

DIABETES

Background

Diabetes mellitus is a serious metabolic disorder impairing the body's ability to properly process food for energy. Most of the food we eat is turned into glucose for energy needs. Cells in the pancreas then release insulin to shuttle glucose from the blood stream into the body's tissues to use for energy.

Insulin is a hormone that regulates how the body uses and stores glucose and fat. Without insulin, too much glucose stays in the blood and not enough reaches cells for energy. Diabetes can result from an insufficient production of insulin or the inability of the body to properly use insulin.

Optimal diabetes management requires coordination of blood glucose monitoring, balanced food intake, physical activity, and/or administration of insulin and other medication(s). It is a condition that requires continuous, careful monitoring and a coordinated team approach.

Type 1 Diabetes (T1), previously known as insulin-dependent or juvenile diabetes, is an autoimmune disease that results in the destruction of beta cells of the pancreas disabling it from producing insulin. A person with T1 diabetes requires multiple daily insulin injections. Without the presence of insulin, many of the body's cells cannot take glucose from the blood as required for energy. The body will then use other sources of energy. Ketones, produced by the liver, are an alternative source. High levels of ketones can lead to a dangerous condition called diabetic ketoacidosis (DKA). Without insulin serious illness or death will occur.

Type 2 Diabetes (T2), previously known as non-insulin-dependent diabetes or adult-onset diabetes, results from the body's inability to respond to insulin effectively, known as insulin resistance. The pancreas responds by making more insulin. Eventually the pancreas cannot keep up and blood glucose will rise. T2 diabetes is managed with diet, exercise and medication. Over time, a person with T2 diabetes may require insulin due to prolonged demand on the pancreas.

Gestational diabetes is a temporary insulin resistance, primary managed with diet, that occurs related to hormonal changes during pregnancy. Gestational diabetes usually resolves after childbirth but can increase the mother and child's risk of developing diabetes later in life.



A **Diabetes Medical Management Plan (DMMP)** is a standardized health care provider order containing detailed instructions for care, intervention, self-management and emergency planning. This may include blood glucose monitoring (e.g., finger stick or continuous glucose monitoring device), insulin administration (e.g., syringe or insulin pump), and recognition and management of signs and symptoms of hypoglycemia and hyperglycemia.

Top Takeaways for School Considerations

Diabetes management includes school staff training and education on recognizing the signs and symptoms of hypoglycemia and hyperglycemia and implementation of the student's emergency plan.

School diabetes management should seek to provide diabetes care that minimizes disruption to the student's academic experience.

Easy and immediate access to snacks and water and unrestricted use of the restroom should be included.

Blood glucose monitoring in the classroom and other locations in the school is permitted and should be supported as appropriate based on the individual student, including healthcare provider orders/DMMP, nursing assessment, school setting, and student's developmental capability.

Blood glucose out of range can cause some cognitive impairment, adversely affecting a student in the classroom. Modification of procedures for academic testing may be considered (e.g., testing blood glucose prior to an exam).

Kennedy Krieger Institute's Specialized Health Needs Interagency Collaboration

The Specialized Health Needs Interagency Collaboration (SHNIC) program is a collaborative partnership between Kennedy Krieger Institute and the Maryland State Department of Education.



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Considerations for the Individualized Healthcare Plan (IHP)

- Nursing diagnosis of unstable blood glucose level, risk for disturbed sensory perception, risk for infection, risk for impaired skin integrity and risk for imbalanced nutrition
- Current diagnosed health condition including date of diagnosis, progress of disease process and other chronic health conditions
- Current medication and treatment orders (consider schedule, equipment needs and side effects)
- Assessment of implanted medical device (consider location, date of surgical placement)
- Equipment troubleshooting (consider equipment/device user manual, battery, charger)
- Consider emergency care plan(s) (ECP) and emergency evacuation plan(s) (EEP) as related to medical needs in the school setting, and staff education/training, as appropriate

1. Has the school staff been trained to implement the student-specific emergency plan?
2. Would the student benefit from evaluations or assessments in any of the following areas: physical therapy, occupational therapy, speech and language therapy, assistive technology, adapted physical education, functional behavior, psychology, hearing and vision?
3. Would the student benefit from additional academic support and/or modified education (e.g., copies of notes, extra time, reduced workload, simplified instructions, alternative formats for presentation of material, 504/IEP)?
4. Can strategies be implemented to assist the student with executive function (e.g., plan, prompts, organizers, agendas)?
5. Would schedule flexibility support the student?
6. Does the student require activity precautions to prevent injury?
7. Does the classroom environment support the student's needs and/or equipment (e.g., desk/seating options, flash pass for bathroom or nurse)?

Resources

American Diabetes Association: Training resources for school staff

diabetes.org/tools-support/know-your-rights/safe-at-school-state-laws/training-resources-school-staff

National Diabetes Education Program: Helping a student with diabetes succeed- A guide for school personnel

diabetes.org/sites/default/files/2020-02/NDEP-School-Guide-Full-508.pdf

National Institute of Health (NIH): Helping the student with diabetes succeed

niddk.nih.gov/health-information/professionals/clinical-tools-patient-management/diabetes/helping-student-diabetes-succeed-guide-school-personnel



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