Diabetes Care Tasks at School: What Key Personnel Need To Know

HYPOGLYCEMIA
GOAL: OPTIMAL STUDENT HEALTH AND LEARNING

Managing hypoglycemia is a vital piece of a comprehensive plan.
LEARNING OBJECTIVES

Participants will be able to understand:

- Symptoms of low blood glucose
- Treatment of low blood glucose
- Reduce risk of low blood glucose
- Short- and long-term risks and complications
VOCABULARY

Glucose – simple sugar found in the blood; fuel that all body cells need to function

HYPOglycemia – a LOW level of glucose in the blood

Quick-acting glucose – source of simple sugar that raises blood glucose levels; examples are juice, regular soda, glucose tabs or gel, hard candy

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

Carbohydrate – source of energy for the body which raises blood glucose level

Glucagon – hormone given by injection that raises level of glucose in the blood
HYPOGLYCEMIA

HYPOglycemia = LOW Glucose (sugar)

Onset:

• Sudden and must be treated immediately
• May progress to unconsciousness if not treated
• Can result in brain damage or death

DMMP should specify signs and action steps at each level of severity

• Mild or Level 1 (glucose < 70mg/dL)
• Moderate or Level 2 (glucose level < 54mg/dL)
• Severe or Level 3 (severe cognitive impairment)
HYPOGLYCEMIA: RISKS AND COMPLICATIONS

- Early recognition and intervention can prevent an emergency
- Not always preventable
- Greatest immediate danger
- Impairs cognitive and motor functioning
HYPOGLYCEMIA: POSSIBLE CAUSES

- Too much insulin
- Too little food or delayed meal or snack
- Extra or unplanned physical activity
- Illness
- Medications
- Stress
POSSIBLE SIGNS AND SYMPTOMS

Mild to Moderate Symptoms
- Extreme Hunger
- Shakiness
- Weakness
- Paleness
- Dizzy or lightheaded
- Increased heart rate
- Yawning
- Irritability/frustration
- Extreme tiredness/fatigue
- Sleepiness
- Changed behavior
- Sweating
- Anxiety
- Dilated pupils
- Restlessness
- Confusion
- Sudden crying

Severe Symptoms
- Inability to eat or drink
- Unconscious
- Unresponsive
- Seizure activity or convulsions (jerking movements)
MILD TO MODERATE HYPOGLYCEMIA: WHAT TO DO

Intervene promptly; follow DMMP

• Check blood glucose if meter available
• If no meter is available, treat immediately, on the spot
  – When in doubt, always treat. If untreated may progress to more serious events.
• NEVER send a student with suspected low blood glucose anywhere alone
• Consider “Rule of 15”
“RULE OF 15”

These are general guidelines, follow DMMP for each student:

Have student eat or drink fast acting carbs (15g) → Re-check blood glucose 15 minutes after treatment → Repeat treatment if blood glucose level remains low or if symptoms persist → If symptoms continue, call parent/guardian per DMMP
QUICK ACTING GLUCOSE FOR LOW TREATMENT

Treatment for Lows: 15 grams of carbohydrate

- 4 oz. fruit juice
- 3-4 glucose tablets
- 1 tube of glucose gel
- 4-6 small hard candies
- 1-2 tablespoons of honey
- 6 oz. regular (not diet) soda (about half a can)
- 4 tsp. table sugar
SEVERE HYPOGLYCEMIA SYMPTOMS

- Inability to eat or drink
- Unconsciousness
- Unresponsive
- Convulsions (seizures)
SEVERE LOWS: WHAT TO DO

Rare, but life threatening, if not treated promptly:

- Place student on his or her side
- Lift chin to keep airway open
- Inject glucagon, per student’s DMMP
- Never give food or put anything in the student’s mouth
- Call 911, then parent/guardian
- Student should respond in 10 to 20 minutes
- Remain with the student until help arrives
PREVENTION OF LOWS

- Physical activity, insulin, eating, checking BG, *per schedule*
- Keep a quick-acting sugar source with the student - *ALWAYS*
- Treat at onset of symptoms
- Ensure reliable insulin dosing, per DMMP
- Ensure insulin dosing matches food eaten
  - *Watch picky eaters*
  - *Provide nutritional information to parent/guardian*
  - *DMMP may specify after-meal dosing*
PREVENTION OF LOWS

• Consult with parent/guardian or school nurse when snack, meal or physical activity times must be changed

• Monitor blood glucose variations on gym days
  – An extra snack may be required ½ hour before gym or during prolonged vigorous physical activity per DMMP

• A student should never be unattended when a low blood glucose is suspected. Maintain adult supervision.
INFORMATION FOR TEACHERS

• Students with hyperglycemia or hypoglycemia often do not concentrate well.

• Students should have adequate time for taking medication, checking blood glucose, and eating.

• During academic testing, provide accommodations as per 504 plan or IEP
  – Check blood glucose before and during testing, per plan
  – Access to food/drink and restroom
  – If a serious high or low blood glucose episode occurs, students should be excused with an opportunity for retake
“Make The Right Choice The Easy Choice”

Eliminate barriers to diabetes management:

- Become familiar with and follow students’ written plans
- Eliminate barriers to:
  - Snacking
  - Blood glucose checks
  - Access to water and bathrooms
  - Insulin administration
- Avoid “good or bad” judgments based on individual blood glucose readings
- Communicate with parent/guardian and school nurse
Module 6 Pre – and Post – Tests: HYPOGLYCEMIA

This tool may be freely duplicated and distributed for training purposes
1. **What is the most serious immediate danger to the student with diabetes?**
   1. Running out of diabetes supplies
   2. Forgetting a scheduled blood glucose monitoring
   3. Hypoglycemia (low blood glucose)
   4. Forgetting to refrigerate insulin

2. **What causes hypoglycemia?**
   2. Too much insulin
   3. Too little food or delayed meal/snack
   4. Unanticipated physical activity
   5. All of the above

3. **Sweating is a symptom of hypoglycemia.**
   a. True
   b. False

4. **If no blood glucose meter is available, treat for hypoglycemia.**
   4. True
   5. False

5. **Which of the following is the best treatment for hypoglycemia?**
   a. Water
   b. M & M's
   c. 4 oz. of orange juice
   d. Carrot sticks

6. **What is glucagon?**
   a. A sugary gel given to treat hypoglycemia
   b. A naturally occurring hormone
   c. A blood glucose test
   d. None of the above

7. **When is a glucagon injection needed?**
   a. Shakiness
   b. Inability to swallow
   c. Hunger
   d. Sweating
WHERE TO GET MORE INFORMATION

American Diabetes Association
1-800- DIABETES
www.diabetes.org/safeatschool