physical or emotional stress • Pump malfunction •	• Over several hours or days

Tools

Hyperglycemia Signs	Hyperglycemia Emergency Symptoms (Diabetic Ketoacidosis, DKA, which is associated with hyperglycemia, ketosis, and dehydration)
Circle student's usual signs and symptoms.	
• Increased thirst and/or dry mouth • Frequent or increased urination • Change in appetite and nausea • Blurry vision • Fatigue • Other: _____ •	• Dry mouth, extreme thirst, and dehydration • Nausea and vomiting • Severe abdominal pain • Fruity breath • Heavy breathing or shortness of breath • Chest pain • Increasing sleepiness or lethargy • Depressed level of consciousness

Actions for Treating Hyperglycemia	
Notify School Nurse or Trained Diabetes Personnel as soon as you observe symptoms.	
Treatment for Hyperglycemia	**Treatment for Hyperglycemia Emergency**
• Check the blood glucose level: _____ mg/dL. • Check urine or blood for ketones if blood glucose levels are greater than: _____ mg/dL. • If student uses a pump, check to see if pump is connected properly and functioning. • Administer supplemental insulin dose:_____. • Give extra water or non-sugar-containing drinks (not fruit juices): _____ ounces per hour. • Allow free and unrestricted access to the restroom. • Recheck blood glucose every 2 hours to determine if decreasing to target range of _____ mg/dL. • Restrict participation in physical activity if blood glucose is greater than _____ mg/dL and if ketones are moderate to large. • Notify parents/guardian if ketones are present.	• Call parents/guardian, student's health care provider, and 911 (Emergency Medical Services) right away. • Stay with the student until Emergency Medical Services arrive. •

Section 4

School Responsibilities Under Federal Laws

The Federal laws described in this section apply to a school's responsibility to help students manage diabetes, including confidentiality requirements. A particular student with diabetes could be covered under only one law or more than one law. For information on getting copies of the laws, see page 132 in the Resources section.

How to Use the Laws Section

- Use the section on Federal laws for planning and implementing effective diabetes management and for preparing the student's education plan.
- Determine whether applicable State and local laws need to be factored into helping the student with diabetes.
- Create a supplement to this guide containing the applicable State and local laws.
- Copy and distribute the section on laws to appropriate school personnel.
- Review the section on laws when training school personnel on how to comply with the Federal laws pertaining to students with diabetes.

Section 504 of the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act of 1990 (ADA)[2]

Section 504 prohibits recipients of Federal financial assistance from discriminating against people on the basis of disability. Title II of the ADA prohibits discrimination on the basis of disability by public entities, regardless of whether the public entities receive Federal financial assistance. Public school districts that receive Federal financial assistance are covered by both Title II and Section 504, and the obligations of public schools to students with disabilities under each law are generally the same. For schools, these laws are enforced by the Office for Civil Rights (OCR) in the U.S. Department of Education.

Section 504 outlines a process for schools to use in determining whether a student has a disability and in determining what services a student with a disability needs. This evaluation process must be tailored individually because each student is different and his or her needs will vary. Historically, students with diabetes have been covered by Section 504 and the ADA.

Under Section 504, students with disabilities must be given an equal opportunity to participate in academic, nonacademic, and extracurricular activities. The regulations also require school districts to identify all students with disabilities and to provide them with a free appropriate public education (FAPE). Under Section 504, FAPE is the provision of regular or special education and related aids and services designed to meet the individual educational needs of students with disabilities as adequately as the needs of students who do not have disabilities are met.

A student does not have to receive special education services, however, in order to receive related aids and services under Section 504. Administering insulin or glucagon, providing assistance in checking blood glucose levels, and allowing the student to eat snacks in school are a few examples of related aids and services that schools may have to provide for a particular student with diabetes. The most common practice is to include these related aids and services as well as any needed special education services in a written document, sometimes called a "Section 504 Plan."

Private schools that receive Federal financial assistance may not exclude an individual student with a disability if the school can, with minor adjustments, provide an appropriate education to that student. Private, nonreligious schools are covered by Title III of the ADA.

[2] Both the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA) were amended by the ADA Amendments Act of 2008, P.L. 110–325.

Individuals with Disabilities Education Act (IDEA)

IDEA provides Federal funds to assist State educational agencies and, through them, local educational agencies in making special education and related services available to eligible children with disabilities. IDEA is administered by the Office of Special Education Programs (OSEP) in the Office of Special Education and Rehabilitative Services (OSERS) in the U.S. Department of Education.

A child with a disability must meet the criteria of one or more of 13 disability categories and need special education and related services. The IDEA category of "other health impairment" includes diabetes as one of the health conditions listed. To qualify under IDEA, the student's diabetes also must adversely affect educational performance to the point that the student requires special education and related services, as defined by State law. An example of a child with diabetes who may qualify under IDEA is a student who may have difficulty paying attention or concentrating in the learning environment because of recurring high or low blood glucose levels that adversely affect the student's educational performance.

IDEA requires school districts to find and identify children with disabilities and to provide them a free appropriate public education (FAPE). Under IDEA, FAPE means special education and related services that meet State standards and are provided in conformity with an individualized education program (IEP). The IDEA regulations specify how school personnel and the parents/guardian, working together, develop and implement an IEP.

Each child's IEP must include the supplementary aids and services to be provided for or on behalf of the child and a statement of the program modifications or supports for school personnel that will be provided for the child to make progress and to be involved in the general education curriculum. Administering insulin or glucagon, providing assistance in checking blood glucose levels, and allowing the student to eat snacks in school are a few examples of related services, supplementary aids and services, or program modifications or supports that schools could provide for a particular student with diabetes who is eligible under IDEA.

Generally, if a child with diabetes needs only a related service and not special education services as defined by State law, that child is not a child with a disability under IDEA and therefore is not eligible for any services under IDEA. Such a child might still be eligible for services under Section 504.

In general and consistent with the Family Educational Rights and Privacy Act (FERPA), IDEA's confidentiality provisions require prior written consent for disclosures of personally identifiable information contained in education records, unless a specific exception applies.

Family Educational Rights and Privacy Act (FERPA)

FERPA generally prohibits schools from disclosing personally identifiable information in a student's education record, unless the school obtains the prior written consent of the student's parent/guardian or the eligible student (a student who is 18 years old or older or who attends an institution of postsecondary education). However, there are a number of exceptions to this requirement. One such exception permits schools to disclose personally identifiable information in a student's education record without obtaining prior written consent to school officials, including teachers, who have legitimate educational interests in the information, including the educational interests of the child. Schools that do this must include in their annual notification to the parent/guardian and eligible students the criteria for determining who constitutes a school official and what constitutes a legitimate educational interest. This exception for school officials also applies to a contractor, consultant, volunteer, or other party to whom a school has outsourced institutional services or functions provided that the outside party:

(1) Performs an institutional service or function for which the school would otherwise use employees;

(2) Is under the direct control of the school with respect to the use and maintenance of education records; and

(3) Is subject to the requirements in FERPA governing the use and redisclosure of personally identifiable information from education records.

Another exception to the requirement of prior written consent permits schools to disclose personally identifiable information from an education record to appropriate parties, including the parent/guardian of an eligible student, in connection with an emergency, if knowledge of the information is necessary to protect the health or safety of the student or other individuals. Under this exception, a school may take into account the totality of the circumstances pertaining to a threat to the health or safety of a student or other individuals. If a school determines that there is an articulable and significant threat to the health or safety of a student or other individuals, it may disclose information from education records to any person whose knowledge of the information is necessary to protect the

health or safety of the student or other individuals. If, based on the information available at the time of the determination, there is a rational basis for the determination, the United States Department of Education will not substitute its judgment for that of the school in evaluating the circumstances and making its determination.

In addition, under FERPA, the parents/guardian or eligible students must be given the opportunity to inspect and review the student's education records. A school must comply with a request for access to the student's education records within a reasonable period of time, but not more than 45 days after it has received the request.

How can I get copies of the Federal laws?

The statutes are found in the United States Code (U.S.C.). The regulations implementing the statutes are found in the Code of Federal Regulations (CFR).

- Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 794, implementing regulations at 34 CFR Part 104.
  Available at **http://www2.ed.gov/policy/rights/reg/ocr/edlite-34cfr104.html**
- Title II of the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. 12134 et seq., implementing regulations at 28 CFR Part 35.
  Available at **http://www2.ed.gov/policy/rights/reg/ocr/edlite-28cfr35.html**
- The Americans with Disabilities Act Amendments Act of 2008.
  Available at **http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:s3406enr.txt.pdf**
- To obtain copies of the Section 504 and Title II regulations, you also may contact the Customer Service Team of the Office for Civil Rights, U.S. Department of Education, toll-free at 1-800-421-3481. For TTY, call 1-877-521-2172.
- Individuals with Disabilities Education Act, 20 U.S.C. 1400 et seq., implementing regulations at 34 CFR Part 300.
  Available at **http://www2.ed.gov/about/offices/list/osers/osep/index.html**
- For copies of the IDEA regulations, you also may contact EdPubs at 1-877-433-7827.
- Family Educational Rights and Privacy Act (FERPA), 20 U.S.C.1232g, implementing regulations at 34 CFR Part 99.
  Available at **http://www2.ed.gov/policy/gen/guid/fpco/index.html**

How can I get more information?

The Office for Civil Rights (OCR) and the Office of Special Education Programs (OSEP) in the U.S. Department of Education can answer questions and provide technical assistance.

- For more information from OCR, contact OCR's Customer Service Team toll-free at 1-800-421-3481. For TTY, call 1-877-521-2172. Information is also available on the OCR website, **http://www2.ed.gov/about/offices/list/ocr/index.html**. You may also contact one of OCR's 12 Enforcement Offices around the country. Contact information is available from the OCR Customer Service Team and from the OCR website.
- For more information from OSEP, call (202) 245-7459. For TTY, call (202) 205-5637. Information is also available on OSEP's website, at **http://www2.ed.gov/about/offices/list/osers/osep/contact.html**
- More information about FERPA is available at **http://www2.ed.gov/policy/gen/guid/fpco/index.html**

Resources

American Academy of Pediatrics (AAP)

141 Northwest Point Blvd
Elk Grove Village, IL 60007
800-433-9016
http://www.aap.org

The mission of the American Academy of Pediatrics is to attain optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. The Academy's main website (www.aap.org) includes information on children's health topics such as diabetes. A parenting website (http://www.HealthyChildren.org) includes information on type 1 and 2 diabetes.

AAP's Section on Endocrinology focuses on improving care of infants, children, adolescents, and young adults with endocrinological disorders. The section's website (http://www.aap.org//sections/endocrinology) includes links to policy and public education materials. The Section on Endocrinology seeks opportunities to educate primary care physicians on the care of children with diabetes, including the development of Academy policy, offering educational programming at the National Conference and Exhibition and other Continuing Medical Education activities, and providing information for the pediatric endocrinologist, including the Section on Endocrinology newsletter.

American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)

1900 Association Drive
Reston, VA 20191
800-213-7193
http://www.aahperd.org

The mission of the American Alliance for Health, Physical Education, Recreation and Dance is to promote and support leadership, research, education, and best practices in the professions that support creative, healthy, and active lifestyles. AAHPERD has five national associations, including the National Association for Sport and Physical Education (NASPE), American Association for Health Education (AAHE), and the American Association for Physical Activity and Recreation (AAPAR). The AAHE provides a free resource listing on diabetes education and management organizations.

American Association of Clinical Endocrinologists (AACE)

245 Riverside Ave, Suite 200
Jacksonville, FL 32202
904-353-7878
http://www.aace.com

The American Association of Clinical Endocrinologists is a medical professional community of clinical endocrinologists committed to enhancing its members' ability to provide the highest quality of care. Members of AACE are physicians with special education, training, and interest in the practice of clinical endocrinology. These physicians devote a significant part of their career to the evaluation and management of patients with endocrine diseases.

American Association of Diabetes Educators (AADE)

200 West Madison Street, Suite 800
Chicago, Illinois 60606
800-338-3633
http://www.diabeteseducator.org

The American Association of Diabetes Educators is a professional organization representing multidisciplinary health care professionals focused on shaping and driving professional practice to promote healthy living through self-management of diabetes and its related conditions for people with diabetes. AADE can provide contact information for diabetes educators throughout the country on its website. AADE's Pediatric Educator Specialty Practice Group focuses on pediatric diabetes care, education, and health management needs.

American Diabetes Association (ADA)

1701 North Beauregard Street
Alexandria, VA 22311
800-DIABETES (800-342-2383)
http://www.diabetes.org

The mission of the American Diabetes Association is to prevent and cure diabetes and improve the lives of people with diabetes. Founded in 1940, the ADA conducts programs in all 50 states and the District of Columbia, reaching hundreds of communities across the country. The ADA is a nonprofit organization that provides diabetes research, information

and advocacy, and offers a variety of programs for children with diabetes and their families.

ADA offers several training and education resources on its website that could be useful to school personnel, students, and parents:

- "Diabetes Care Tasks at School: What Key Personnel Need to Know," a 2-disc training curriculum and corresponding DVD video segments designed for use by the school nurse or other diabetes trained health care professionals for training a school's trained diabetes personnel: http://www.diabetes.org/schooltraining
- Training resources for school personnel: http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/training-resources.html
- Safe at School information and materials: http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/
- Planet D for Kids with Diabetes: http://www.diabetes.org/living-with-diabetes/parents-and-kids/planet-d/
- Virtual Family Resource Network: http://www.diabetes.org/living-with-diabetes/parents-and-kids/

American Dietetic Association (ADA)

120 South Riverside Plaza, Suite 2000
Chicago, IL 6060
800-877-1600
http://www.eatright.org

The American Dietetic Association has a vision to optimize the nation's health through food and nutrition. The association uses a three-pronged approach of research, education, and advocacy to empower its members to be the nation's food and nutrition leaders. The world's largest organization of food and nutrition professionals, the ADA develops position papers, evidence-based practice guidelines, publications, and professional development tools to advance the profession of dietetics. The association has 28 dietetic practice groups, including: Diabetes Care and Education, School Nutrition Services, Pediatric Nutrition, Weight Management, Sports, Cardiovascular and Wellness Nutrition, Public Health/Community Nutrition, and Hunger and Environmental Nutrition.

The ADA website, www.eatright.org, has a consumer-focused section that provides consumers with science-based information on a variety of food and nutrition issues. In

addition, a number of social networking tools are available that encourage communication with registered dietitians. The site offers a "Find a Registered Dietitian" tool that allows consumers to locate a registered dietitian in their community. Students can find career guidance information and colleges and universities that offer an approved dietetics education program. The American Dietetic Association offers several resources that could be useful to school personnel:

- Count Your Carbs: Getting Started (English and Spanish)
- Advanced Carbohydrate Counting
- Choose Your Foods: Exchange Lists for Diabetes (English and Spanish)
- Choose Your Foods: Plan Your Meals (English and Spanish)
- Celiac Nutrition Guide, Second Edition
- Eating Healthy With Diabetes: Easy Reading Guide

American Medical Association (AMA)

515 North State Street
Chicago, IL 60654
800-621-8335
http://www.ama-assn.org

The American Medical Association's mission is to promote the art and science of medicine and the betterment of public health. The AMA offers educational and clinical resources on the treatment of type 2 diabetes in adults, including clinical performance measures and policy statements.

The AMA website lists the AMA's diabetes-related policy and offers links to reputable sources of information on diabetes. Medical personnel may be interested in AMA's clinical performance measures and continuing medical education activities on the treatment of type 2 diabetes in adults.

Barbara Davis Center for Childhood Diabetes

1775 Aurora Court, Building M 20
Aurora, CO 80045
303-724-2323
www.barbaradaviscenter.org

The Barbara Davis Center for Childhood Diabetes provides clinical care for children,

adolescents, and young adults with type 1 diabetes. In addition, the center supports substantial clinical and basic science research programs to prevent and ultimately cure this chronic life-threatening disease.

Centers for Disease Control and Prevention (CDC)

1600 Clifton Road
Atlanta, GA 30333
800-CDC-INFO (800-232-4636)
888-232-6348 (TTY)
http://www.cdc.gov

The mission of the Centers for Disease Control and Prevention is to collaborate to create the expertise, information, and tools that people and communities need to protect their health—through health promotion, prevention of disease, injury and disability, and preparedness for new health threats. CDC's Division of Diabetes Translation co-sponsors the National Diabetes Education Program with the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health and provides key resources related to research and program development for diabetes prevention and control. CDC's Division of Adolescent and School Health develops planning tools for schools to use for health and safety policies and programs.

CDC has several resources that could be useful to school personnel on its website:

- CDC's Division of Diabetes Translation: http://www.cdc.gov/diabetes
- CDC's Division of Adolescent and School Health (DASH): http://www.cdc.gov/healthyyouth
- CDC's School Health Index (DASH): https://apps.nccd.cdc.gov/shi/default.aspx

Children with Diabetes

8216 Princeton-Glendale Road, PMB 200
West Chester, OH 45069
http://www.childrenwithdiabetes.com

Children with Diabetes offers education and support to families living with type 1 diabetes through its website and conferences. The organization provides Sample 504 Plans and community resources (e.g., chat, forums) to share success stories and seek assistance and advice.

The Endocrine Society

8401 Connecticut Avenue, Suite 900
Chevy Chase, MD 20815
888-363-6274
http://www.endo-society.org/

The Endocrine Society is devoted to research on hormones and the clinical practice of endocrinology. The Society works to foster a greater understanding of endocrinology among the general public and practitioners of complementary medical disciplines and to promote the interests of all endocrinologists at the national scientific research and health policy levels of government.

The Society distributes diabetes and insulin administration DVDs and CDs that could be useful to school personnel.

Indian Health Service Division of Diabetes Treatment and Prevention (IHS DDTP)

5300 Homestead Road NE
Albuquerque, New Mexico 87110
505-248-4182
http://www.diabetes.ihs.gov

The Indian Health Service Division of Diabetes Treatment and Prevention develops, documents, and sustains clinical and public health efforts to treat and prevent diabetes in American Indians and Alaska Natives.

IHS DDTP offers many resources that could be useful to school personnel on its website:

- *Youth and Type 2 Diabetes*—Indian Health Diabetes Best Practice
- *School Health and Diabetes*—Indian Health Diabetes Best Practice
- *Promoting a Healthy Weight in Children and Youth*—Clinical Strategies, Recommendations, and Best Practices
- *Diabetes Education in Tribal Schools (DETS)*—K-12 Curriculum to educate students about diabetes, its risk factors, science, and healthy eating and physical activity
- *Eagle Books*—Series of four books, animated DVD, and Teachers Guide for teaching children about healthy eating and physical activity and diabetes prevention

Joslin Diabetes Center (JDC)

Pediatric, Adolescent, and Young Adult Section
One Joslin Place, Second Floor
Boston, MA 02215
800-JOSLIN 1 (800-567-5461)
http://www.joslin.org

The mission of the Joslin Diabetes Center is to improve the lives of people with diabetes and its complications through innovative care, education, and research that will lead to prevention and cure of the disease. Joslin's pediatric team provides multi-disciplinary care to 2,500 youths with diabetes.

Joslin offers the following resources that could be helpful to school personnel:

- Diabetes education programs for school nurses
- Publications such as *Joslin's Guide to Managing Childhood Diabetes: A Family Teamwork Approach*
- Support for school health issues, including health, safety, and advocacy

Juvenile Diabetes Research Foundation International (JDRF)

26 Broadway, 14th Floor
New York, NY 10004
800-223-1138
http://www.jdrf.org

The mission of the Juvenile Diabetes Research Foundation International is to find a cure for diabetes and its complications through the support of research. As an organization whose volunteer and staff leadership largely has a personal connection to type 1 diabetes, JDRF also provides social, emotional, and practical support to people who have been diagnosed with diabetes and their families. JDRF's volunteers are the driving force behind more than 100 locations worldwide.

The following resources can be accessed on the JDRF website:

- JDRF Resources for School Nurses: http://www.jdrf.org/index.cfm?page_id=103705
- School Advisory Toolkit for Families: http://www.jdrf.org/files/General_Files/chapters_and_affiliates/tampa_bay_chapter/School_Advisory_Toolkit.pdf
- Type 1 Diabetes in School Web page: http://www.jdrf.org/index.cfm?fuseaction=home.viewPage&page_id=6197C997-1279-CFD5-A74DC0AA2620EF50

- Online diabetes support team for families: http://www.jdrf.org/index.cfm?page_id=103451
- Life with Diabetes E-newsletter: http://www.jdrf.org/index.cfm?page_id=103443
- JDRF Kids Online website (includes survival guide on "Life with Diabetes—In School"): http://kids.jdrf.org/index.cfm

Lawson Wilkins Pediatric Endocrine Society (LWPES)

6728 Old McLean Village Drive
McLean, VA 22101
703-556-9222
http://www.lwpes.org

The Lawson Wilkins Pediatric Endocrine Society promotes the acquisition and dissemination of knowledge of endocrine and metabolic disorders from conception through adolescence. The LWPES has over 900 members representing the multiple disciplines of Pediatric Endocrinology. The LWPES website provides links with information about diabetes in children and adolescents.

National Association of Chronic Disease Directors Diabetes Council

2872 Woodcock Blvd, Suite 220
Atlanta, GA 30341
770-458-7400
http://www.chronicdisease.org

The mission of the National Association of Chronic Disease Directors Diabetes Council is to define, prioritize, and address national public health diabetes issues and advocate for diabetes policy to support state- and territorial-based Diabetes Prevention and Control Programs (DPCP) and other partners in order to reduce the burden of diabetes. The Diabetes Council is a resource for DPCP staff for building infrastructure, learning best practices, collecting data and evaluating the effectiveness of their activities. The Diabetes Council's School Health Committee addresses issues regarding diabetes in school-aged children and possible preventive measures that can be taken.

A number of States have developed training curricula and materials, including California, New York, Pennsylvania, Texas, and Virginia. These resources can be found on the Internet.

- Glucagon Training (CA): http://www.diabetes.org/assets/pdfs/state-school-laws/ca_glucagontrainingstds.pdf

- *Children with Diabetes, A Resource Guide for Families and Schools*, New York, New York State Department of Health, Diabetes and Prevention Control Program. http://www.health.state.ny.us/publications/0944.pdf
- Glucagon Training (NY): http://www.nyhealth.gov/diseases/conditions/diabetes/for_health_care_providers.htm
- *Diabetes in School Children: Recommendations and Resource Guide for Pennsylvania School Personnel*, Pennsylvania, Department of Health, Diabetes Prevention and Control Program (DPCP). www.health.state.pa.us/diabetes
- Training Guidelines (TX): http://www.diabetes.org/assets/pdfs/state-school-laws/tx_guidelinestrainingschempl_hb984.pdf
- Insulin and Glucagon Training (VA): http://www.diabetes.org/assets/pdfs/state-school-laws/va_trainingmanual_insulin-glucagon.pdf

National Association of Elementary School Principals (NAESP)

1615 Duke Street
Alexandria, VA 22314
800-386-2377
http://www.naesp.org

The mission of the National Association of Elementary School Principals is to lead in the advocacy and support for elementary and middle level principals and other education leaders in their commitment for all children. NAESP is a membership organization serving the needs of elementary and middle level principals, assistant principals, and aspiring school leaders.

National Association of School Psychologists (NASP)

4340 East West Highway, Suite 402
Bethesda, MD 20814
866-331-NASP
301-657-4155 (TTY)
http://www.nasponline.org

The National Association of School Psychologists sets standards for graduate education and practice, advocates on behalf of children and families, and provides quality professional resources to its members.

National Association of Secondary School Principals (NASSP)

1904 Association Drive
Reston, VA 20191-1537
800-253-7746
http://www.principals.org

The mission of the National Association of Secondary School Principals is to promote excellence in school leadership. NASSP is a national organization for middle level and high school principals, assistant principals, and aspiring school leaders.

NASSP administers the National Honor Society, the National Junior Honor Society, the National Elementary Honor Society, and the National Association of Student Councils to promote the academic achievement, character and leadership development, and physical well-being of youth.

National Diabetes Education Program (NDEP)

National Diabetes Education Program
1 Diabetes Way
Bethesda, MD 20892-3600
888-693-6337
http://www.yourdiabetesinfo.org or www.ndep.nih.gov

The National Diabetes Education Program (NDEP) is jointly sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health and the Division of Diabetes Translation of the Centers for Disease Control and Prevention, with the support of over 200 public and private sector organizations. The NDEP works with its partners to improve diabetes treatment and outcomes for people with diabetes, to promote early diagnosis, and to prevent or delay type 2 diabetes. The NDEP has taken a lead role in responding to the diabetes epidemic by developing educational resources related to diabetes in children and youth.

The resources listed below on diabetes in school and diabetes and youth can be accessed on the National Diabetes Education Program website at:
http://www.ndep.nih.gov/hcp-businesses-and-schools/Schools.aspx
http://www.ndep.nih.gov/teens/index.aspx

NDEP Resources on Diabetes in the School Setting

- *Helping the Student with Diabetes Succeed: A Guide for School Personnel*
- PowerPoint presentation about *Helping the Student with Diabetes Succeed*

- Archived articles on diabetes management in the school setting from *School Nurse News* and *NASN School Nurse*
- "Move It! and Reduce Your Risk for Diabetes" School Kit (for American Indians and Alaska Natives and others)
- PowerPoint presentations about diabetes: The Numbers, The Science of Control, and The Science of Prevention (Go to: http://ndep.nih.gov/resources/index.aspx?ToolType=13)

NDEP Resources on Children and Adolescents with Diabetes or Those At Risk

- "Overview of Diabetes in Children and Adolescents" Fact Sheet
- Resources for Diabetes in Children and Adolescents
- "Online Quiz for Teens with Diabetes;" interactive quiz on steps for managing diabetes
- "Tips for Teens: Lower Your Risk for Diabetes" (English and Spanish)
- "Tips for Teens with Diabetes: What Is Diabetes?" (English and Spanish)
- "Tips for Teens with Diabetes: Make Healthy Food Choices" (English and Spanish)
- "Tips for Teens with Diabetes: Be Active" (English and Spanish)
- "Tips for Teens with Diabetes: Stay at a Healthy Weight" (English and Spanish)
- "Tips for Teens with Diabetes: Dealing with the Ups and Downs of Diabetes" (English and Spanish)
- "Transition from Pediatric to Adult Health Care"—Resources and Planning Checklist
- "When Your Child Is Diagnosed with Diabetes: Parents' Questions for the Health Care Team"

National Education Association Health Information Network (NEAHIN)

1201 16th Street, NW,
Washington, DC, 20036
http://www.neahin.org

The mission of the National Education Association Health Information Network is to improve the health and safety of the school community by developing and disseminating information and programs that educate and empower school employees and positively impact the lives of children.

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health

The National Institutes of Health's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports research on many of the most serious diseases affecting public health. Through its National Diabetes Education Program, National Diabetes Information Clearinghouse, and Weight Control Information Network, NIDDK offers numerous educational materials for public and patient audiences related to diabetes management and diabetes in the school setting.

National Diabetes Information Clearinghouse (NDIC)
1 Information Way
Bethesda, MD 20892-3560
800-860-8747
866-569-1162 (TTY)
http://diabetes.niddk.nih.gov/

The National Diabetes Information Clearinghouse, a service of the NIDDK, provides information about diabetes to people with diabetes, their families, health care professionals, and the public.

The following patient and public education resources can be accessed on the National Diabetes Information Clearinghouse website at http://diabetes.niddk.nih.gov/:

- Diabetes A-to-Z Topics and Titles—Information on dozens of topics related to diabetes
- Awareness and Prevention Series—Brief overviews of common health problems to raise awareness among people not yet diagnosed
- Easy-to-Read Booklets—Basic information about diabetes presented in easy-to-understand terms
- Fact Sheets—In-depth information for patients, health professionals, and students on a wide range of diabetes topics

Weight Control Information Network (WIN)
1 WIN Way
Bethesda, MD 20892-3665
877-946-4627
http://www.win.niddk.nih.gov

The Weight-control Information Network develops and distributes science-based materials concerning healthy eating and physical activity to parents, kids, teens, and

health care professionals in English and Spanish. WIN's materials can be used by school personnel to develop lesson plans concerning portion control and nutrition labels.

The following resources can be accessed on the Weight Control Information Network website at www.win.niddk.nih.gov:

- For public audiences—Publications and resources on nutrition, physical activity, and weight control for consumers across the lifespan
- For health care professionals—Science-based tools and resources on obesity, bariatric surgery, and counseling patients about weight loss.

Pediatric Endocrinology Nursing Society (PENS)

7794 Grow Drive
Pensacola, FL 32514
877-936-7367
http://www.pens.org

The Pediatric Endocrinology Nursing Society is a voluntary non-profit specialty nursing organization committed to the advancement of the art and science of pediatric endocrine nursing. PENS membership includes nurses with expertise and leadership in the field of pediatric diabetes. The society is a resource for information, education, and collaboration for the child/family and the school.

U.S. Department of Education (ED)

400 Maryland Avenue, SW
Washington, DC 20202

Office for Civil Rights (OCR)
800-421-3481
877-521-2172 (TTY)
http://www.ed.gov/about/offices/list/ocr/index.html

Office of Special Education Programs (OSEP)
202-245-7459
202-205-5637 (TTY)
http://www.ed.gov/about/offices/list/osers/osep/index.html?src=mr

The U.S. Department of Education's mission is to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring

equal access. School personnel, parents, and health care professionals can obtain information about Federal laws related to the education of students with disabilities on the ED website or by contacting ED.

To obtain copies of the Section 504 and Title II regulations, contact the Customer Service Team of the Office for Civil Rights, U.S. Department of Education, toll-free, at 1-800-421-3481 (for TTY: 1-877-521-2172). For copies of the IDEA regulations, contact EdPubs at 1-877-433-7827.

In addition, the following Federal laws for helping students with diabetes can be accessed on the ED website:

- Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 794, implementing regulations at 34 CFR Part 104.
  http://www2.ed.gov/policy/rights/reg/ocr/edlite-34cfr104.html
- Title II of the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. 12134 et seq., implementing regulations at 28 CFR Part 35.
  http://www2.ed.gov/policy/rights/reg/ocr/edlite-28cfr35.html
- The Americans with Disabilities Act Amendments Act of 2008.
  http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:s3406enr.txt.pdf
- Individual with Disabilities Education Act, 20 U.S.C. 1400 et seq., implementing regulations at 34 CFR Part 300.
  http://www2.ed.gov/about/offices/list/osers/osep/index.html
- Family Educational Rights and Privacy Act (FERPA), 20 U.S.C.1232g, implementing regulations at 34 CFR Part 99.
  http://www2.ed.gov/policy/gen/guid/fpco/index.html

Resources Available from School Guide Supporting Organizations for Helping School Personnel, Students with Diabetes, and Their Families

Organization	Speakers for school personnel	Trainers for school personnel	Training programs/ resources	Educational materials/ lay audiences	Educational materials/ school nurses	Info/ assistance on Federal laws	Guidelines/ standards of care	Position statements
American Academy of Pediatrics www.aap.org	✔	✔		✔			✔	✔
American Association of Diabetes Educators www.diabeteseducator.org	✔	✔	✔				✔	✔
American Diabetes Association www.diabetes.org	✔	✔	✔	✔	✔	✔	✔	✔
American Dietetic Association www.eatright.org	✔	✔		✔	✔			
American Medical Association www.ama-assn.org								✔
Barbara Davis Center for Childhood Diabetes www.barbaradaviscenter.org	✔	✔	✔	✔	✔			
Centers for Disease Control and Prevention www.cdc.gov	✔			✔	✔			
Children with Diabetes www.childrenwithdiabetes.com				✔		✔	✔	
The Endocrine Society www.endo-society.org				✔	✔		✔	
Indian Health Service (Division of Diabetes Treatment and Prevention) http://www.diabetes.ihs.gov				✔	✔		✔	

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Organization	Speakers for school personnel	Trainers for school personnel	Training programs/ resources	Educational materials/ lay audiences	Educational materials/ school nurses	Info/ assistance on Federal laws	Guidelines/ standards of care	Position statements
Joslin Diabetes Center www.joslin.org	✔	✔	✔	✔	✔	✔	✔	
Juvenile Diabetes Research Foundation International www.jdrf.org	✔			✔	✔	✔	✔	
Lawson Wilkins Pediatric Endocrine Society www.lwpes.org	✔			✔	✔		✔	✔
National Association of Chronic Disease Directors Diabetes Council www.chronicdisease.org			✔		✔			
National Diabetes Education Program (NDEP) www.yourdiabetesinfo.org				✔	✔			
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH • National Diabetes Information Clearinghouse www.niddk.nih.gov • Weight Control Information Network www.win.niddk.nih.gov				✔	✔			
Pediatric Endocrinology Nursing Society (PENS) www.pens.org	✔	✔			✔			✔
U.S. Department of Education (ED) http://www2.ed.gov/about/offices/list/ocr/index.html http://www2.ed.gov/about/offices/list/osers/osep/index.html						✔		

Glossary of Diabetes Terms

A

Acanthosis Nigricans. A condition in which the skin around the neck, armpits, or groin looks dark, thick, and velvety. Acanthosis Nigricans is a physical sign of insulin resistance.

Americans with Disabilities Act (ADA). A Federal law enacted in 1990, and amended in 2008, to protect people with disabilities from discrimination. Under this law, diabetes can be considered a disability.

Autoimmune disease. A disorder in which the immune system mistakenly attacks and destroys body tissue that it believes to be foreign. In type 1 diabetes, an autoimmune disease, the immune system attacks and destroys the insulin-producing beta cells.

B

Basal insulin. Long-acting or immediate-acting insulin delivered once or twice a day. Basal insulin is used to control blood glucose levels overnight and between meals.

Basal/bolus insulin plan. An insulin plan that mimics the way a normally functioning pancreas produces insulin by using a coordinated combination of different types of insulin to achieve target blood glucose levels at meals, snacks, during periods of physical activity, and through the night.

Blood glucose level. The amount of glucose (sugar) in the blood.

Blood glucose meter. A small, portable machine that measures how much glucose is in the blood. After pricking the skin with a lancet, one places a drop of blood on a special test strip, which is inserted in the machine. The meter (or monitor) then gives the blood glucose level as a number on the meter's digital display.

Blood glucose monitoring. The act of checking the amount of glucose in the blood. Also called self-monitoring of blood glucose.

Bolus insulin. A dose of rapid-acting or short-acting insulin given to cover the carbohydrate in a meal or snack and to lower blood glucose levels that are above target.

Blood ketone testing. Use of a meter to test the blood for ketones (or ketone bodies).

C

Carbohydrates or carbs. One of the three sources of energy in food for the body. Carbohydrates are mainly sugars and starches that the body breaks down into glucose. Foods that contain carbohydrates raise blood glucose levels. Carbohydrate foods include: breads, crackers, and cereals; pasta, rice, and grains; vegetables; milk and yogurt; fruit, juice, and sweetened sodas; and table sugar, honey, syrup, and molasses, cakes, pies, and cookies.

Carbohydrate (carb) counting. A popular meal planning approach for children and adolescents with diabetes that involves calculating the number of grams of carbohydrate, or choices of carbohydrate, eaten at meals or snacks.

Celiac disease. A condition in which a person cannot eat any food products that contain gluten or that have been prepared in a gluten-contaminated environment. Gluten is found in many grains, including wheat, rye, and barley, which are found in many breads, pastas, cereals, and processed foods. Ingestion of gluten can cause gastrointestinal side effects such as bloating, abdominal pain, or diarrhea.

Changing carb intake meal plan. A method of meal planning used by students who use multiple daily insulin injections or an insulin pump. Students who use this method do not have to eat the same amount of carbs at every meal or snack but they must adjust insulin doses (with rapid- or short-acting insulin) to cover the amount of carbs consumed. Students typically use this type of meal plan in conjunction with a basal/bolus insulin plan.

Complications of diabetes. Harmful effects that may happen when a person has diabetes. Short-term complications include hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose). Long-term complications, which may develop when a person has had diabetes for a long time, may include heart disease, stroke, blindness, kidney failure, gum disease, nerve disease, and amputation of a foot or leg.

Consistent carb intake meal plan. A method of meal planning in which students aim for a set amount of carbs at each meal and snack and do not adjust their mealtime insulin for the amount of carb intake. These students follow a traditional or fixed insulin dose plan.

Continuous glucose monitor (CGM). A device that records glucose levels throughout the day. The CGM works through a sensor inserted under the skin that measures interstitial glucose levels (the glucose found in the fluid between cells) at regular intervals. The CGM sends the current glucose level wirelessly to a pump or a separate monitor that the student carries or wears in a pocket, a backpack, or a purse. When glucose levels are too high or too low, the CGM sets off an alarm.

D

Diabetes Medical Management Plan (DMMP). Describes the medical orders or diabetes care plan developed by the student's personal diabetes health care team.

Diabetic ketoacidosis (DKA). An emergency condition in which extremely high blood glucose levels, along with a severe lack of insulin, result in the breakdown of body fat for energy and an accumulation of ketones in the blood and urine.

E

Education Plan. A plan that addresses the student's needs for services to manage their diabetes safely and effectively in school, where required under Section 504 of the Rehabilitation Act or the Individuals with Disabilities Act (IDEA). These include the 504 Plan, other education plan, or individualized education program (IEP).

Emergency Care Plans. Plans that provide school personnel with essential information on how to recognize and respond to symptoms of hypoglycemia and hyperglycemia, who to contact for help, and what to do in an emergency.

F

Family Educational Rights and Privacy Act (FERPA). A Federal law that, with certain exceptions, prohibits schools from disclosing personally identifiable information in a student's education record, unless the school obtains the prior written consent of the student's parent/guardian or of the eligible student (a student who is 18 years or older or who attends an institution of postsecondary education).

G

Glucagon. A hormone that raises the level of glucose in the blood. Glucagon, given by injection, is used to treat severe hypoglycemia.

Glucose. A simple sugar found in the blood. It is the body's main source of energy.

Glucose correction factor. The amount of insulin the student needs to lower blood glucose to the target level.

Glucose tablets or gel. Special products that deliver a pre-measured amount of pure glucose. They are a quick-acting form of glucose used to counteract hypoglycemia.

H

Health care plans. Plans that outline each student's individual diabetes management needs. These include the Diabetes Medical Management Plan prepared by the student's personal diabetes health care team and the Individualized Health Care Plan and Emergency Care Plans for Hypoglycemia and Hyperglycemia prepared by the school nurse.

Hormone. A chemical, produced by an organ, that travels in the blood to affect other organs. An example of a hormone is insulin.

Hyperglycemia. A high level of glucose in the blood. High blood glucose can be due to a mismatch in insulin, food, exercise or illness or pump malfunction.

Hypoglycemia. A low level of glucose in the blood. Low blood glucose is most likely to occur during or after exercise, if too much insulin is present, or not enough food is consumed.

Hypoglycemia unawareness. A condition in which students do not experience early physical warning signs of hypoglycemia (low blood glucose) such as jitteriness, shaking, and sweating.

I

Individualized Education Program (IEP). A program designed for a student with a disability covered by the Individuals with Disabilities Education Act (IDEA). Each child's IEP must include the supplementary aids and services to be provided for, or on behalf of, the child, and a statement of the program modifications or supports for school personnel that will be provided for the child to make progress and to be involved in the general education curriculum.

Individualized Health Care Plan (IHP). A written plan developed by the school nurse in collaboration with the student's personal diabetes health care team and the family to implement the student's Diabetes Medical Management Plan. Sometimes called the nursing care plan.

Individuals with Disabilities Education Act (IDEA). A Federal law that provides funds to States to support 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 IDEA, a student's diabetes must impair his or her educational performance so that he or she requires special education and related services. IDEA also contains specific confidentiality protections for student records.

Insulin. A hormone made in the pancreas that allows glucose to enter the cells of the body where it is used for energy. Several types of insulin are used in combination to treat people with diabetes. These different types of insulin have been manufactured either to have immediate (rapid-acting or short-acting insulin), intermediate, or long (basal insulin) onset of action and duration of action in the body. A coordinated combination of different types of insulin is used to achieve target blood glucose levels at meals, snacks, during periods of physical activity, and through the night.

Insulin injections. The process of putting insulin into the body with a needle and a syringe or with an insulin pen.

Insulin pen. A pen-like device used to put insulin into the body.

Insulin pump. A computerized device that is programmed to deliver small, steady doses of insulin throughout the day. Additional doses are given when needed to cover food intake and to lower high blood glucose levels. The insulin is delivered through a system of plastic tubing (infusion set).

Insulin resistance. A condition in which the body does not respond normally to the action of insulin. Many people with type 2 diabetes have insulin resistance.

Insulin-to-carb ratio. Used to determine the number of units of insulin needed to cover the number of grams of carbs in the food the student plans to eat.

K

Ketoacidosis. See Diabetic ketoacidosis (DKA).

Ketones (ketone bodies). Chemicals made by the body when there is not enough insulin in the blood and the body must break down fat for energy. Ketones are usually associated with high blood glucose, but also may occur when a student is ill and blood glucose levels fall below the student's target range. See also diabetic ketoacidosis (DKA).

Ketosis. A buildup of ketones in the body that may lead to diabetic ketoacidosis. Signs of ketosis are nausea, vomiting, and stomach pain.

L

Lancet. A small needle, inserted in a spring-loaded device, used to prick the skin and obtain a drop of blood for checking blood glucose levels.

M

Medical alert identification. An identification card, necklace, or bracelet indicating the student has diabetes and giving emergency numbers to call for help.

mg/dL (milligrams per deciliter). This term is used in blood glucose monitoring to describe how much glucose is in a specific amount of blood.

N

Nursing Care Plan. A plan developed by the school nurse that is used to implement the student's diabetes medical management plan. See also Individualized Health Care Plan.

P

Pallor. Abnormal paleness of the skin.

Pancreas. The organ behind the lower part of the stomach that makes insulin.

Peak effect time. Time when insulin has its major impact on reducing blood glucose levels. See also Insulin.

Personal Diabetes Health Care Team. Includes the student with diabetes, the parents/guardian, the student's doctor, nurse, registered dietitian, diabetes educator, and other health care providers involved in the student's care.

Q

Quick-acting glucose. Foods or products containing simple sugar that are used to raise blood glucose levels quickly during a hypoglycemic episode. Examples include 3 or 4 glucose tablets or 1 tube of glucose gel or 4 ounces of fruit juice (not low-calorie or reduced sugar) or 6 ounces (half a can) of soda (not low-calorie or reduced sugar).

S

Section 504 of the Rehabilitation Act (Section 504). A Federal law, amended in 2008, that prohibits recipients of Federal financial assistance from discriminating against people on the basis of disability.

School Health Team. Includes the student with diabetes, the parents/guardian, the school nurse and other health care personal, the staff members designated as trained diabetes personal, administrators, the principal, the 504/IEP Coordinator, office staff, the student's teacher(s), the guidance counselor, coach, lunchroom, and other school staff members.

School nurse. The school staff member who promotes the health and safety of students, intervening to manage actual and potential health problems. The school nurse provides case management services and actively collaborates with others to build the student's and family's capacity to manage health issues. School nurse services are provided to the entire school population—infants, toddlers, pre-schoolers, children with special needs, traditional school populations, and school personnel. School nurses hold current licenses as registered nurses in the states in which they practice.

Syringe. A device used to inject medications such as insulin into body tissue.

T

Target or target range. A range of ideal blood glucose levels determined by the student's personal health care team and outlined in the Diabetes Medical Management Plan. See also blood glucose level.

Test strips. Specially designed strips used in blood glucose meters to check blood glucose levels or in urine testing for ketones.

Trained Diabetes Personnel. Nonmedical personnel who have received in-depth training about diabetes and diabetes management, and can perform student-specific diabetes care tasks, including blood glucose monitoring, insulin administration, recognition and treatment of hypoglycemia and hyperglycemia, and urine or blood ketone testing under supervision of the school nurse or a diabetes-trained health care professional. They also may be called unlicensed assistive personnel, assistive personnel, paraprofessionals, or trained nonmedical personnel.

U

Urine ketone testing. A procedure for measuring the level of ketones in the urine using test strips.

NOTES

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To obtain additional copies of the School Guide and other information about diabetes and youth

Call the National Diabetes Education Program

1-888-693-6337

Visit the program's website

www.YourDiabetesInfo.org

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