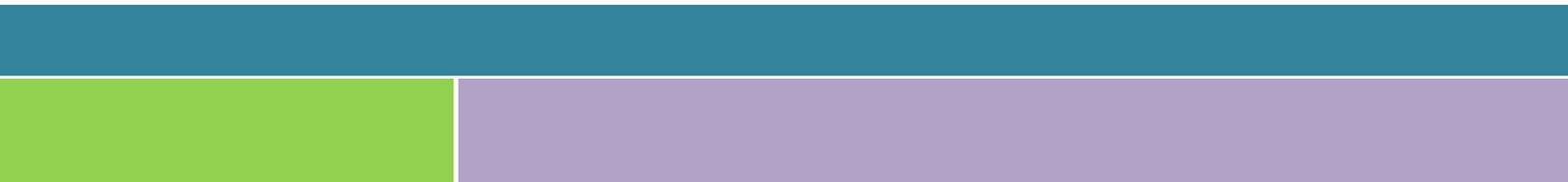




# Guidelines for the Management of Chronic Conditions in Iowa Schools

In response to Senate File 2336  
December 2012



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- Iowa Department of Public Health (IDPH)
- Iowa Department of Education (IDOE)
- Iowa School Nurse Organization (ISNO)
- Iowa High School Athletic Association (IHSAA)
- University of Iowa Child Health Specialty Clinics
- Iowa Chapter of the American Academy of Pediatrics

### **Input was provided by the following organizations:**

- American Lung Association in Iowa
- American Diabetes Association in Iowa
- Epilepsy Foundation's Iowa Office
- Advocacy Strategies

## Introduction

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Iowa places a high priority on the prevention and management of life threatening chronic conditions in schools. [Senate File 2336 \(Section 3, Paragraph j-Page 14\)](#) has charged the Iowa Department of Public Health, along with the Iowa Department of Education and other stakeholders, to develop guidelines for the management of chronic conditions for distribution in Iowa schools. This document, *Guidelines for the Management of Chronic Diseases in Iowa Schools*, is the response to SF 2336 legislation. It focuses on offering guidelines and tools to assist in the management of the common chronic conditions that are life threatening in the school setting. The guidelines, tools, and resources described in this document are intended to assist in the management of the common chronic conditions in schools so students may achieve their maximum potential for learning and health outcomes.

This document enhances the educational process by providing guidance to school nurses, teachers, other school staff members, and parents on the care of students with chronic health care needs. It is mindful of federal and state laws and regulations, local district policies, and individualized plans as well as current research and information. This document is an important tool as the school nurse plans, coordinates, and provides health care for Iowa's students with chronic conditions.

For the purposes of this report, the term *guidelines* was interpreted to include documents or resources that can be utilized to train school personnel, plan for appropriate health services for individual students or a population of students, and/or provide guidance on management of ongoing or emergency health care services. These guidelines are not intended to replace nursing judgment or health care plans as agreed on by the school nurse, student, parents/guardians, and health care providers. Guidelines are statements that include recommendations intended to optimize health care while considering the benefits and harms of alternative care options.

**Disclaimer-** *These materials are to serve as general guidance for local school districts on how to handle specific chronic health situations that may occur. This is only guidance and nothing in this document shall be construed as a requirement of the district. Each individual health situation should be evaluated on an individual basis with the parties and health professionals involved. The materials in this document are not medical advice and should not take the place of consultation with a licensed health professional. The materials in this document are not legal advice and should not take the place of consultation with a licensed attorney.*

## Essential Resources for Iowa Schools

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- 1. School Nursing: A Comprehensive Text (2<sup>nd</sup> ed.), Janice Selekman, DNSc, RN, Editor, University of Delaware, Newark, Delaware. F.A. Davis Company, Philadelphia, (2013) is available at**  
[https://portal.nasn.org/members\\_online/members/viewitem.asp?item=S004&catalog=MAN&pn=1&af=NASN](https://portal.nasn.org/members_online/members/viewitem.asp?item=S004&catalog=MAN&pn=1&af=NASN)

This resource is available through the National Association of School Nurses and includes information about school nurse roles and functions, legal considerations in school nursing, the well student, and a section on chronic health conditions in students.

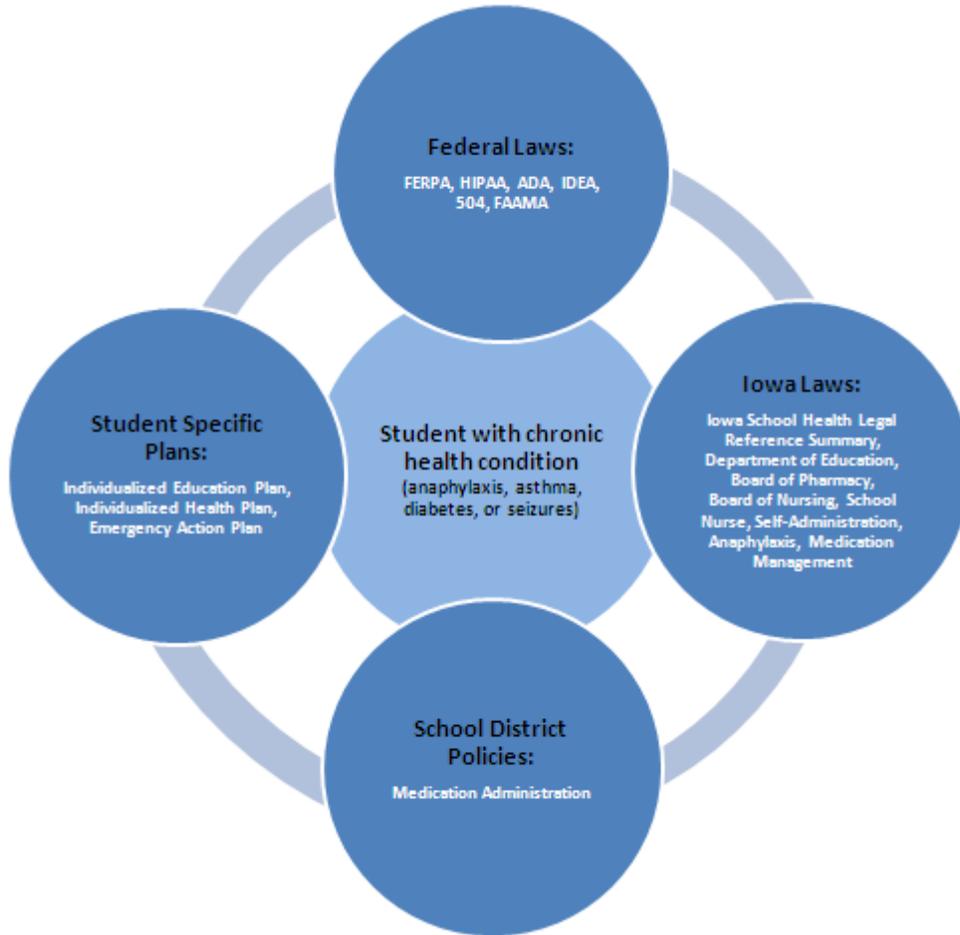
- 2. School Health: Policy & Practice. Academy of Pediatrics Committee on School Health, Sixth Edition, September 25, 2002, is available at**  
[https://www.nfaap.org/netFORUM/eWeb/DynamicPage.aspx?webcode=aapbks\\_productdetail&key=2a371f89-9735-4c8c-8df5-1dcbcd479778](https://www.nfaap.org/netFORUM/eWeb/DynamicPage.aspx?webcode=aapbks_productdetail&key=2a371f89-9735-4c8c-8df5-1dcbcd479778)

This AAP manual provides pediatric health care professionals with guidelines for developing health programs for students.

- 3. Managing Chronic Health Needs in Child Care and Schools: A Quick Reference Guide, Academy of Pediatrics, is available at**  
<http://www.healthychildren.org/english/bookstore/Pages/default.aspx>

This resource brings caregivers and educators trustworthy recommendations on a wide spectrum of chronic health conditions. It gives teachers, administrators, school nurses, and caregivers ready access to practical information and "what-to-do-when" advice. It also helps health care providers communicate essential information and instructions clearly and time-efficiently.

# Overview of Federal & State Laws/Regulations, School District Policies, and Student Specific Plans



The following provides a partial list of abbreviations, terms, and definitions that effect school health services.

## **Federal Laws:**

**FERPA: Federal Educational Rights and Privacy Act** protects confidentiality of student information. FERPA allows schools to disclose student records, without consent, to school officials who have a legitimate educational interest and to appropriate officials in cases of health and safety emergencies.

<http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

**HIPAA: Health Insurance Portability and Accountability Act** protects health insurance coverage to persons who move from one job to another and has provisions to protect individually identifiable health information. <http://www.hhs.gov/ocr/privacy/>

**ADA: Americans with Disabilities Act of 1990** prohibits discrimination based on disability in employment, state and local government, public accommodations, commercial facilities, transportation, and telecommunications. An individual with a disability is defined by the ADA as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such impairment, or a person who is perceived by others as having such an impairment. <http://www.ada.gov/cguide.pdf>

**IDEA: Individuals with Disabilities Education Act** (formerly called P.L. 94-142 or the Education for all Handicapped Children Act of 1975) is the main federal statute that authorizes federal aid for the education of students with disabilities. The statute has two key components: (1) due process provisions detailing parental rights, and (2) a permanently authorized grant program that provides federal funding to the states. States that receive federal funds are required to provide a "free, appropriate public education" to all students with disabilities in the "least restrictive environment". <http://idea.ed.gov/>

**504: Rehabilitation Act of 1973 Section 504** civil rights law that protects persons from discrimination based on their disability status. A person is considered to have a disability within the definition of Section 504 if he or she: has a mental or physical impairment which substantially limits one or more of such person's major life activities, has a record of such impairments, or is regarded as having such an impairment. <http://nichcy.org/laws/section504>

**FAAMA: Food Allergy and Anaphylaxis Management Act** (2011) requires the U.S. Secretary of Health and Human Services to develop and make available to schools a voluntary policy to manage the risk of food allergy and anaphylaxis in schools and provide for school-based food allergy management incentive grants to support implementation of food allergy management guidelines in public schools. <http://www.foodallergy.org/page/the-food-allergy--anaphylaxis-management-act>

## **Iowa Laws:**

**Iowa School Health Legal Reference Summaries:**

[http://educateiowa.gov/index.php?option=com\\_docman&task=doc\\_download&gid=13547&Itemid=5111](http://educateiowa.gov/index.php?option=com_docman&task=doc_download&gid=13547&Itemid=5111)

**Iowa Department of Education:** Student health services. School authorities shall not require nonadministrative personnel to perform student special health services or intrusive nonemergency medical services unless personnel are licensed, otherwise qualified, and consent to perform the services. Iowa Code §280.23 or <http://coolice.legis.iowa.gov/Cool-ICE/default.asp?category=billinfo&service=iowaCode&ga=82&input=280.23>

**Iowa Board of Pharmacy:** Requires valid prescriber/patient relationship and requires a prescription drug to be prescribed for a specific individual. Pharmacy Board Iowa Administrative Code, 657 IAC 8.20 or <http://www.state.ia.us/ibpe/pdf/IAC657rules.pdf>. Iowa Board of Pharmacy Administrative Code 155A.27 or <http://www.state.ia.us/ibpe/pdf/IC155A.pdf>

**Iowa Board of Nursing:** Requires the registered nurse to recognize and understand the legal implications of accountability including, but not limited to, 1) performing or supervising those activities and functions which require the knowledge and skill level currently ascribed to the registered nurse and seeking assistance when activities and functions are beyond the licensee's scope of preparation, 2) assigning and supervising persons performing those activities and functions which do not require the knowledge and skill level currently ascribed to the registered nurse, 3) using professional judgment in assigning and delegating activities and functions to unlicensed assistive personnel. Nursing Board Iowa Administrative Code, 655 IAC 6.2(5) or <https://www.legis.iowa.gov/DOCS/ACO/IAC/LINC/11-14-2012.Chapter.655.6.pdf>

**School Nurse:** Requires each district to have a school nurse (at a minimum a registered nurse with a license from the Board of Nursing) to provide health services. Each district shall work toward the goal of one school nurse for every 750 students enrolled. Iowa Code section 256.11 (9B) or [http://educateiowa.gov/index.php?option=com\\_content&view=article&id=1729&Itemid=2527](http://educateiowa.gov/index.php?option=com_content&view=article&id=1729&Itemid=2527)

**Self-Administration of Asthma or Other Airway Constricting Disease Medication:** Allows students with asthma or other airway constricting diseases to self-administer medication (example: inhaler) at school with signed parental and prescriber consent. Under the law, the student does not have to show "competency" in order to self-administer. Annually, the school district needs to have updated consent form signed by parent and prescriber on file. Iowa Code §280.16 or <http://coolice.legis.iowa.gov/Cool-ICE/default.asp?category=billinfo&service=iowaCode&ga=83&input=280.16>

**Medication Management in Iowa Schools Manual:** (laws summarized on pages 5-11) [http://educateiowa.gov/index.php?option=com\\_content&view=article&id=1729&Itemid=2527](http://educateiowa.gov/index.php?option=com_content&view=article&id=1729&Itemid=2527)

## **School District Policies:**

**Medication Administration:** Iowa legislation requires all public agencies (including schools) to have policies and procedures regarding administration of medication including requirements for a written medication administration record. 281 IAC 41.404(1-2) or

[http://educateiowa.gov/index.php?option=com\\_content&view=article&id=1729&Itemid=3467](http://educateiowa.gov/index.php?option=com_content&view=article&id=1729&Itemid=3467)

## **Student Specific Plans:**

**IEP: Individual Education Plan** is a detailed plan for student-based academic progress, current level of functioning, needs, supports, and goals. An IEP reflects the individualized needs of a student, is more specific and focused than a 504 Plan, and entitles a student to special education. The IEP identifies necessary health services to be provided in school through an Individualized Health Plan (IHP). Individual Disability and Education Act (IDEA) also mandates that particular procedures be followed in the development of the IEP including development by a team of knowledgeable persons, and the IEP must be at least reviewed annually.

<http://nichcy.org/schoolage/keyterms> or

[http://educateiowa.gov/index.php?option=com\\_content&task=view&id=1585&Itemid=2367](http://educateiowa.gov/index.php?option=com_content&task=view&id=1585&Itemid=2367)

**IHP: Individual Health Plan** is based on an individualized, prescribed plan from the student's personal health care team.

The IHP should address how the health management for an individual student will be implemented in the school, including details about who, what, when, where, and the how of any specific procedures or care are to be performed. The IHP should also list the student's typical symptoms and prescribed treatment for the chronic health concern.

[http://educateiowa.gov/index.php?option=com\\_content&task=view&id=1604&Itemid=2383](http://educateiowa.gov/index.php?option=com_content&task=view&id=1604&Itemid=2383)

**EAP: Emergency Action Plan (or EHP: Emergency Health Plan):** Written step-by-step plan defining actions to take in an emergency situation. The objectives are to protect from serious injury or illness. This plan can either be written in the intervention portion of the IHP, as a separate document referenced in the IHP, or as a completely separate document without association to an IHP.

[http://educateiowa.gov/index.php?option=com\\_content&task=view&id=1604&Itemid=2383#Emergency](http://educateiowa.gov/index.php?option=com_content&task=view&id=1604&Itemid=2383#Emergency)

## Barriers

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Some potential barriers include:

- Iowa Department of Education, Iowa Department of Public Health, and Iowa School Nurse Organization do not collect standardized student health data.
- Student health information needs to be protected for confidentiality.
- Student health information may be incomplete or missing for students unless parents/guardians/providers provide complete information.
- School nurses cover multiple schools in multiple communities, therefore they are not always available in individual schools, and the ratios of school nurses to students differ from school to school.
- Annual health-related trainings can be costly and time-consuming for schools.
- Student health resources and training materials may be costly, difficult to access, and possibly outdated, therefore difficult to know what is best to use.
- Student health information is not consistently shared between health providers and schools.
- Consents for exchanging student health information are challenging to obtain.
- All organizations, including schools, function with limited budgets.

## Recommendations

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- Access to the training tools and to the guidelines is essential.
- Review practices, procedures, and policies concerning chronic health information with school personnel. No matter where a student with a life-threatening chronic condition is, the designated person in charge should have the information they need should an incident occur.
- Collaborate, communicate, and coordinate on health plans with parents or guardians, appropriate personnel, health care providers, and students.
- Distribute a “toolkit” to each school. The “toolkit” should contain training materials and the school nurse determines who/how to train school staff.
- Consider requiring one credit hour of relicensing for teachers, administration and coaches should be directed to health-related topics included in this report.
- Update the Iowa Department of Public Health, Iowa Department of Education, and Iowa School Nurse Organization websites with materials after annual review of latest guidelines related to allergies/anaphylaxis, asthma, diabetes, and seizures.
- Convene a taskforce for coordination of student health care services between families, students, schools, school nurses, health care providers, and ancillary programs, while also taking into consideration 504, IDEA, and other regulations.
- Iowa Department of Public Health, Iowa Department of Education, Iowa School Nurse Organization, the American Academy of Pediatrics and other related stakeholders should recommend essential data elements and guidelines for all schools to collect and use.

## Common Chronic Conditions in Schools

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This report will focus on the common chronic conditions identified by this task force which were believed to have the greatest risk of presenting a life-threatening situation at school:

1. Allergies/Anaphylaxis
2. Asthma
3. Diabetes
4. Seizures/Epilepsy

These diseases all have predispositions that make them a life threatening chronic conditions. Avoidance of a life-threatening situation is a critical piece of chronic care management.

## Allergies/Anaphylaxis

Source: <http://www.cdc.gov/healthyyouth/foodallergies/>

### Overview

A food allergy is an abnormal immune response to a certain food that the body reacts to as harmful. An estimated 4 to 6 percent of U.S. children under age 18 years have food allergies. Although reasons for this are poorly understood, the prevalence of food allergies and associated anaphylaxis is on the rise.

Although any student can be at risk for food allergies, students are at greater risk if they are younger than age 3 years or have a family history of asthma and allergies, a genetic predisposition to allergic disease, or elevated allergen-specific serum immunoglobulin levels (IgE concentrations).

Many students are also allergic to ordinary things in homes and the environment, such as dust mites, insect stings and bites, pets, grasses, weeds and pollens. Some students are also allergic to less common things such as medications or latex (rubber products). Other students might also show intolerances to some chemicals used to make different products (carpet glue, dyes and solvents). These usually don't cause a severe reaction, and students may not develop allergy antibodies.

### Common Food Allergies

Eight types of foods account for 90 percent of all food-allergy reactions:

1. Peanuts
2. Tree nuts (eg. walnuts, pecans, hazelnuts, almonds, cashews, and pistachios)
3. Fish
4. Shellfish
5. Cow's milk

6. Eggs
7. Soybeans
8. Wheat

## Symptoms

Symptoms of an allergic reaction can range from mild to sudden and severe and commonly include one or more of the following:

- Hives
- Tingling in the mouth
- Swelling of the tongue and throat
- Difficulty breathing
- Abdominal cramps
- Vomiting or diarrhea
- Eczema or rash
- Coughing or wheezing
- Loss of consciousness
- Dizziness

**Anaphylaxis** is a sudden, severe allergic reaction that involves various areas of the body simultaneously or causes difficulty breathing and swelling of the throat and tongue. Anaphylaxis can result in death.

## Treatment and Prevention

The best method for managing food allergies is prevention by way of strict avoidance of any food that triggers a reaction. Some types of mild food allergies are treatable with an antihistamine or bronchodilator. Severe, or anaphylactic reactions, require epinephrine. At present, there is no cure for food allergies.

Food allergies are a particular concern in the school environment. Studies show that 16 to 18 percent of students with food allergies have had allergic reactions to accidental ingestion of food allergens while in school. Moreover, food-induced anaphylaxis data reveals that 25 percent of anaphylaxis reactions in schools occur among students without a previous food allergy diagnosis.

School personnel should be ready to effectively manage students with known food allergies and should also be vigilant and prepared to respond effectively to emergency needs of students who are not known to have food allergies but who exhibit allergy-related signs and symptoms.

## Action Plans

- English- <https://www.foodallergy.org/files/FAAP.pdf> (9/20/2011)
- Spanish- <http://www.foodallergy.org/files/spanishFAAP.pdf> (2/20/2012)

## Algorithms

- Anaphylaxis Planning Algorithm (2011)  
<http://www.nasn.org/toolsresources/foodallergyandanaphylaxis/anaphylaxisplanningalgorithm>
- Anaphylaxis Provision of Care Algorithm (2011)  
<http://www.nasn.org/toolsresources/foodallergyandanaphylaxis/anaphylaxisprovisionofcarealgorithm>

## Resources

National Association of School Nurses (NASN). (8/2012)

*Toolkit for Food Allergy and Anaphylaxis*

<http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis>

The Centers for Disease Control and Prevention has worked with NASN, the Food Allergy & Anaphylaxis Network and the National School Boards Association to develop comprehensive guidance, algorithms, and resources for food allergy and anaphylaxis management in the school setting.

American Academy of Pediatrics. (2012)

<http://www.healthychildren.org/English/health-issues/conditions/allergies-asthma/pages/Allergies.aspx>

*Children's Health Topics: Allergies & Asthma.*

This site provides a variety of materials for health care professionals and parents on a variety of health topics, including allergies and asthma.

Allergy Ready. (2012)

<http://allergyready.com/>

*C.A.R.E.™ for Students with Food Allergies online Anaphylaxis Readiness Course* and other online training courses.

Centers for Disease Control and Prevention. (2/17/2012)

<http://www.cdc.gov/healthyyouth/foodallergies/>

*Food Allergies in Schools.*

Food Allergy and Anaphylaxis Network. (2012)

<http://www.foodallergy.org/>

This site provides resources, publications, and links that are checked for scientific accuracy by a Medical Advisory Board comprised of leaders in allergy research. Information is available on allergens, anaphylaxis, research, alerts,

and recipes. There are extensive topics and resources for preschools, schools, and post secondary schools that include:

- School guidelines for managing students with food allergies
- School safety
- Food and allergy management crisis preparedness
- References and position papers
- Publications

National School Boards Association. (1/24/12)

<http://www.nsba.org/Board-Leadership/SchoolHealth/SelectedNSBAPublications/Food-Allergy/Safe-at-School-and-Ready-to-Learn.pdf>

*Safe at School and Ready to Learn: A Comprehensive Policy Guide for Protecting Students with Life-Threatening Food Allergies.*

Food Allergy and Anaphylaxis Network.

<http://www.foodallergy.org/files/media/food-allergy--anaphylaxis-network-guidelines/SchoolGuidelines.pdf>

*School Guidelines for Managing Students with Food Allergies.*

This document outlines family, school and student responsibilities.

American Latex Allergy Association. (1/1/2011)

<http://www.latexallergyresources.org/school-manual>

*School Safety Guidelines for Latex-Allergic Students. (2<sup>nd</sup> edition)*

**Posters:**

- Food Allergies: <http://www.foodallergy.org/files/media/tools-to-get-you-started/faaposter.pdf>
- Food Allergies: <http://www.kidscanhavefun.com/food-allergy-printables.htm>
- Food Allergies: <http://www.kidswithfoodallergies.org/resourcespre.php?id=85>
- Latex Allergies: <http://www.latexallergyresources.org/posters>

# **Asthma**

**Source:** <http://www.cdc.gov/asthma/schools.html>

## **Overview**

Asthma is a disease that affects the lungs. It causes repeated episodes of wheezing, breathlessness, chest tightness, and nighttime or early morning coughing. Asthma can be controlled by taking medicine and avoiding the triggers in the environment that can cause an attack or make asthma worse.

Asthma is a leading chronic illness among students in the United States and a leading cause of school absenteeism. Teachers, coaches, day care providers, and educators can help students manage their asthma. One of the surprising facts about asthma is that it is such a common disease. More than 23 million Americans have the condition and more than one-quarter of them are younger than 18 years. The rates are steadily rising, though no one can state exactly why and there are probably many reasons for the increase.

Asthma may appear at any age; however, between 80% and 90% of students with asthma develop symptoms by age 4 or 5 years. Fortunately, in the vast majority of cases, symptoms are mild to moderately severe. When the condition is properly managed with medications and environmental measures, most severe, potentially incapacitating exacerbations can be prevented.

## **Triggers**

An asthma attack can happen when students are exposed to asthma triggers. Triggers can be very different for each individual student. Students should know their triggers and learn how to avoid them. Watch out for an attack when triggers cannot be avoided. Some of the most common triggers are:

- Tobacco smoke
- Dust mites
- Outdoor air pollution
- Cockroach allergen
- Pets
- Mold
- Smoke from burning wood or grass
- Infections linked to influenza, colds, sinus infections, allergies
- Physical exercise

## Symptoms

- Chest tightness
- Wheezing
- Trouble breathing
- Coughing

## Treatment and Prevention

Asthma can often times be controlled and attacks can be avoided by taking medicine as directed by a health care provider and avoiding triggers. Everyone with asthma does not take the same medicine. Some medicines are breathed in, and some are taken as a pill. Asthma medicines come in two types—quick-relief and long-term control. Quick-relief medicines control the symptoms of an asthma attack. Long-term control medicines are taken regularly to control chronic symptoms and prevent asthma attacks. They are intended to help an individual have fewer and milder attacks, but they will not help during an asthma attack.

## Action Plans

- Iowa Asthma Action Plan (2003)  
[http://www.idph.state.ia.us/hcci/common/pdf/asthma\\_action\\_plan.pdf](http://www.idph.state.ia.us/hcci/common/pdf/asthma_action_plan.pdf)
- National Asthma Action Plan (4/2007)  
[http://www.nhlbi.nih.gov/health/public/lung/asthma/asthma\\_actplan.pdf](http://www.nhlbi.nih.gov/health/public/lung/asthma/asthma_actplan.pdf)

## Resources

National Association of School Nurses. (2012)

<http://www.nasn.org/ToolsResources/Asthma>

Numerous resources related to students with asthma.

American Academy of Pediatrics (AAP). (11/06/2012)

<http://www.healthychildren.org/English/health-issues/conditions/allergies-asthma/pages/Asthma.aspx>

*Asthma* - This site provides a variety of materials for health care professionals and parents on a variety of health topics including allergies and asthma. Family and community resources, resources for professionals, and links to sites providing information are included.

American Lung Association (ALA). (2012)

<http://www.lung.org/>

This site provides in-depth information about asthma management and treatment options to help control asthma. It includes facts about asthma, asthma attacks, asthma medicines, peak flow meters, and home control of allergies and asthma. The following ALA resources are available to schools:

Asthma-Friendly Schools Initiative Toolkit (5/2007)

<http://www.lung.org/assets/documents/lung-disease/asthma/afsi-toolkit2007-full.pdf>

This is a comprehensive toolkit with sections including:

- Maximizing school health services
- Building asthma education awareness
- Health school environments
- Physical activity and resources

Open Airways for Schools (2012)

<http://www.lung.org/lung-disease/asthma/in-schools/open-airways/open-airways-for-schools-1.html>

This is a school-based curriculum that educates and empowers students through a fun and interactive approach to asthma self-management. It teaches students with asthma ages 8-11 years how to detect the warning signs of asthma, avoid their triggers and make decisions about their health. Students who complete the Open Airways for Schools program should be able to:

- Take steps to prevent asthma symptoms
- Recognize the symptoms of asthma when they first occur, and carry out appropriate management steps.
- Discuss and solve problems related to asthma with parents, health professionals, teachers, and friends
- Feel more confident about taking care of asthma on a daily basis

Iowa Department of Public Health. (2010)

<http://www.lung.org/associations/states/iowa/events-programs/iowa-asthma-coalition/data--strategic-plans/2010-iowa-asthma-coalition.pdf>

*Asthma in Iowa*. This is an action plan to improve the health of Iowans with Asthma for 2010 – 2015. This tool will allow organizations across Iowa and the region to identify the top priorities and strategies for asthma management.

National Heart, Blood, and Lung Institute.

<http://www.nhlbi.nih.gov/health/public/lung/index.htm#asthma>

*Asthma Publications/Factsheets*.

This site provides a large variety of asthma resources and tools.

**Posters:**

- Management of Asthma Exacerbations: School Treatment. Suggested Emergency Protocol for Students with Asthma Symptoms Who Don't Have a Personal Asthma Action Plan. (8/2011)  
<http://www.nhlbi.nih.gov/health/prof/lung/asthma/sch-emer-actplan.pdf>

# **Diabetes**

**Source:** *Helping the Student with Diabetes Succeed: A Guide for School Personnel. Updated Edition 2010. National Diabetes Education Program – NDEP*

## **Overview**

Type 1 diabetes, formerly called juvenile diabetes, is a disease of the immune system. In type 1 diabetes, the immune system attacks the beta cells (the insulin-producing cells of the pancreas) and destroys them. Because the pancreas can no longer produce insulin, people with type 1 diabetes must take insulin daily to live. Type 1 diabetes can occur at any age, but disease onset occurs most often in children and young adults. Most cases of diabetes in children under age 10 years are type 1 diabetes. In adults, type 1 diabetes accounts for 5 to 10 percent of all cases of diagnosed diabetes.

## **Type 1 Diabetes**

### **Common Symptoms (not all inclusive)**

Increased thirst and urination  
Weight loss  
Blurred vision  
Feeling tired all the time

### **Risk Factors**

Genetics  
Environment

Type 2 diabetes, formerly called adult-onset diabetes, is the most common form of diabetes. People can develop it at any age, even during childhood. A progressive disease, type 2 diabetes usually begins with insulin resistance, a condition in which muscle, liver, and fat cells do not use insulin properly. At first, the pancreas keeps up with the added demand by producing more insulin. Over time, however, the pancreas loses its ability to secrete enough insulin in response to meals or to control the glucose level overnight or during periods of fasting. Managing type 2 diabetes includes lifestyle changes such as making healthy food choices and getting regular physical activity. In addition, people with type 2 diabetes may take insulin and/or other glucose-lowering medications to control their diabetes.

In the past, type 2 diabetes was found mainly in overweight or obese adults age 40 or older. Now, as more children and adolescents in the United States have become overweight and inactive, type 2 diabetes is occurring in young people.

## Type 2 Diabetes

### Common Symptoms (not all inclusive)

Feeling tired all the time  
Increased thirst and urination  
Weight loss  
Blurred vision  
Frequent infections  
Slow-healing wounds

### Risk Factors

Being overweight  
Having a family member who has type 2 diabetes  
Being African American, Hispanic/Latino, American Indian, Alaska Native, Asian American, or Pacific Islander Including Native Hawaiian

## Action Plans

The following plans can be found in the *Helping the Student with Diabetes Succeed: A Guide for School Personnel* (2010).

[http://ndep.nih.gov/media/youth\\_schoolguide.pdf](http://ndep.nih.gov/media/youth_schoolguide.pdf)

- **Diabetes Medical Management Plan (DMMP)** is completed by the student's personal diabetes health care team and contains the medical orders that are the basis for the student's health care and education plans. Pages 99-106.
- **Individualized Health Care Plan (IHP)** is prepared by the school nurse and contains the strategies for implementing the medical orders in the DMMP in the school setting. Pages 107-108.
- **Emergency Care Plans for Hypoglycemia and Hyperglycemia**, based on the DMMP, summarize how to recognize and treat low blood glucose and high blood glucose and who to contact for help. The school nurse is the ideal person to coordinate development of these plans. Pages 109-110 and 111-112.

## Resources

National Association of School Nurses. (2012)

<http://www.nasn.org/ToolsResources/DiabetesinChildren>

Numerous resources related to students with diabetes.

*Diabetes Care Tasks at School: What Key Personnel Need to Know.* (2010)

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/school-staff-trainings/diabetes-care-tasks.html>

This is a set of training modules developed by the American Diabetes Association. It is a two-part training curriculum consisting of PowerPoint presentations with corresponding video segments. It is intended for health care professionals to use to train school nurses and other school personnel on diabetes care tasks. The curriculum can be accessed online or is available on CD/DVD.

*Helping the Student with Diabetes Succeed: A Guide for School Personnel.* (2010) [http://ndep.nih.gov/media/youth\\_schoolguide.pdf](http://ndep.nih.gov/media/youth_schoolguide.pdf). This guide was produced by the National Diabetes Education Program (NDEP), a federally sponsored partnership of the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health and the Division of Diabetes Translation of the Centers for Disease Control and Prevention, and more than 200 partner organizations. The purpose of this comprehensive resource guide is to educate school personnel about effective diabetes management and to share a set of practices that enable schools to ensure a safe learning environment for students with diabetes. The guide should be used in conjunction with federal as well as state and local laws. It can be accessed online or is available hard-copy.

Juvenile Diabetes Research Foundation International (JDRF) (2008-2010)

[http://www.jdrf.org/index.cfm?page\\_id=108007](http://www.jdrf.org/index.cfm?page_id=108007)

*School Advisory Toolkit for Families.* This toolkit developed by the Juvenile Diabetes Research Foundation International (JDRF), offers methods for educators and parents of students with diabetes to ensure every student enjoys the best possible school experience. The toolkit can be downloaded.

**Posters:**

- Hypoglycemia and Hyperglycemia. (6/2006).  
[http://natomas.schoolwires.com/151110715194855533/lib/151110715194855533/Hyper\\_and\\_Hypo\\_Chart.pdf](http://natomas.schoolwires.com/151110715194855533/lib/151110715194855533/Hyper_and_Hypo_Chart.pdf)

## **Seizures/Epilepsy**

**Source:** <http://www.cdc.gov/Epilepsy/index.htm>

### **Overview**

Epilepsy, sometimes referred to as a *seizure disorder*, is a general term that refers to a tendency to have recurrent seizures. A seizure is a temporary disturbance in brain function in which groups of nerve cells in the brain signal abnormally and excessively. Nerve cells or neurons normally produce electrical impulses that act on other nerve cells, muscles, or glands to create awareness, thought, sensations, actions, and control of internal body functions. During a seizure, disturbances of nerve cell activity produce symptoms that vary depending on which part (and how much) of the brain is affected. Seizures may produce changes in awareness or sensation, involuntary movements, or other changes in behavior. Usually, a seizure lasts from a few seconds to a few minutes.

## Triggers

Some seizure triggers may include:

- Specific time of day or night
- Sleep deprivation - overtired or not sleeping well
- At times of fevers or other illnesses
- Flashing bright lights
- Alcohol or drug use
- Stress
- Associated with menstrual cycle (women) or other hormonal changes
- Not eating well, low blood sugar
- Specific foods, excess caffeine or other products that may aggravate seizures
- Use of certain medications

## Symptoms

There are many types of seizures. These can be classified into two broad groups:

1. Generalized seizures—seizures begin with widespread involvement of both sides of the brain.
2. Partial seizures—seizures begin with involvement of a smaller, localized area of the brain. With some partial seizures, the disturbance can still spread within seconds or minutes to involve widespread areas of the brain (secondary generalized seizure). There is another form of seizure called complex partial seizure which is a form of partial seizure during which the person loses awareness. They do not actually become unconscious, and he or she may carry out actions as complex as walking, talking, or driving. The patient may have physical, sensory, and thought disturbances. When the seizure ends, they have no memory of those actions.

Some students have seizures that are hardly noticeable to others. Sometimes, the only clue that a student is having an absence seizure—a type of primary generalized seizure sometimes called petit mal—is rapid blinking or a few seconds of staring into space. In contrast, a person having a complex partial seizure may appear confused or dazed and will not be able to respond to questions or direction for up to a few minutes. Finally, a person having a generalized tonic-clonic seizure, sometimes called grand mal, may cry out, lose consciousness, fall to the ground, and have rigidity and muscle jerks lasting up to a few minutes, with an extended period of confusion and fatigue afterward.

## Treatment and Prevention

Antiepileptic drugs are the mainstay of treatment for most people. There are now many drugs available, and a health care provider may recommend one or more of these based on several individual patient factors such as the type of epilepsy, the frequency and severity of the seizures, age, and related health conditions. After

starting a medication, close monitoring is required for a while to assess the effectiveness of the drug as well as possible side effects. In some situations surgery or other specific treatments such as a ketogenic diet or nerve stimulator may be part of the student's plan of care.

## Action Plan

- National Epilepsy Foundation.  
<http://www.epilepsyfoundation.org/livingwithepilepsy/youth/youngadults/upload/snactionplan.pdf>

## Resources

National Association of School Nurses. (2012)

<http://www.nasn.org/ContinuingEducation/ManagingStudentsWithSeizuresATrainingforSN>

Centers for Disease Control and Prevention. (2012)

<http://www.cdc.gov/Epilepsy/index.htm>

*Epilepsy*. This site provides information including *You Are Not Alone: Toolkit for Parents of Teens of Epilepsy*. <http://www.cdc.gov/epilepsy/toolkit.htm>

- Program activities
- Research projects
- Publications

National Epilepsy Foundation. (2012)

[www.epilepsyfoundation.org](http://www.epilepsyfoundation.org)

Resources such as the Seizure Training for School Personnel Toolkit and The Individuals with Disabilities Education Act & the Student with Epilepsy are available. Also, the Managing Students with Seizures Toolkit can be found here: <http://www.epilepsyfoundation.org/livingwithepilepsy/educators/socialissues/schoolnurseprogram/index.cfm>

### Posters:

- Convulsive, generalized tonic-clonic, grand mal:  
<http://www.epilepsynw.org/wp-content/themes/epilepsy/brochures/First-Aid-and-Seizure-Response/First-Aid-for-Seizures-Tonic-Clonic-Poster.pdf>
- Complex partial, psychomotor, or temporal lobe:  
<http://www.epilepsynw.org/wp-content/themes/epilepsy/brochures/First-Aid-and-Seizure-Response/First-Aid-for-Seizures-Complex-Partial-Poster.pdf>