



Diabetes and Kids- Keeping them Safe at School

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Objectives

- Brief review of type 1 and type 2 diabetes in children
- Discuss common treatment of diabetes
- Identify special considerations with diabetes in school
- Define the role of school personnel for diabetes in school
- Review Diabetes medical management plan and 504 plan
- Discuss North Dakota Board of Nursing and administration of injectables

Diabetes Pathophysiology

Normal function of pancreas: Produces insulin which allows the sugar we consume to be used for energy by our cells.

Type 1-in youth

- Incidence: over 18,000 new diagnoses annually (2008-2009)
- Occurs when the pancreas does not make insulin
- Treatment involves insulin injections, carbohydrate counting and blood glucose testing.
- People with type 1 will always need insulin replacement to stay healthy

Type 2-in youth

- Incidence: over 5,000 new diagnoses annually (2008-2009)
- Occurs when insulin is still made but does not work very well – insulin resistance and/or insulin insufficiency
- Treatment involves diet, exercise, oral medications and possibly insulin injections.
- People with Type 2 may eventually require insulin due to decreased pancreas function.

Treatment of Type 1 Diabetes

- **Blood Sugar Testing:** Usually done prior to each meal and before bed.
 - Additional testing is needed before and after activity such as recess, gym, and field trips
 - Younger children will need help testing and interpreting results from adult staff
- **Carbohydrate Counting:** Measuring amount of carbohydrate in food per serving. This information is used to calculate insulin doses.
- **Insulin Injections:** Insulin needs to be given multiple times a day through injections or insulin pump

Diabetes Management at School

- Every student with diabetes will be different
- Diabetes requires constant juggling of insulin/medication with physical activity and food
- Students with diabetes can do the same every day activities as students without diabetes

Special Considerations Low and High Blood Sugars

- Students can experience extreme Low or High blood sugars.
- It's important to recognize the behaviors and signs of “high” and “low” blood sugar levels
- Some students can identify these events on their own and others may not.
- Student may need assistance from school personnel during these events.

Special Considerations

Low Blood Sugars

- Low blood sugar is a reading **less than 70mg/dL**.
- Symptoms can include shakiness, hunger, cold sweats and personality change.
- It is important for school personnel to help students identify these feelings for quicker treatment. Immediate treatment is essential.
- Treatment includes checking sugar level and eating a carbohydrate source.

Special Considerations

Low Blood Sugars-Causes

- Administering too much insulin
- Skipping or delaying meals/snacks
- Too much insulin for the amount of food eaten
- Exercising longer or harder than planned
- More likely to occur before lunch, at end of school day or during/after PE
- Combination of the above factors

Special Considerations

Low Blood Sugars

- Give the student a quick-acting sugar equivalent to 15 grams of carbohydrate:
 - Examples: 4 oz. of juice, $\frac{1}{2}$ a can of regular soda, or 3-4 glucose tablets
- Ask parents to provide you with what works best for their child
- Check blood glucose (BG) level 10 to 15 minutes later
- Repeat treatment if BG is below student's target range
- **Never leave a student alone or send them away when experiencing hypoglycemia.**
- **Treat on the spot.**



Diabetes Management at School

Special Considerations- Low Blood Sugars

Symptoms of severe hypoglycemia:

- Inability to swallow
- Seizure or convulsion
- Unconsciousness

This is the most immediate danger to kids with diabetes.

Response:

- Position student on side
- Contact school nurse or trained diabetes staff
- Administer prescribed glucagon
- Call 911
- Call student's parents

GLUCAGON IS A HORMONE THAT RAISES BLOOD GLUCOSE LEVELS. It is only administered when hypoglycemic symptoms are SEVERE. Glucagon may cause nausea or vomiting, but...

GLUCAGON IS A LIFE-SAVING TREATMENT THAT CANNOT HARM A STUDENT!

Special Considerations

High Blood Sugars

- High blood sugar is a reading **over 250mg/dL** that persists for some time.
- The symptoms can take longer to present than symptoms of low sugars.
- Symptoms can include thirst, frequent urination, weakness and upset stomach or vomiting.



Special Considerations High Blood Sugars

- Allow free and unrestricted access to liquids and restrooms
- Allow student to administer insulin or seek a trained staff person to administer
- Encourage student to test blood glucose levels more frequently

Special Considerations

High Blood Sugars-Causes



- Causes of Hyperglycemia (high blood sugar):
 - Too little insulin
 - Illness, infection or injury
 - Stress or emotional upset
 - Decreased exercise or activity
 - Combination of the above factors

Role of School Personnel

Teachers, trained staff and school nurses

- Supporting self-care by capable students
- Providing easy-access to diabetes supplies
- Ensuring students eat snacks at a scheduled time and make sure snacks are available to treat low blood sugar
- Allowing students reasonable time to make up missed homework or tests
- Learning about diabetes and complying with the individual student's 504 and health care plans

Role of School Personnel

Teachers, trained staff and school nurses

- Keep a contact sheet of trained diabetes staff at your desk for emergencies
- Create a diabetes info sheet for substitute teachers
- Teach your class/school about diabetes
- Let parents know, in advance, changes to the class schedule (field trips, special events, etc.)

Injections at school for non-nursing staff

- A registered nurse may delegate nursing interventions in accordance with the Nurse Practices Act (NDCC Chapter 43-12.1)
- If a diabetic student is stable and has specific parameters, an insulin injection may be delegated by the licensed nurse using the rules for specific delegation.
- In an emergency, school personnel could administer a Glucagon® injection according to Nurse Practices Act exemption found in NDCC 43-12.1-04(1). Nurses may provide training to individuals that may administer medication during an emergency.
- Trained non-nursing staff need to be registered as unlicensed assistive personnel (UAP) to carry out needed medical care.
- <https://www.ndbon.org/RegulationsPractice/Practice/SchoolNsgMedAdmin.asp>

Diabetes Medical Management Plan

- The DMMP lays out the specific diabetes needs of the child
- Every child is unique and the management plan needs to fit the needs of each child
 - -some use syringes, others use insulin pumps
 - Some can manage with very little assistance others need all aspects of diabetes care managed by school staff

The American Diabetes Association and the National Diabetes Education Program have partnered to provide a DMMP template to customize for each child in the school setting

<http://main.diabetes.org/dorg/PDFs/living-with-diabetes/diabetes-medical-management.pdf>

504 or No 504?

What it is and why use it

- The 504 Plan outlines the actions the school will take to make sure the student with diabetes is medically safe, has the same access to education as other children, and is treated fairly.
- All plans should specify that school staff must be trained to recognize hypoglycemia and hyperglycemia and respond in accordance with the child's Diabetes Medical Management Plan.
- Also student specific needs should be included; needs change as the student progresses through school
- Example of a 504 can be found on ADA website (PDF and Word version): <http://main.diabetes.org/dorg/PDFs/Advocacy/Discrimination/504-plan.pdf>



Thank you for your
interest in our kids!

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