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

NUTRITION AND PHYSICAL ACTIVITY

American Diabetes Association

GOAL: OPTIMAL STUDENT HEALTH AND LEARNING

Managing nutrition and physical activity are vital pieces of a comprehensive plan.

LEARNING OBJECTIVES

Participants will be able to understand:

- *Basic meal plans for students with diabetes*
- *Nutrition calculation methods*
- *Physical activity benefits for students with diabetes*
- Physical activity guidelines for students with diabetes

NUTRITION: WHY BE CONCERNED?

- Good nutrition is important for everyone for optimal health
- Nutrition planning is an important part of the student's diabetes management:
  - maintain blood glucose within target range
  - to reduce risk or delay complications
  - to help children and teens grow and develop properly
  - to achieve healthy weight
  - promote optimal learning

SCHOOL NUTRITION MANAGMENT

- Student's parent/guardian and health care team determine an individualized meal plan
- A diagnosis of diabetes does NOT always limit which foods a student can eat
- Meals and snacks need to be carefully timed to balance physical activity and insulin/medications
- Encourage healthy eating for all students

SCHOOL NUTRITION MANAGEMENT

Students with diabetes may need additional accommodations to help manage lipids, blood pressure and weight:

- May need support at meals and snacks to achieve calorie level targets and consistent carb amounts, as per DMMP
- Assure that healthy foods such as whole grains, low-fat protein and dairy, fruits, and vegetables are available

BASIC MEAL PLANS

Key:

- Balance insulin/medications with carb intake

Most students have flexibility in WHAT to eat

- Basic carbohydrate counting
- Advanced carbohydrate counting

Many students have flexibility in WHEN to eat

- More precise insulin delivery (pumps, pens)
- Rapid-acting insulins
- Time dosing of insulin according to DMMP

BASIC CARBOHYDRATE COUNTING

- Calories from:
  - *carbohydrate*
  - *protein*
  - *fat*
- Each nutrient type affects blood glucose differently
- Carbohydrate has the biggest effect on blood glucose
- TOTAL carbohydrate matters more than the source (sugar or starch)

ADVANCED CARBOHYDRATE COUNTING

USING THE INSULIN-TO-CARB RATIO

The insulin-to-carb ratio:

- Varies from student to student
- Is determined by the student's health care team
- Should be included in the DMMP
- Usually stated as a ratio of 1 unit of insulin to x grams carbohydrate
- May vary from meal to meal for a student

USING INSULIN-TO-CARB RATIO

Example: 1:10 Ratio

1 unit of insulin to be given
per 10 grams of carbohydrate eaten

60 gm meal / 10 gms = 6 units of insulin needed

SCHOOL MEALS AND SNACKS

- Provide school menus and nutrition information to student/parent/guardian in advance
- Provide sufficient time for eating
- Monitor actual food intake per DMMP
  - *young or newly diagnosed*
  - *picky eaters*
- Respect, encourage independence

NUTRITION INFORMATION AT SCHOOL

The approximate carbohydrate content of school meals can be determined in advance by the school nutrition director and can be indicated on the school menu for each item.

BEYOND THE ROUTINE: SCHOOL PARTIES

- Provide parent/guardian with advance notice of parties/special events
- Follow the student's DMMP, 504 Plan or IEP
- Some may prefer to bring their own foods, but may eat what is available.
- Provide nutritious party snacks or non-food treats for all
- Limit use of food as reward

BEYOND THE ROUTINE: FIELD TRIPS

Notify school nurse as soon as trip is scheduled to allow for consultation with parent/guardian about food and/or insulin adjustments

Bring plenty of quick-acting sugar sources to treat hypoglycemia

Bring lunch as appropriate

Bring diabetes equipment and supplies, including glucagon, if specified in DMMP

Bring list of emergency contacts, copy of emergency care plan

ACTIVITY AND DIABETES

Everyone benefits from physical activity

- Students with diabetes should fully participate

In general, activity lowers blood glucose levels

- If there is insufficient insulin, physical activity can raise blood glucose

May need to make adjustments to insulin/medications and food intake, per DMMP

A quick-acting source of glucose, glucose meter, and water should always be available

PE teachers and coaches must be familiar with symptoms of both high and low blood glucose

ACTIVITY AND BLOOD GLUCOSE MONITORING

Check before, during, and after physical activity per DMMP:

- Especially when trying a new activity or sport
- If blood glucose starts to fall, student should stop and have a snack or quick-acting source of sugar
- Students with pumps may disconnect or adjust the basal rate downward temporarily, prior to physical activity

Module 18 Pre – and Post – Tests:

NUTRITION AND PHYSICAL ACTIVITY

This tool may be freely duplicated and distributed for training purposes

1. **There are no forbidden foods for children with diabetes.**
   a. True
   b. False

2. **Food consumption should be balanced with physical activity and insulin.**
   a. True
   b. False

3. **An insulin to carbohydrate ratio is determined by the student's provider and is used to calculate meal/snack insulin.**
   a. True
   b. False

4. **Which variable is important for determining insulin dose and can be provided by the school food service manager?**
   a. Fatcontent
   b. Wheat content
   c. Sugar content
   d. Carbohydrate content

5. **Physical activity usually lowers blood glucose.**
   a. True
   b. False

WHERE TO GET MORE INFORMATION

American Diabetes Association

1-800- DIABETES

www.diabetes.org/safeatschool