Training for Volunteer Health Aides
“Care of Students With Diabetes”

You are a **KEY** player in contributing to the student’s **Academic Performance** & keeping the student **Safe at School**
Attention: Volunteer Health Aide

Participants will have various experiences and knowledge regarding the care of a student with diabetes. Whether or not you have had previous experience, the training from the school nurse and this presentation should assist you in safely caring for the student with diabetes as described in Indiana Code 20-34-5...Thank You!

Please address your questions and/or concerns to the school nurse and/or principal.

1. This information will provide your **basic training** and should be completed under the supervision of the school nurse.
2. The school nurse should also provide the following:
   - **Skills training** session
   - **Specific training** according to the individual needs of the student
   - Adequate **supervision** and **evaluation**
1. Key Definitions for This Training
2. Directions
3. Objectives
4. What is Diabetes
   a) A Quick Review to Test Your Knowledge
5. What is the Law
   a) A Quick Review to Test Your Knowledge
6. The (6) Keys to Training
   a) A Quick Review to Test Your Knowledge
7. References and Resources
Key Definitions

Blood glucose meter: A small device that measures how much glucose is in the blood.

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. (5)

Carbohydrate (carb) counting: Adding the number of grams of carbohydrates eaten at meals or snacks. Carbohydrate information is used to calculate the appropriate amount of insulin to be given. The most accurate carbohydrate information is located on a food label.

Diabetes: Type 1 (T1D, insulin-dependent or juvenile) Type 1 diabetes (T1D) can occur at any age, but most commonly is diagnosed from infancy to the late 30s. In this type of diabetes, a person’s pancreas produces little or no insulin. T1D occurs when the body’s own defense system (the immune system) attacks and destroys the insulin-producing cells in the pancreas. People with T1D must inject insulin several times every day or continually infuse insulin through a pump. While its causes are not yet entirely understood, scientists believe that both genetic factors and environmental triggers are involved. Its onset has nothing to do with diet or lifestyle. There is nothing you can do to prevent T1D, and-at present-nothing you can do to get rid of it.

Diabetes: Type 2 (T2D, non-insulin-dependent or adult-onset) Type 2 diabetes typically develops after age 40, but can appear earlier, and has recently begun to appear with more frequency in children. In this form of diabetes, the pancreas still produces insulin, but the body does not produce enough or is not able to use it effectively. Treatment includes diet control, exercise, self-monitoring of blood glucose and, in some cases, oral drugs or insulin. (3)
Diabetes Medical Management and Treatment Plan (DMMP): A health care provider’s medical orders that are to be followed in the school setting. A DMMP is student specific.

FERPA (Family Educational Rights and Privacy Act): Protects the personal health information of the student. With parent permission permits school staff that have a legitimate educational interest to be aware of a student’s health condition.

Glucagon: A hormone that raises the level of glucose in the blood. Glucagon is given by injection, is used to treat severe hypoglycemia. (5)

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

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. (5)

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. (5)

Individualized Health Care Plan (IHP): A written plan developed by the school nurse in collaboration with the student’s Diabetes Medical Management and Treatment Plan.
**Key Definitions**

**Insulin:** A hormone that is normally produced in the pancreas. Insulin converts sugar and starches into energy.

**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. (5)

**Insulin Pen:** A pen-like device used to put insulin into the body. (5)

**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, or a pod or patch. (5)

**Insulin Vial:** A small glass bottle that contains insulin. A needle and syringe is needed to draw up the insulin from a “vial”.

**Ketones:** Are a product of the breakdown of fat that can appear in the blood and urine. The cells in the body need sugar for energy. The only way for sugar to get into the cells is through insulin. If the body lacks the appropriate amount of insulin to get sugar into the cells, the body starts to break down fat instead of sugar for energy. Too many ketones act like a poison to the body and if left untreated may cause harm including a severe life-threatening illness called diabetic ketoacidosis (DKA)-coma. Ketones are checked by a simple urine or blood test.

**Lancet Device:** 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. (5)
Key Definitions

Licensed Health Care Practitioner (Provider): Licensed health care practitioner per IC 20-34-5. Sec. 4. As used in this chapter, "licensed health care practitioner" means an individual who:
(1) is licensed to provide health care services; and
(2) has prescriptive authority. (2)

Registered Nurse (RN): Holds a valid registered nurse license (IC 25-23).

School Nurse: IC 20-34-5-9 Sec. 9. As used in this chapter, "school nurse" refers to an individual who:
(1) is employed by a school;
(2) is licensed as a registered nurse under IC 25-23; and
(3) meets the requirements set forth in 515 IAC 8-1-47. (2)

Sensitivity Factor: A number used in the correction dose formula. It is determined by the licensed health care provider and is specific to the individual. It is the amount of decrease in blood sugar expected from (1) unit of fast-acting insulin.

Target Blood Glucose: A number used in the correction dose formula. It is determined by the doctor and is specific to the individual’s age. It indicates what the ideal blood sugar number is prior to a meal.

Universal Precautions: Steps taken to prevent exposure to bloodborne pathogens that may be found in blood or other body fluids. These steps may include the use of personal protective equipment such as gloves and the proper disposal of “sharps” (i.e., needles) in the proper designated container.
For the purpose of this IDOE training we have included videos from the American Diabetes Association’s (ADA) Safe at School program. We have included the links to these videos into the PowerPoint slides in order to make this an interactive learning experience.

*Here’s how it will work…*
1. You must be **connected to the internet** to complete this presentation.

2. This training will take approximately two hours to complete. You may stop or pause at any time throughout the presentation and return to complete when able.

3. Your school nurse will provide you with an answer sheet for the “Quick Review to Test Your Knowledge” sections. Please return the completed answer sheet to the school nurse at the end of the course.
1. **Reminder:** You will need **internet** access to watch the videos in this presentation.

2. *Every time* you see this “Red Box”
   - **Left Click Once** on the **blue hyperlink** to view the video
   - **Watch Video**
   - **Close “X” video** and continue with the PowerPoint presentation
Let’s Practice… “Introduction” Video

Introduction: **Watch the Video**

- Internet Access
- Left Click “once” on the blue hyperlink
- Watch “Introduction” video
- Close “X”
- Continue with PowerPoint presentation…
## Training Objectives

<table>
<thead>
<tr>
<th></th>
<th>Training Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understand the role of the volunteer health aide as described in Indiana Code 20-34-5: Care of Students With Diabetes</td>
</tr>
<tr>
<td>2</td>
<td>Know how to apply the orders of a licensed health care provider</td>
</tr>
<tr>
<td>3</td>
<td>Recognize and treat the symptoms of hypoglycemia (low blood sugar) and hyperglycemia (high blood sugar)</td>
</tr>
<tr>
<td>4</td>
<td>Know how to test and record glucose and ketone levels</td>
</tr>
<tr>
<td>5</td>
<td>Know how to properly administer glucagon, insulin, or other emergency treatments</td>
</tr>
<tr>
<td>6</td>
<td>Recognize complications that require emergency medical assistance</td>
</tr>
<tr>
<td>7</td>
<td>Understand:</td>
</tr>
<tr>
<td></td>
<td>a. recommended schedules, meals, and snacks.</td>
</tr>
<tr>
<td></td>
<td>b. the effects of physical activity on blood glucose</td>
</tr>
<tr>
<td></td>
<td>c. the proper action to take if a schedule is disrupted</td>
</tr>
</tbody>
</table>
What is Diabetes?
Insulin is a hormone your body needs to use sugar or “glucose”
Your body uses sugar to give you energy

<table>
<thead>
<tr>
<th>Type 1</th>
<th>Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin Dependent Diabetes Mellitus</td>
<td>The body makes some insulin, but it may not make enough or the insulin may not be working very well in the body</td>
</tr>
<tr>
<td>The body can no longer make insulin</td>
<td>Occurs most often in adults &gt;40 years of age however is being seen more often in school-aged children (increased childhood obesity)</td>
</tr>
<tr>
<td>Nothing could have been done to prevent this from happening</td>
<td>Usually takes pills vs. insulin shots (Type 2 only: May be able to change from insulin shots to pills if the plan below is followed)</td>
</tr>
<tr>
<td>Occurs most often in children &amp; people &lt;40 years of age</td>
<td>Treatment includes: Exercise, losing weight, eating healthy</td>
</tr>
<tr>
<td>People with Type 1 take insulin shots every day to live</td>
<td></td>
</tr>
<tr>
<td>Treatment includes: <em>Insulin injections, blood sugar testing, meal/snack plan, exercise</em></td>
<td></td>
</tr>
</tbody>
</table>
Type 1 Diabetes Treatment Plan

- Blood Sugar Testing
- Insulin Injections
- Meal/Snack Plan
- Regular Exercise

Diabetes Basics
1. A student with Type 1 diabetes must balance blood sugar testing, insulin, meals and snacks, and exercise every day of their life:
   a) True
   b) False

2. Nothing could have been done to prevent Type 1 diabetes from developing in their body:
   a) True
   b) False
What is The Law?

Care of Students With Diabetes
Indiana Code 20-34-5 (Sections 1-18)
Definition: Volunteer Health Aide (VHA)

School Employee Who:

1. Is not licensed to provide health care services under Indiana Code 25-23 (licensed as a registered nurse)

2. Volunteers to act in the capacity of a volunteer health aide

3. Successfully completes training described in Section 15
Requirements of Plan (Sec.12)

Diabetes Management & Treatment Plan (Medical Orders)

- Must be developed for use during school hours or at a school related activity

- Developed and signed by a parent/guardian & a licensed health care practitioner

- Identifies medical orders and evaluates student’s ability to manage and understand care

- Submitted to the School Nurse (RN)
Development of Plan (Sec. 13)

Individually Health Plan
(Student Specific Orders and Tasks)
(e.g., routine, after-school activities, emergency evacuations)

- Must be developed by the school nurse
- Done in collaboration with the health care practitioner, parent/guardian, principal, & teacher(s)
- Must include the components of the diabetes management and treatment plan
Use of Volunteer Health Aides (Sec.14)

- A volunteer health aide (VHA) is assigned by the principal after consultation with school nurse

- While providing health care services, the VHA serves under the supervision of the principal & school nurse

- VHA must have access to school nurse, in person or by phone

- Employee cannot be disciplined for refusing to serve as a VHA

- VHA has a choice of performing only those functions they feel comfortable and trained to do
The training for the VHA must include

- **Implementing** the **orders** of the licensed health care provider

- **Recognizing and treating** the symptoms of
  - Hypoglycemia (low blood sugar)
  - Hyperglycemia (high blood sugar)

- **Performing tests** to check glucose and ketone levels

- **Properly administering** glucagon, insulin or other emergency treatments

(continued)
Recognizing complications that require emergency medical care (i.e., hypoglycemia-low blood sugar)

Understanding:
- Recommended Schedules and Food Intake for Meals and Snacks
- Effect of Physical Activity on blood glucose level
- Proper Action if Schedule is Disrupted

Training for the VHA must be provided by a health care professional with expertise in the care of individuals with diabetes or by a school nurse
Preferred that School Nurse perform tasks

When necessary a VHA may perform the tasks only if according to the students Individualized Health Plan

In compliance with the diabetes training

Parent/guardian signs an agreement to authorize VHA to assist the student and states that VHA is not liable for civil damages
Self-Managed Care (Sec. 17)

Self-Managed Care
A Diabetes Management and Treatment Plan & Individual Health Plan may allow for a student with diabetes to self-manage their care.

- Student may possess, carry supplies & treat at anytime & anywhere
- An emergency plan (i.e., low blood sugar causing confusion or unconsciousness) must be included in the Individualized Health Plan
- The school nurse will develop the emergency plan and appropriately discuss with volunteer health aide
Information Sheet (Sec. 18)

Transportation & Supervisor of Off-Campus Activities

Must be given an information sheet with the following information:

- Identifies the student with diabetes
- Describes signs and symptoms of an emergency and the appropriate response
- Telephone number of an emergency contact

This information sheet should be developed by the school nurse and appropriately discussed with the school personnel who is responsible for the student (i.e., coach, bus driver, teacher on a field trip).
A Quick Review to Test Your Knowledge

The Law

1. There is a law that schools must follow to keep students with diabetes safe in the school setting:
   a) True
   b) False

2. It is the responsibility of the Volunteer Health Aide (VHA) to develop the Individual Health Plan for caring for the student with diabetes while at school or a school-related activity:
   a) True
   b) False

3. A VHA is assigned by:
   a) The principal after consultation with the school nurse
   b) Human Resources and the school nurse
   c) Request of a parent
   d) Student’s Teacher
4. Training for a VHA must be provided by a health care professional with expertise in the care of individuals with diabetes or by a school nurse:
   a) True
   b) False

5. A parent/guardian must sign an agreement to authorize the VHA to assist their child and states that VHA is not liable for civil damages:
   a) True
   b) False
## The (6) Keys to Training

I.C. 20-34-5-15

1. Implementing the orders
2. Recognizing and treating the symptoms of hypoglycemia and hyperglycemia
3. Performing tests to check glucose and ketone levels and record
4. Properly administering glucagon, insulin, or other emergency treatments
5. Recognizing complications that require emergency medical assistance
6. Understanding:
   - A. Recommended schedules and food intake for meals & snacks
   - B. The effects of physical activity and stress on blood glucose levels
   - C. Action to take if a student’s schedule is disrupted
Key #1

Implementing Orders
# Implementing the Orders: DMMP

<table>
<thead>
<tr>
<th>Orders (Plan)</th>
<th>Contents</th>
<th>Author</th>
</tr>
</thead>
</table>
| Diabetes Medical Management and Treatment Plan (DMMP) | - *Student-specific* plan of care  
- Contact Information  
- Treatments for school day  
  - When to check a routine blood sugar  
  - Treatment for a routine blood sugar  
  - Insulin calculations for meals and snacks  
  - Treatment for a non-routine blood sugar  
  - Emergency orders  
  - Ability to self-manage | Student’s Health Care Provider |
## Implementing the Orders: IHP

<table>
<thead>
<tr>
<th>Plan</th>
<th>Contents</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Health Plan (IHP)</td>
<td>- Based on the medical orders-DMMP</td>
<td>School Nurse (RN)</td>
</tr>
<tr>
<td></td>
<td>- Includes <em>student-specific</em> information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Includes <em>specific school environment</em> information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- IHP may include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Plan to maintain blood sugar in target range: monitoring blood sugar,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>giving insulin, treating hypoglycemia &amp; hyperglycemia, meal/snack</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plan, physical activity, &amp; medical emergencies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Need for liberal restroom and water breaks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Medical equipment and other supplies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- School-related activity (i.e., extra-curricular activities [athletics,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>band], party, field trip, 2-hour delay).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Communication guidelines school nurse/parent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Emergency preparedness (i.e., lock-down, fire).</td>
<td></td>
</tr>
</tbody>
</table>
Implementing the Orders: DMMP & IHP

Diabetes Medical Management and Treatment Plan (DMMP)

Signed by the licensed health care provider and parent

Given to the School Nurse

School Nurse Writes the Individual Health Plan (IHP) based on the DMMP

School Staff Must Follow the DMMP & IHP
A Quick Review to Test Your Knowledge

Key 1: Implementing Orders

1. A Diabetes Medical Management Plan (DMMP) are the medical orders from the health care providers office:
   a) True
   b) False

2. An Individual Health Plan (IHP) is written by the school nurse in collaboration with the DMMP. The IHP should individualize the student’s needs while at school or after-school related activities:
   a) True
   b) False

3. A Diabetes Medical Management Plan will indicate how to calculate how much insulin to give at a meal or snack:
   a) True
   b) False
4. **An Individualized Health Plan should describe what to do if:**
   a) There is a 2-hr delay
   b) The class is going on a field trip
   c) There is a classroom party including food and games
   d) All of the above

5. **Both the Diabetes Medical Management Plan (DMMP) and Individual Health Plan (IHP) must be followed by school personnel:**
   a) True
   b) False
Recognizing and treating the symptoms of hypoglycemia & hyperglycemia
Hypoglycemia

Hypoglycemia - means *low*
lower than target range as indicated on the DMMP
(generally below 70 or 80)

Sudden Onset

Needs Immediate Attention: Never Leave Unattended

**Causes**

- **Too much activity**
- **Missed meal or snack**
- **Late meal or snack**
- **Undertreatment for hypoglycemia**
- **Stress** in some children
- **Too much insulin**
Recognizing Hypoglycemia

**Mild**
- Hunger
- Shaking
- Headache
- Dizzy
- Sweating
- Pale
- Weak/Tired
- Impaired Vision
- Anxious
- Fast Heartbeat
- Misbehavior
- Irritable

**Symptoms**

**Moderate**
- Confused /Dazed
- Inability to Swallow
- Yawning
- Extreme Tiredness
- Irritable

**Severe**
- Seizure
- Unconsciousness
- Coma

What symptoms of hypoglycemia do you observe in this video?
Treating Hypoglycemia

Always Follow
Diabetes Medical Management & Treatment Plan (DMMP) & Individualized Health Plan (IHP)

If possible CHECK BLOOD SUGAR

Treat with FOOD according to DMMP and IHP

15 Grams of Carbohydrate (a fast-acting sugar)

4 oz of Fruit Juice  4 oz Regular Soda  Skittles (15)  4 Glucose Tabs

RECHECK BLOOD SUGAR in 15 minutes  DO NOT Leave Student Unattended
**Hyperglycemia**

**HYPERglycemia-high** blood sugar above target range as indicated on the DMMP (usually above 250)

Generally develops over a longer period of time

May cause long-term consequences if consistently high

**Causes**

- Too much food
- Growth spurts
- Puberty
- Stress
- Not enough insulin
- Illness
Recognizing Hyperglycemia

**Symptoms**

**Mild to Moderate**
- Increased Thirst
- Increased Urination
- Increased Hunger
- Irritable
- Tired
- Headache
- Nausea & Vomiting
- Blurry Vision
- Stomachache

**Severe**
- Continued Vomiting
- Breath-Fruity Smell
- Sleepiness
- Unconsciousness
- Coma

What symptoms of Hyperglycemia do you observe in this video?
Always Follow
Diabetes Medical Management & Treatment Plan (DMMP)
& Individualized Health Plan (IHP)

CHECK BLOOD SUGAR @ onset of symptoms

Check Ketones

Treat according to DMMP & IHP

- Give insulin as directed on DMMP
- Unrestricted restroom breaks
- Push water or sugar-free drinks
- PE or other vigorous exercise may be restricted

Notify: School Nurse, Health Care Team, Parent per DMMP & IHP
1. Symptoms of *low* blood sugar may include all or some of the following:
   a) Shaky, irritable, sweating, impaired vision, weakness, headache
   b) Thirsty, increased need to urinate, headache

2. The first treatment for signs of a low blood sugar should be to check the blood sugar reading:
   a) True
   b) False

3. Of the foods listed below, the treatment for a low blood sugar would be (choose one):
   a) ½ cup orange juice
   b) 2 slices of cheese
   c) 6 saltine crackers
   d) sugar-free jello
4. **Signs of high blood sugar** may include the following:
   a) nausea and vomiting  
   b) increased thirst and urination  
   c) stomachache  
   d) all of the above

5. The *first* treatment for signs of a high blood sugar would be to check the DMMP. The next likely step would be to check a blood sugar *and*:
   a) Ketones  
   b) Call a Parent  
   c) Have the student rest for 15 min and recheck the blood sugar  
   d) Notify the student’s PE teacher that he/she will not be participating today
Performing tests to check glucose & ketone levels, and recording the results
Test to Check Glucose Level

When to Check a Blood Sugar (Glucose) Level

**Always** follow Diabetes Medical Management Plan (DMMP) & Individualized Health Plan (IHP)

Check **Before Meals** & sometimes snack

**Anytime** student has symptoms of low or high blood sugar

**Before an Activity** (i.e., strenuous or cautious- swimming/driving)

Blood Glucose Monitoring

If blood sugar (BS) is low before lunch-treat per DMMP (hypoglycemia) and get in target range before sending to lunch.

Please view video. The glucose test is simple to do!
Tips: Glucose Meters and Lancets

1. The school nurse will discuss with you the procedure for using the glucose meter, lancet device and where to record the blood sugar results.
2. Do not share a student’s equipment or supplies with other students with diabetes.
3. The correct date and time should be in the meter.
4. Test strips are specific to the student’s glucose meter.
5. New test strips have a procedure to follow prior to use.
6. Call the school nurse/parent if a glucose meter or test strips have been damaged such as wet/damp, extreme temperature, dropped (meter). Keep in case to protect.
7. Extra battery & user guide should be kept with supplies.
8. Follow Universal Precautions, use of Personal Protective Equipment, and dispose of sharps (needles) as taught by school nurse.
Performing Test to Check Ketone Level

1. **What are ketones:** Ketones are caused by a lack of insulin in the body and can occur during illness, extreme stress, or when insulin doses are missed.

2. **Why test for ketones:** Ketones are an acid and if left untreated may be harmful to the body, or cause a serious life-threatening illness called diabetic ketoacidosis (DKA).

3. **Can you control ketones:** Yes, by keeping glucose levels in the target range, but there are uncontrollable situations in which high blood sugar may be difficult to control (i.e., illness) causing ketones.

4. **What’s the key to prevent harm from ketones:** *EARLY DETECTION and TREATMENT* according to the DMMP and IHP.

Please view video. Testing for ketones is simple to learn!
Tips: Ketone Testing

1. The school nurse will discuss with you the procedure for testing ketones, recording results, and the treatment as defined in the student’s DMMP and IHP.
2. The DMMP and IHP will identify when and to whom positive ketones should be reported.
3. Each student has their own personal ketone testing strips (urine [most common] or blood testing strips).
4. Follow Universal Precautions, use Personal Protective Equipment, and dispose of sharps (needles) as instructed by school nurse.

Sample Procedure for Testing Urine Ketones
• Have the student collect a urine sample
• Dip test strip in urine
• Wait the amount of time as indicated in directions
• Compare color on strip-to color chart on bottle-record
• Refer to student’s DMMP and IHP for further action
A Quick Review to Test Your Knowledge

Key 3: Performing Tests to Check Glucose and Ketone Levels

1. A blood sugar is typically tested when:
   a) Before all meals
   b) After all meals

2. Ketones most often indicate:
   a) High blood sugar
   b) Low blood sugar

3. A student comes to the office on their way to lunch to check their blood sugar. The blood sugar reading is “62” (low). What should you do next:
   a) Give the student a fast-acting sugar and send to lunch immediately
   b) Check the DMMP and treat as directed. Do not send the student to lunch until their blood sugar is in the target range.
   c) Give the student written permission to go to the front of the lunch line
   d) Call a parent
4. A high school student who drives to school has a low blood sugar of “68” at 2:15 PM and school is dismissed at 3:05 PM. The VHA follows the Diabetes Medical Management Plan, and the student returns to class at 2:30 PM with a blood sugar of 82. What other information may his Individual Health Plan include:
   a) Call a parent to get permission for the student to go home early
   b) Call his coach to tell him the student will not be at practice
   c) Recheck the student’s blood sugar at 3:00 PM
   d) Tell the student to have a friend drive his car home for him

5. Universal Precautions are steps taken to prevent exposure to bloodborne pathogens; may include the wearing of gloves and proper disposal of sharps such as syringes and lancets:
   a) True
   b) False
Key #4

Properly administering glucagon, insulin, or other emergency treatments as prescribed and recording the results
Glucagon

Only used for severe hypoglycemia (low blood sugar) unless verbal order given to RN by health care provider

- Unconsciousness
- Seizure
- Disorientation
- Unable to swallow

Always follow Diabetes Medical Management Plan (DMMP) & Individualized Health Plan (IHP)
Glucagon

If Student Unconscious

Do not give anything by mouth

Follow DMMP and IHP

Administer glucagon if available-open kit
1. Mix fluid in syringe with powder in vial
2. Shake gently until mixed
3. Draw mixed fluid into syringe (dose per DMMP)
4. Inject into upper thigh or arm.

Turn on side - student may vomit - keep airway clear

CALL 911 – School Nurse – Notify Parent
Insulin

A Student with Type 1 Diabetes Requires Insulin
It May be Delivered (3) Different Ways

- Insulin Syringe and Vial
- Insulin Pen
- Insulin Pump

Insulin Basics
Always follow the student’s Diabetes Medical Management Plan (DMMP) & Individual Health Plan (IHP)

Every time before giving insulin to a student recheck

- Right Student
- Right Insulin
- Right Dose
- Right Time

Only the licensed health care provider may make changes to an insulin dose, and only a school nurse (RN) may take a phone order. Notify RN of written (fax, Dr. note) changes to insulin orders.
Check the Student’s DMMP & Watch the Correct Video

Insulin: Syringe and Vial

Insulin: Insulin by Pen

Insulin: Insulin by Pump
Insulin by Syringe & Vial

Insulin is measured in “units”

Only insulin syringes are used to measure and give insulin

Measure Here (top of plunger)

Not Here

Needle Cap

Plunger (Black tip)

Syringe with “unit” measurements

Insulin Storage: Vial (check exp. date)

Unopened-store in refrigerator

Opened-refrigerator or at room temperature and discard after 30 days

The type of insulin will be identified in the student’s DMMP and whether or not the student measures to the whole or half unit on the syringe.

The School Nurse will show you the procedure for drawing up the student’s insulin.
Imaginary Student Example: Syringe/Insulin Vial - Measuring a Dose

Syringes come in whole or half-unit scales

- Insulin syringe scales:
  - Left: half-unit scale
  - Right: whole unit scale

Measuring Here (top of plunger)

Not Here

6.5 units

5 units
Drawing Up Insulin: Syringe & Vial

- Right Student
- Right Insulin
- Right Dose
- Right Time

1. Wash hands & put on gloves if indicated.
2. Collect insulin vial, syringe & alcohol swab.
3. If cold-roll vial between hands.
4. Wipe top of insulin bottle with alcohol swab.
5. Inject air into the bottle of insulin.
6. Leave the needle in the bottle & turn upside down.
7. Pull up and down on the plunger to coat the syringe with insulin. Set plunger to correct dose and make sure there are no air bubbles (confirm the dose).
8. Remove needle from vial of insulin. Do not touch anything with the needle.
9. Select the site for injection and wipe with alcohol.
10. Pinch up the skin - Insert the needle all the way in - Push the plunger all the way in - Let go of your pinch before pulling out the needle (prevents insulin from leaking back out).
11. Discard syringe and needle in sharps container.
12. Record blood sugar results and insulin dose and time.

Adapted from: IU Health/Methodist-/IU/Riley

Injection Sites

Rotate “shots” to different areas
There are different types of insulin pens with their own type of insulin reservoir (cartridge).

The type of insulin will be identified in the student’s DMMP.

The School Nurse will show you the procedure for using the insulin pen.
Place a new needle on the pen every time it is used—this will help prevent bacteria from entering the insulin cartridge.

The pen must be “primed” for an “air dose” prior to each use. The school nurse will discuss this with you.

Insulin Storage: Pen/Cartridge (contains multiple doses of insulin-300 units)
check exp. date
Unopened-store in refrigerator
Opened-refrigerator or at room temperature and discard after 30 days
Drawing Up Insulin: by Pen

- Right Student
- Right Insulin
- Right Dose
- Right Time

1. Wash hands & put on gloves.
2. Collect insulin pen & alcohol swab.
3. Take lid off insulin pen.
4. Wipe top off with alcohol swab.
5. Put needle on (make sure it is on tight) - take both caps off and place big clear cap upright on counter.
6. Dial an air dose great enough to see a few drops of insulin (usually 1-2 units-unless cartridge is new).
7. Hold pen upright and push out air until you see a few drops of insulin.
8. Dial in prescribed dose to be given (confirm the dose).
9. Select the site for injection and wipe with alcohol.
10. Insert the needle all the way in. Push the plunger (top of pen) in all the way (make sure the dial returns to “0”).
11. Wait 5-10 seconds. Take thumb off plunger. Pull the needle out. This will prevent insulin from leaking back out.
12. To prevent an accidental stick: Without touching the big clear needle cap on counter-hold the pen & insert needle into cap. Then carefully unscrew needle tip and discard in sharps container.
13. Record blood sugar level and the insulin dose & time given.

Adapted from Riley Hospital for Children: Outpatient Diabetes
There are many types of insulin pumps. Most have tubing connected to the student’s body and some do not. The type of insulin pump will be identified in the student’s DMMP.

The School Nurse will show you the procedure for using the student’s pump.

There is a 1-800 telephone number on the back of the pump for customer support services.
Infusion Sites
Rotate “infusion sites” to different areas

- There are many different types of infusion sets.
- Ideally the reservoir, infusion set and site should be changed every 2-3 days. Generally this is done at home but may be done at school according to the IHP.

Insulin by Pump

- Right Student
- Right Insulin
- Right Dose
- Right Time

Follow Diabetes Medical Management & Treatment Plan

1. Insulin pumps deliver “fast-acting” insulin in 2 ways
   - **Basal Insulin**: Provides a low dose of insulin 24 hours a day.
   - **Bolus Insulin**: Given with every meal according to the amount of carbohydrate eaten and premeal blood sugar reading. May also “bolus” for extra doses of insulin when blood sugar is high. The pump may calculate the food dose and corrective dose automatically, but buttons need to be pressed to deliver insulin.

2. A student *may* self-manage, need supervision, or VHA will have full responsibility of operating insulin pump. Follow the DMMP and IHP.

3. If a student self-manages a safety plan must be in place in case of emergency.

4. Refer to IHP for the recording of blood sugar levels and bolus doses.
**Tips: Insulin by Pump**

**Infusion Sets**

If the infusion set needs to be changed at school-see Individual Health Plan. After an infusion site is changed, the blood glucose should be checked in 2 hours to ensure proper function.

If there is a pump problem & you are unable to resolve-call the school nurse right away. Blood sugars can rise quickly.

**Troubleshooting Pumps**

*Alarm or Hyperglycemia (high blood sugar levels)*

- Check connection site on body
  - Is the skin red or wet
  - Is the set attached
- Check Connections
- Leak or odor
- Is there a “kink” in the tubing
- Is there air bubbles in tubing
- Insulin in reservoir (cartridge)
- What alarms or alerts are present

*Blood sugars can rise quickly.*
Insulin Dose for Meals

Insulin dose is determined by the pre-meal blood sugar reading and the carbohydrates eaten at a meal.

Pre-meal blood sugar reading is used to calculate the: 
CORRECTION DOSE

Carbohydrates eaten at meal are used to calculate the: 
FOOD DOSE
Steps to Meal Time Insulin Dose

STEP 1
Calculate the insulin needed to treat the pre-meal blood sugar reading.
Formula: In Diabetes Medical Management Plan and it’s called:
CORRECTION DOSE

STEP 2
Calculate the insulin needed to treat the “Total Carbohydrates” at meal.
Formula: In Diabetes Medical Management Plan and it’s called:
FOOD DOSE

STEP 3
ADD the Correction Dose and Food Dose together

STEP 4
Give insulin before or after meal as indicated in the Diabetes Medical Management and Treatment Plan
STEP 1: CORRECTION DOSE

Calculating Correction Dose

Formula: In Diabetes Medical Management and Treatment Plan

Formula
Pre-meal blood sugar (BS) − Target blood glucose level ÷ Sensitivity Factor

Equals the Correction Dose
Amount of insulin to be given to bring the blood sugar back to target range
Imaginary Student

Blood Sugar (BS) before lunch: 220

Correction Dose Formula in Diabetes Medical Management Plan is:

Formula: BS − 120 ÷ 50 = ____ units of insulin

Calculation: 220 − 120 = 100 ÷ 50 = 2 units of insulin

Correction dose is only calculated if pre-meal blood sugar is greater than target number. For example: If the above imaginary student’s BS before lunch was 118 (target is 120) NO correction dose would be calculated. Therefore, only total carbohydrates consumed at lunch would be calculated for the amount of insulin to be given (food dose).
**STEP 2: FOOD DOSE**

(2) Methods of Counting Carbs

<table>
<thead>
<tr>
<th>Carbohydrate Counting</th>
<th>Carbohydrate Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>With this meal plan the student adds the total amount of carbohydrates (carbs) eaten per meal or snack.</td>
<td>This is an older way of calculating the number of carbohydrates (carbs) eaten.</td>
</tr>
<tr>
<td>Insulin is dosed according to the total amount of carbohydrates counted. <strong>Insulin – to – Carbohydrate Ratio</strong></td>
<td>Insulin is dosed according to the total amount of carbohydrate exchanges. <strong>15 grams of carbs = 1 carb exchange</strong></td>
</tr>
<tr>
<td>The Diabetes Medical Management and Treatment Plan (DMMP) indicates the formula to be used to calculate the insulin dose according to the amount of carbs consumed at a meal or snack.</td>
<td>The Diabetes Medical Management and Treatment Plan (DMMP) indicates the amount of “carb exchanges” with the correct insulin dose needed for each meal or snack.</td>
</tr>
</tbody>
</table>
Reading a Food Label

The nutrition facts panel on the food label is the best source of carbohydrate information. Carbohydrates are an essential food group for proper growth and development.

It’s important to note two lines on a food label:

1. Serving Size
2. Total Carbohydrate

This information will indicate how many grams of carbohydrate are in one serving of this food item.

Example:

Serving size
1 cup
&
Total Carbohydrate
31 grams

The school nurse & school dietary staff may assist you in obtaining the correct serving size and total carbohydrates in a school food item.

Parents should provide carbohydrate information for food brought from home.
Serving Size is 1 Cup
Servings per Container is “2”

If the student had the whole box (2 Cups) of this food item the Total Carbohydrate count would be 62 grams

Pay Attention to the Serving Size & Servings Per Container
Which Foods are High in Carbohydrates
(Higher than 5 grams/average serving size)

- Apple
- French Fries
- 2% milk
- Carrot Sticks
- Beef Jerky
- Yogurt
- Corn Chips
- Banana

- Macaroni and Cheese
- Green Beans
- Grilled Chicken Patty
- Peas
- Sugar-Free Jell-O
- Ketchup
- Broccoli with Cheese Sauce
Carbohydrate Counting

Foods Marked in Red are Greater than 5 Grams of Carbohydrate

- Apple
- French Fries
- 2% milk
- Carrot Sticks
- Beef Jerky
- Yogurt
- Corn Chips
- Banana
- Macaroni and Cheese
- Green Beans
- Grilled Chicken Patty
- Peas
- Sugar-Free Jell-O
- Ketchup
- Broccoli with Cheese Sauce

Unless noted on DMMP or IHP, Student’s food choices are not restricted—count all carbohydrates consumed. As with all students, a balanced diet should be encouraged.

INTERESTING FACT: Protein (meat, cheese, eggs, and fat group foods do not affect blood sugar and therefore do NOT require insulin when eaten.
Carbohydrate Counting

The amount of insulin needed to cover the carbohydrates consumed

Calculated by using the food label information for “Serving Size” and “Total Carbohydrates”

Formula: In Diabetes Medical Management and Treatment Plan

Meal: (____) units of insulin per (____) grams of carbohydrate

Snack: (____) units of insulin per (____) grams of carbohydrate
Imaginary Student

Lunch: Ate 60 grams of carbohydrates

Food Dose

Insulin-to-Carb Ratio in Diabetes Medical Management Plan is:

Lunch: 1 unit of insulin per 15 grams of carbohydrate

\[
\frac{\text{Grams of Carbohydrate in meal}}{\text{Insulin-to- Carb Ratio}} = \text{_____ units of insulin at lunch}
\]

Calculation: \[
\frac{60}{15} = 4 \text{ units of insulin at lunch}
\]
Example: Meal Plan Calculation for Carbohydrate Counting

Food Dose

Lunch

<table>
<thead>
<tr>
<th>Food</th>
<th>Carbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot dog &amp; bun</td>
<td>23</td>
</tr>
<tr>
<td>1/2 cup</td>
<td>5</td>
</tr>
<tr>
<td>1 small</td>
<td>15</td>
</tr>
<tr>
<td>1 cup white milk</td>
<td>15</td>
</tr>
</tbody>
</table>

Count Total Carbs: 23 + 5 + 15 + 15 = 58 carbs

Formula: \( \frac{1\text{ unit of insulin}}{10\text{ grams of carbohydrate}} \)

\[ \frac{58}{10} = 5.8 \text{ units of insulin} \]
Example of Food Dose:

15 grams of carbs = 1 carb exchange = 1 unit of insulin

<table>
<thead>
<tr>
<th>Lunch</th>
<th>Add Carb Exchanges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat sandwich</td>
<td>2</td>
</tr>
<tr>
<td>1/2 cup Applesauce</td>
<td>1</td>
</tr>
<tr>
<td>1 small apple</td>
<td>1</td>
</tr>
<tr>
<td>1 cup white milk</td>
<td>1</td>
</tr>
</tbody>
</table>

5 carb exchanges X 1 unit of insulin = 5 units of insulin
**Correction Dose:** Blood Sugar 220
Calculation: \(220 - 120 = 100 \div 50 = 2 \text{ units of insulin}\)

**Food Dose:**

- **Lunch:**
  - Hot dog & bun: 23 grams carbs
  - 1/2 cup: 5 grams carbs
  - 1 small: 15 grams carbs
  - 1 cup white milk: 15 grams carbs

Formula: \(\frac{58}{10} = 5.8 \text{ units of insulin at lunch}\)

Don’t Forget to Record Testing and Treatment Results

**Insulin Dose:**
\[2 + 5.8 = 7.8 \text{ units of insulin}\]
(round as needed for insulin delivery system per DMMP)
STEP 4: Give Insulin

Follow the Diabetes Medical Management Plan & Individual Health Plan

Every time before giving insulin to a student recheck

✓ Right Student
✓ Right Insulin
✓ Right Dose
✓ Right Time
## Other Emergency Treatments

Always follow the Diabetes Medical Management & Treatment Plan (DMMP) & Individualized Health Plan (IHP)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Question/Answer</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Hyperglycemia post meal.                     | Q: How long since last meal or insulin dose.  
A: Less than 2 hours.                                                               | Follow DMMP—generally if less than 2 hours since last meal or insulin dose the insulin has not had time to “catch-up” with food. Send student back to class with water and recheck when 2 hour time is up. If blood sugar remains elevated after 2 hrs-follow DMMP. |
| Student who self-manages with pump is found unconscious. | Q: Student’s glucagon is kept in backpack-Where is backpack?  
A: You don’t know.                                                               | • Turn student on side-stay with student.  
• Call 911, call school nurse, notify parent.  
• Send someone to find backpack.  
• Check blood sugar level-if low...  
• ”Suspend” pump or “quick release tubing”-upon EMS arrival let them know about student’s diabetes and pump/send pump to ER with student.  
• If glucagon located- give per DMMP.                                               |
| Glucose meter and supplies left on bus.      | Q: How do I contact transportation?  
A: School’s procedure for notifying transportation for quickest response time       | Notify transportation/parent to arrange for the securing of diabetic supplies and for the timely delivery of the supplies to school.                                                                         |
| Student with diabetes is vomiting & has stomachache. | Q: What is the blood sugar level and ketone level?  
A: Within target range.                                                           | Follow DMMP and IHP.  
Ketones are always checked if stomachache and/or vomiting.  
Follow school policy for students ill at school.                                     |
| Student with diabetes is conscious, but sustained an injury at school requiring EMS transport. | Q: Has school policy for student injury and the calling of EMS transport been followed?  
A: Yes.                                                                                | • Notify school nurse and stay with student.  
• Students “home” diabetes supplies are to be gathered & sent to ER with student.  
• Let EMS know student has diabetes & when food & insulin were last taken.           |
1. If a student with diabetes is found unconscious or having a seizure, the first steps in the Diabetes Medical Management Plan may be:
   a) Give glucagon shot, roll on their side, and call 911, school nurse, and parent
   b) Roll the student on their side, call doctor, school nurse, and parent
   c) Prop the student up and give a fast-acting sugar (i.e., juice)
   d) Roll the student on their side and check a blood sugar reading

2. Insulin may be delivered by:
   a) Pen
   b) Syringe and Vial
   c) Pump
   d) All of the above

3. A blood sugar may be inaccurate if taken within a 2 hour timeframe of food or insulin:
   a) True
   b) False
4. The amount of insulin given at lunch is determined by using the calculations found in the Diabetes Medical Management Plan. These calculations are determined by:
   a) The blood sugar reading before lunch (correction dose)
   b) The total amount of carbohydrates eaten at lunch (food dose)
   c) How many carbohydrates the student ate at breakfast
   d) a & b

5. A Volunteer Health Aide cannot change an insulin dose unless directed to do so by:
   a) a note from a parent
   b) a phone call from a parent
   c) a phone call from a doctor
   d) a school nurse
6. There are (2) Methods used in counting carbohydrates for meals and snacks, Carbohydrate Counting and Carbohydrate Exchanges. What two lines on the food label are needed to accurately count carbohydrates for both of these methods:
   a) Total Carbohydrates and Sugars
   b) Serving Size and Weight in Grams
   c) Serving Size and Total Carbohydrates
   d) Serving Size and Total Calories

7. How many grams of carbohydrates equal one carbohydrate exchange:
   a) 5
   b) 10
   c) 15
   d) 30
A Quick Review to Test Your Knowledge
Key 4: Glucagon, Insulin & Other Emergency Treatments

Example: Use Student “X” for questions; (8) correction dose, (9) food dose, and (10) total amount of insulin to be given at lunch.

Student “X”
Blood sugar level before lunch of 220
Correction Dose Formula: (blood sugar reading) - 120 ÷ 50 = _____

8. The correction dose for Student “X” at lunch should be:
   a) 1 unit of insulin  
   b) 2 units of insulin  
   c) 3 units of insulin  
   d) 4 units of insulin
Student “X” Lunch:

<table>
<thead>
<tr>
<th>Food</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey sandwich</td>
<td>20 grams</td>
</tr>
<tr>
<td>Carrots and celery sticks</td>
<td>5 grams</td>
</tr>
<tr>
<td>Chocolate Chip Cookie</td>
<td>10 grams</td>
</tr>
<tr>
<td>Applesauce ½ cup</td>
<td>15 grams</td>
</tr>
<tr>
<td>Milk</td>
<td>15 grams</td>
</tr>
</tbody>
</table>

Total Carbohydrates = 65 grams

Food Dose: 1 unit of insulin for every 10 carbohydrates = _____

9. The food dose for the above Student “X” should be:
   a) 65 units of insulin
   b) 1 unit of insulin
   c) 6.5 units of insulin
   d) 10 units of insulin
10. The total amount of insulin given at lunch for Student “X” should be:
   a) 6.5 units of insulin
   b) 2 units of insulin
   c) 8 units of insulin
   d) 8.5 units of insulin

11. Every time before giving insulin to a student you should check the Diabetes Medical Management and Treatment Plan and recheck the following:
   a) Right Student
   b) Right Insulin
   c) Right Dose
   d) Right Time
   e) All of the Above
Key #5

Recognizing complications that need emergency medical assistance
Examples: When to call for Emergency Assistance

1. Prevent emergencies from happening by always following the DMMP and IHP. Call 911, school nurse, and parent if: severe nausea and vomiting • disoriented and confused • can’t be kept awake • unconscious.

2. Unconsciousness: If Glucagon is given per DMMP always turn student on their side and call 911, school nurse, and parent.

3. If there is an insulin error or you forgot to give a snack-act as soon as the error is discovered to protect the health and safety of the student. Check blood sugar and follow DMMP and IHP. Report situation to the school nurse IMMEDIATELY for further action and proper procedures. Do not leave the student.

4. If the student is ill and you can’t reach the parent. Follow the DMMP and IHP. Call the school nurse for further action.

5. You have a low blood sugar and you can’t get it in target range with treatment after following the DMMP and IHP-call the school nurse.

The school nurse should be contacted for any questions or concerns you may have regarding the DMMP, IHP, or any other questions you may have regarding the care of students with diabetes.
A Quick Review to Test Your Knowledge

Key 5: Recognize Complications Requiring Emergency Assistance

1. The best way to prevent a diabetic emergency from happening is to always follow the student’s Diabetes Medical Management Plan (DMMP) and Individual Health Plan (IHP):
   a) True
   b) False

2. If you have a question regarding the student’s DMMP or IHP you should call:
   a) school nurse
   b) doctor
   c) principal
   d) parent
Key #6

Understanding:
- Recommended Schedules for Meals and Snacks
- Effect of Physical Activity on Blood Glucose Levels
- Proper Action if Student’s Schedule is Disrupted
A Student with Diabetes Must Maintain a Balance Between
Blood Sugar Levels–Food–Insulin–Exercise

Keep Blood Sugar Levels in Target Range

Nutrition and Physical Activity
### Understanding: Recommended Schedules for Meals & Snacks

<table>
<thead>
<tr>
<th>Student’s with diabetes must always have:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meals and snacks at the specified time of day.</td>
</tr>
<tr>
<td>2. Enough time to finish their lunch.</td>
</tr>
<tr>
<td>3. A snack and fast-acting carbohydrate immediately available (notify parent if snack supply low).</td>
</tr>
<tr>
<td>4. Permission to eat a snack anywhere in the school setting (including bus, field trips, extra-curricular activity).</td>
</tr>
<tr>
<td>5. Unrestricted access to water (and use of bathroom).</td>
</tr>
<tr>
<td>6. A blood sugar test before meals and carbohydrates must be counted for food eaten. These numbers will be used to calculate the dose of insulin to be given according to the student’s Diabetes Medical Management Plan.</td>
</tr>
</tbody>
</table>
Some students may have *scheduled* snacks ordered in their DMMP and IHP.

1. If ordered, snacks are **not optional** – they *must* be consumed or hypoglycemia may occur.
2. Timing of snacks depend on factors such as:
   a. Amount of time between meals
   b. Physical education class, recess, extra-curricular activities
   c. Type of insulin used by student
Keep Blood Sugar Levels in Target Range During Physical Activity

1. Exercise is an important part of the student’s treatment plan and should not be restricted unless noted in DMMP.
2. Physical Education teachers and coaches should have the Volunteer Health Aide training so that they understand the DMMP and IHP and be able to recognize and assist with the treatment of low blood glucose levels. Including availability of glucose meter, fast-acting source of glucose, and water.
Understanding: Proper Action if Student’s Schedule is Disrupted

- Disruption to the Student’s Schedule Will Happen
- Be Prepared and Plan Ahead
- Know the DMMP and IHP Action Steps to Follow
- Keep School Nurse Informed of Planned and Unplanned Events
Examples of a Schedule Disruption

- Field Trips
- Party/Snacks
- 2-hour Delay
- School Assembly
- Physical Education Class or Recess Cancelled
- Extra Recess Awarded
- Field Day
- Change in Lunch Menu
- Fire Drill or Mass Evacuation (fast-acting glucose available)
- Lock-Down (fast-acting glucose available)
- Natural Disaster (students may need to stay at school)
- Standardized Testing (may need to plan ahead with school counselor)

Always have the student’s diabetes supplies available (i.e., backpack) including:
- Glucose Meter • Fast-Acting Carb
- Cell Phone/Radio (call school nurse) • Emergency Contact Information
Understanding: Proper Action if Student’s Schedule is Disrupted

Reminders…
1. Less Food (i.e., delayed meal or snack) will make the blood sugar go down.
2. Extra Food (i.e., party with snack) will make the blood sugar go up.
3. Less Activity (i.e., cancelled PE or recess) will make the blood sugar go up.
4. More Activity will make the blood sugar go down.

*During a Disrupted Schedule Pay Attention to the Diabetes Medical Management & Treatment Plan & Individual Health Plan*
Classroom Party Snack: Chocolate Chip Cookies and Snack Size Candy Bars

Food Labels Read: Serving Size and Total Carbohydrate

- Chocolate Chip Cookie (1): 15 grams carbs
- Snack Size Candy Bar (1): 10 grams carbs

- Total Carbohydrates: **25 grams**

Diabetes Medical Management Plan

- **Food Dose Formula:**
  - Snack: 1 unit of insulin per 10 units of carbohydrate

May this student have a cookie and snack size candy bar? If so, how much insulin should be given?
Example: Class Party

Classroom Party Snack: Chocolate Chip Cookies and Snack Size Candy Bars

Food Labels Read: Serving Size and Total Carbohydrate
- Chocolate Chip Cookie (1): 15 grams carbs
- Snack Size Candy Bar (1): 10 gram carbs

- Total Carbohydrates: 25 grams

Diabetes Medical Management Plan
- **Food Dose Formula:**
- Snack: 1 unit of insulin per 10 units of carbohydrate

May this student have a cookie and snack bar? If so, how much insulin should be given?

No- Student may have the party snacks

**Insulin: 2.5 units** (may round up to 3 units per DMMP)
1. **Food causes the blood sugar to:**
   a) Increase  
   b) Decrease

2. **Exercise causes the blood sugar to:**
   a) Increase  
   b) Decrease

3. **During an emergency evacuation (e.g., fire alarm) the volunteer health aide should take the following supplies outside:**
   a. student’s blood sugar monitoring kit  
   b. fast acting carbohydrate (e.g., candy, glucose tabs, juice box)  
   c. cell phone  
   d. all of the above
4. The student is having a holiday class party in two weeks. The party includes games and snacks. What should you do:
   a) Check the Diabetes Medical Management Plan and Individual Health Plan and notify the school nurse of the event
   b) Tell the student to pack a “special” snack on the day of the event
   c) Notify the parent that there is a party scheduled and they may want to keep their child home that day

5. Your school has an emergency first aid bag in each classroom. In case of lockdown, what may be a good snack to keep in that bag for a student with diabetes:
   a) Sugar-free gum
   b) Skittles
   c) Bag of pretzels
   d) Apple
Remember…

You are a **Key Player** in contributing to the student’s **Academic Performance** & keeping the student **Safe at School**

Thank you!
American Diabetes Association: Safe at School

Introduction
Watch the Video (6:22)

Diabetes Basics (PPT)
Watch the Video (4:39)

Diabetes Medical Management Plan (PPT)
Watch the Video (2:27)

Hypoglycemia (PPT)
Watch the Video (3:12)

Hyperglycemia (PPT)
Watch the Video (1:53)

Blood Glucose Monitoring (PPT)
Watch the Video (2:22)

Glucagon Administration (PPT)
Watch the Video (2:24)

Insulin Basics (PPT)
Watch the Video (3:36)

Insulin by Syringe and Vial (PPT)
Watch the Video (3:06)

Insulin by Pen (PPT)
Watch the Video (2:01)

Insulin by Pump (PPT)
Watch the Video (1:50)

Ketones (PPT)
Watch the Video (2:31)

Nutrition and Physical Activity (PPT)
Watch the Video (2:31)

Legal Considerations (PPT)
Watch the Video (3:00)


The “Training for Volunteer Health Aides: Care of Students With Diabetes” was developed and/or reviewed by the following individuals:

Jolene Bracale, MSN, RN  
Program Coordinator for Student Health Services  
Indiana Department of Education

Carol Dixon,  
Senior Manager, Mission Delivery  
American Diabetes Association-Indiana Area

Carol Gelatt, BSN, RN  
Coordinated School Health Specialist  
Indiana Department of Education

Sue Russell, RN, CDE  
Outpatient Diabetes Educator  
St Vincent Diabetes Center

Karen Stancombe, MSN, CPNP, CDE  
Riley Hospital for Children IU Health

Linda Stroud, MSN, CPNP, CDE  
Riley Hospital for Children IU Health