MICHIGAN
STATE BOARD OF EDUCATION

DRAFT MODEL POLICY ON THE MANAGEMENT OF DIABETES IN THE SCHOOL SETTING

Diabetes is a common chronic disease of childhood. There are an increasing number of children with diabetes who require accommodations during the school day to do blood glucose testing, have between meal snacks, and take insulin injections or make insulin pump adjustments. The need for careful control and self-management of diabetes by the child/family is an essential component of care in order to prevent short and long term complications from diabetes.

Communication between parent/guardian, school personnel, the student's health care providers, and the school nurse (if available) is important to successfully manage diabetes. This model policy contains information and sample forms that can be used by school personnel to facilitate the communication needed to enable the student with diabetes to successfully manage his/her diabetes and continue to achieve academically.

Clear guidelines and procedures should be established by school administrators as to the roles and responsibilities of designated staff who will assist the student with diabetes with blood glucose monitoring, insulin and glucagon administration or other needed health services in the school setting. Emergency plans need to be written and be accessible to designated staff in case of hypoglycemia (low blood glucose reaction) or suspected onset of hyperglycemia (high blood glucose).

This model policy includes:

- Diabetes Fact Sheet
- Actions for School Personnel
- Actions for the Parent/Guardian and Student with Diabetes
- Quick Tip Sheets for Hyperglycemia and Hypoglycemia
- Diabetes Resource List
- The National Diabetes Education Program (NDEP) Medical Management Plan, Individualized Health Plan, and Emergency Care Sheets for Hyperglycemia and Hypoglycemia
- Glossary

DIABETES FACT SHEET

Diabetes is one of the most common chronic diseases of school-age children. In the United States, approximately 215,000 children and youth under the age of 20 have diabetes[1]. The number of children with diabetes who require accommodation during the school day to do blood glucose monitoring (by finger stick or a continuous glucose monitoring system), have between meal snacks, and administer insulin (by injection with a syringe, injection pen, or an insulin pump) has dramatically increased as medical science recognizes the need for careful control of this disease. Self-management by the child of his/her disease is an important component of that control. Diabetes is NOT a communicable or contagious disease. Diabetes is a chronic disorder that can result in long-term complications such as damage to the eyes, kidneys, and vascular and nervous systems if not managed properly.

There are two types of diabetes: Type 1 diabetes (formerly called juvenile diabetes) usually has a rapid onset and is caused by an autoimmune disorder in which the insulin-producing cells of the pancreas are destroyed. Insulin is a hormone that is essential in allowing sugar to move into the cells and be used for energy by the body. People with Type 1 diabetes must take insulin injections (via syringe, injection pen, or pump) every day. Type 2 diabetes usually has a gradual onset and is caused by an insufficient production of insulin by the body or an inefficient usage of insulin by the body's cells. People with Type 2 diabetes may take insulin injections, take oral medication, follow a meal plan, and engage in physical activity to control his/her blood glucose levels, or any combination of these methods. Type 2 diabetes in youth is a rapidly growing health problem. Risk factors for this type of diabetes include obesity and inactivity.

Children with diabetes are taught it is a self-managed disease. This means that the child or adolescent (depending upon the child's age and abilities) may be giving themselves insulin with a syringe, injection pen, or insulin pump, taking oral diabetes medications, monitoring his/her blood glucose levels with a meter, testing urine, keeping written records, and taking snacks as needed between meals in the school setting and at school functions. Treatment is individualized based on the student's needs. Schools should refer to the student's diabetes medical management plan (DMMP).

It is critically important to know the management of diabetes on a day-to-day basis is maintaining a balance between insulin intake or production, food intake, and physical activity. All three (insulin, food, and activity) have a major effect on diabetes control and the prevention of acute complications such as hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose). Both of these complications can occur during school hours, but a hypoglycemic (low blood glucose) reaction is the most common.

---

[1] *Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.*

Hypoglycemia (low blood glucose) occurs when the student with diabetes has taken insulin or a medication to increase insulin production, and either food is not eaten in the amount needed or extra exercise or physical activity has increased the body's need for energy. The student may or may not recognize the early warning symptoms of low blood glucose, but the student needs immediate attention: a quick-acting source of glucose (sugar), followed by a less rapidly absorbed source of carbohydrates and proteins (see student's DMMP).

Hypoglycemia (low blood glucose) can progress quickly and the student may lose consciousness. This is a medical emergency and calls for an injection of glucagon (a hormone that naturally releases sugar from the liver) and an immediate call for emergency medical care. Never give an unconscious student anything by mouth – foods or liquids. Never leave a child alone who is experiencing hypoglycemia symptoms. (See Hypoglycemia Quick Tip Sheet in Appendix A)

Hyperglycemia (high blood glucose) occurs more slowly than hypoglycemia, but school personnel need to be alert to the early signs and symptoms of this condition. In children, a minor illness such as a cold or the flu can upset the balance of insulin, food, and activity and result in a build-up of extra sugar in the blood stream. If a student tests his/her blood and it shows a high blood glucose reading, the student may need to do a test for ketones. Ketones is an acid produced when the body is using fat for energy because the available insulin cannot properly feed the cells glucose. Ketone tests are done via a urine sample or a meter with special strips for ketone testing. Hyperglycemia is treated with the intake of water or another sugar-free beverage and sometimes insulin. (See Hyperglycemia Quick Tip Sheet in Appendix A)

ACTIONS FOR SCHOOL PERSONNEL

1. LEGAL REQUIREMENTS

The four federal laws governing school's responsibilities for students with diabetes are Section 504 of the Rehabilitation Act of 1973 (Section 504), the Americans with Disabilities Act of 1990 (ADA), the Individuals with Disabilities Education Act (IDEA), and the Family Educational Rights and Privacy Act (FERPA).

Section 504 states that students with disabilities must be given an equal opportunity to participate in academic, nonacademic, and extracurricular activities. A student not receiving special education services can still be eligible 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 to a student with diabetes. These related aids and services as well as any needed special education services are commonly written up in a document called a Section 504 Plan.

A child with diabetes may also be covered by IDEA. To qualify, the student's diabetes must adversely affect a student's educational performance as defined by the Michigan Administrative Rules for Special Education. An example of this would be a student who has high or low glucose to the point that it negatively affects his/her educational performance or if the student has another disability that adversely impacts his or her academic performance. IDEA specifies that school personnel and parent/guardian work together to develop and implement an Individualized Education Program (IEP). Generally, if a student can manage his/her diabetes effectively and maintain academic success, the child is not eligible under IDEA. However, that child is still eligible for services under Section 504.

FERPA states that information about a child with diabetes should not be released or disclosed as part of an education record without prior consent from the parent/guardian or eligible student. The exception to this law is if a school official has a legitimate educational interest in the information. The information may also be disclosed to appropriate parties in connection with an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals. For example, it is necessary for a paramedic attending to a student in an emergency to know that that student has diabetes.

Links to copies of these laws can be found in Appendix B.

2. TRAINING OF SCHOOL PERSONNEL

All school personnel should be given training about diabetes and how to manage it. However, that training should be broken down into different levels depending on the responsibility of each staff member towards the student with diabetes. The training should be administered by a school nurse or certified diabetes educator (or a qualified

person if neither are available) at the beginning of each school year and should be repeated when a current student is newly diagnosed with diabetes or when a student with diabetes enrolls in the school. Refresher training is to be done as needed.

Level 1 training
Administered to all school personnel at the beginning of the year.
Level 1 training content:

- An overview of diabetes
- How to recognize and respond to hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose). Useful charts are found in Appendix A.
- Who to contact for help in an emergency

Level 2 training
Designed for school personnel who have responsibility for the student with diabetes throughout the school day, including but not limited to: classroom, physical education, music, and art teachers, as well as other personnel such as lunchroom staff, coaches, and bus drivers.
Level 2 training content:

- Content from Level 1 with specific instructions for what to do in case of an emergency
- Roles and responsibilities of individual staff members
- Expanded overview of diabetes
- Procedures and brief overview of the operation of devices (or equipment) commonly used by students with diabetes
- Impact of hypoglycemia (low blood glucose) or hyperglycemia (high blood glucose) on behavior, learning, and other activities
- The student's Individualized Health Care Plan (IHP), 504 Plan, IEP, or other education plan
- The student's Emergency Care Plans and 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 training
For one or more school staff members designated as trained diabetes personnel who will perform or assist the student with diabetes care tasks.
Level 3 training content:

- Content from Level 1 and Level 2
- General training on diabetes care tasks:
    - Blood glucose monitoring
    - Ketone testing (urine and blood)
    - Insulin administration
    - Glucagon administration
    - Basic carbohydrate counting

- Student-specific training, when addressing each diabetes care task, including:
    - Clear identification and understanding of the task as outlined in the student's DMMP
    - Each student's symptoms and treatment for hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose)
    - 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 provided
    - Plan for ongoing evaluation

Ideally, at least one adult and one backup should be trained as a Level 3. Monitoring all employees who assist students with diabetes is the responsibility of each school.

3. COORDINATION OF CARE FOR BEST RESULTS

Collaboration and cooperation are key elements in planning and implementing successful diabetes management at school. Like 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 health care team work together. Personnel may include:

School Health Team	**Personal Health Care Team**
Student with diabetes	Student with diabetes
Parent/guardian	Parent/guardian
School nurse or other qualified personnel	Doctor
Other school health care personnel	Nurse
Trained diabetes personnel	Registered Dietician (if available)
Principal and other administrators	Diabetes Educator (if available)
504/IEP Coordinator	
Office Staff	
Teacher(s)	
Guidance counselor, coach(es), and other school staff members responsible for the student	

Collaboration between these two teams should result in each student with diabetes having a DMMP, an IHP, Emergency Care Plans for Hypoglycemia (low blood glucose) and Hyperglycemia (high blood glucose), and the appropriate education plan (if needed).

- Diabetes Medical Management Plan (DMMP)
    - Contains all aspects of routine and emergency diabetes care
    - Developed by the student's personal diabetes health care team

- Individualized Healthcare Plan (IHP)
  - Written plan developed to implement the student's DMMP
  - Developed by the school nurse (or other qualified personnel) in collaboration with the student's personal diabetes health care team and family
  - Incorporates assessment of school environment
  - Student-specific information
  - Reviewed by nurse (or other qualified personnel) and parents at beginning of the year and periodically afterwards
- Emergency Care Plans
  - Based on medical orders in the DMMP
  - Summary of how to recognize and treat hypoglycemia (low blood glucose)
  - Should be given to all personnel responsible for the student with diabetes (teachers, coaches, bus drivers, lunchroom staff, etc.)
- Education plan
  - 504 plan or IEP
  - Developed as needed, not all students with diabetes will have one or both
  - Written by team of school personnel, parents, and appropriate coordinator for the school district

Sample plans can be found in Appendix C.

4. SOCIAL AND EMOTIONAL IMPACT

School personnel should recognize that diabetes care tasks set children apart from their peers. Since there is such a large importance placed on fitting in for children, routine diabetes care can make the child feel singled out or that they do not fit in. Efforts should be made by school personnel to minimize the time away from his/her peers for diabetes care, and to accept it as part of the student's everyday routine.

Children with diabetes also react differently to having the disease. 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. Children and adolescents who have a chronic disease such as diabetes are also known to have higher rates of depression and anxiety. It is important to recognize the signs and symptoms and know where to get help. (Refer to resources in Appendix B.)

With permission of the student and his/her parent/guardian, schools may arrange for a "teachable moment" for other students in the classroom. This can serve to not only educate students about the disease, but also provide another level of hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose) awareness in the student with diabetes' peers.

ACTIONS FOR THE PARENT/GUARDIAN AND STUDENT WITH DIABETES

1. DIABETES MEDICAL MANAGEMENT PLAN

The DMMP should be provided by the parent/guardian of the student with diabetes, developed in coordination with the student's personal health team. The DMMP should:

- Be signed by the parent/guardian and the licensed physician who is a part of the student's health care team
- Outline the parental responsibility of carbohydrate counting and coordinating the calculating insulin adjustments with student's health care team
- Detail the health care services needed by the student at school
- Evaluate the student's ability to self-manage and level of understanding of his/her diabetes

A sample DMMP can be found in Appendix C.

2. EMERGENCY SUPPLY KIT

Parent/guardian should provide an emergency supply kit for use in the event of natural disasters or emergencies when students need to stay in school. This kit should contain enough supplies for at least 72 hours to carry out the medical orders in the DMMP. Parents should be responsible for restocking any used items and ensuring items with expiration dates are up to date. The kit should include:

- 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 (depending if the student uses a pump)
- 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

3. STUDENT SELF-MANAGEMENT

Diabetes care depends upon self-management. Students should have the right to self-manage, when appropriate. The age at which a child can self-manage his/her disease varies from student to student and from task to task because children develop and mature at different rates. A student's ability to participate in self-care also depends upon his/her willingness to do so. It is preferable that students be permitted to perform

diabetes care tasks in the classroom, at every campus location, or at any school activity (e.g., testing blood glucose). If the steps are performed correctly and materials are disposed of properly, there is no risk of blood or any other unsanitary material contact to other students.

General guidelines for the degrees of self-management expected from students:

- 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 factors that influence 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 (low blood glucose).
- 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 (low blood glucose).

4. EXPECTATIONS OF PARENT/GUARDIAN

Since diabetes is a disease that requires an effort on all fronts to control, there is a large responsibility on the parent/guardian of the child with diabetes. Parental responsibility is a 24 hour commitment and does not end when a child with diabetes is at school. Any person will benefit from a healthy diet, but for a child with diabetes the importance is magnified. A healthy and nutritious meal during school hours, with an accurate carbohydrate count, is paramount to controlling and managing diabetes properly.

The school health team can work with the parent/guardian on providing a carbohydrate count on lunches brought from home and the food service personnel of the school should provide carbohydrate counts on school meals and individual items to any parent that requests this information.

These materials and resources will prove useful to school personnel as they work to meet the needs of students with diabetes. The school health team can use this document as a guide to minimize the effects of diabetes on the student's academic life and provide an environment where all students can excel.

Portions of this model policy are adopted from 2010 Helping the Student with Diabetes Succeed – A Guide for School Personnel, by NDEP and the U.S. Department of HHS.

Appendix A

Quick Tip Sheets for Hyperglycemia and Hypoglycemia

(adapted with permission from *Students with Diabetes: A Resource Guide for Wisconsin Students and Families)*

http://www.dhs.wisconsin.gov/health/diabetes/PDFs/srg02.pdf

Quick Tip Sheet

Signs and Symptoms of Low Blood Glucose (Hypoglycemia)

HYPOGLYCEMIA

LOW BLOOD GLUCOSE
KNOW THE SYMPTOMS

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

Hungry

Shaky/weak/clammy

Blurred vision/ glassy eyes

Dizzy/headache

Sweaty/flushed/hot

Tired/drowsy

Mood/ behavior change

Inattentive/spacey

Slurred/ garbled speech

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

Adapted from: Children's Diabetes Foundation at Denver

Quick Tip Sheet

Signs and Symptoms of High Blood Glucose (Hyperglycemia)

HYPERGLYCEMIA

HIGH BLOOD GLUCOSE
KNOW THE SYMPTOMS

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

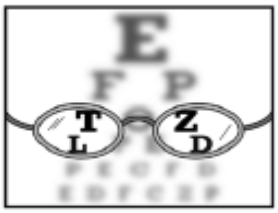
Frequent urination
(bedwetting in children)

Extreme thirst/ dry mouth

Sweet, fruity breath

Tiredness/fatigue

Increased hunger



Blurred vision

Nausea/vomiting

Stomach pain/ cramps

Unusual weight loss

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

Adapted from: Children's Diabetes Foundation at Denver

Appendix B

Diabetes Resource List

DIABETES RESOURCE LIST

American Diabetes Association (ADA)*
www.diabetes.org
www.diabetes.org/schooltraining
1-800-DIABETES

ADA-Bingham Farms, MI
888-342-2383

ADA-Grand Rapids, MI
616-458-9341

Juvenile Diabetes Research Foundation (JDRF)
www.jdrf.org

JDRF-Grand Rapids, MI*
616-942-5487
www.jdrfwestmichigan.org

JDRF – Metro Detroit Area, Southfield, MI*
248-355-1133
www.jdrfdetroit.org

Michigan Association of School Nurses (MASN)
http://www.michiganschoolnurses.org/

Michigan Association of School Psychologists (MASP)
Traverse City, MI
http://www.maspweb.com/

Michigan Department of Community Health
Diabetes, Kidney and Other Chronic Diseases Section
www.michigan.gov/diabetes

Michigan Department of Education
Coordinated School Health and Safety Programs Unit
www.michigan.gov/cshsp

Michigan Coordinating Body of the American Association of Diabetes Educators (AADE)
www.diabeteseducator.org
Contact: Carolyn Jennings, cjennings@nkfm.org
313-259-1574 ext. 27

National Association of School Psychologists (NASP)
Bethesda, MD 20814
866-331-NASP
http://www.nasponline.org

National Diabetes Education Program (NDEP)
www.ndep.nih.gov
888-693-NDEP (6337)
Helping the Student with Diabetes Succeed: A Guide for School Personnel
ndep.nih.gov/media/Youth_NDEPSchoolGuide.pdf

National Kidney Foundation of Michigan
Ann Arbor, MI
1-800-482-1455
www.nkfm.org

Upper Peninsula Diabetes Outreach Network (UPDON)*
Marquette, MI
906-228-9203
updon@diabetesinmichigan.org

*Provides staff in-service training

Federal laws -

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 25. *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*

Individuals 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, 20 U.S.C.1232g, implementing regulations at 34 CFR Part 99. *http://www2.ed.gov/policy/gen/guid/fpco/index.html*

Michigan Administrative Rules for Special Education Supplemented with IDEA Federal Regulations.
http://www.michigan.gov/documents/mde/MARSE-April09_274156_7.pdf

Appendix C

The National Diabetes Education Program (NDEP) Medical Management Plan, Individualized Health Plan, and Emergency Care Sheets for Hypo- and Hyperglycemia

http://ndep.nih.gov/media/school-guide-tools.pdf

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

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

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.

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.)

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/guard-ian and school personnel to meet student's coping needs • Collaborate with school personnel to create an accepting and under-standing 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

Hypoglycemia Symptoms

Circle student's usual symptoms.

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

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

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.

Appendix D

Glossary

Glossary

***American with Disabilities Act* -** 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.

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.

***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.

***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.

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.

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

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.

***Family Educational Rights and Privacy Act* (*FERPA)* -** A federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

***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.

***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.

***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.

***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).

***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.

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.

***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.

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

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

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 devise used to inject medications such as insulin into body tissue.