

Chapter 7: Special Care Issues

Attention Deficit/Hyperactivity Disorder

Food Allergies

Managing Food Allergies in Schools

Latex Allergies

Service Animals in Schools

Trauma-Informed Care

Measuring Body Temperature

Attention Deficit Hyperactivity Disorder (ADHD)

Overview

Attention deficit hyperactivity disorder (ADHD), first described in the medical literature in 1902, is the most common behavioral disorder diagnosed in childhood.

The core symptoms of ADHD include **developmentally inappropriate** levels of attention, concentration, activity, distractibility, and/or impulsivity. Symptoms of ADHD are first apparent in preschool or early elementary school and cause problems in more than one setting, such as both school and home.

Children with ADHD may experience academic difficulties, rejection by peers, and higher injury rates. Adolescents and adults with untreated ADHD are at greater risk for substance abuse, as well as injuries and dysfunctional social relationships. Parents of children with ADHD often experience frustration, marital discord, and additional financial expenses. Long term adverse consequences from ADHD include negative effects on academic performance, vocational success, and social functioning.

Children with ADHD present challenges and often need more services from the health care, judicial, education, and social service systems. In 2011, The American Academy of Pediatrics estimated that 8% of school age children had ADHD while the FDA and CDC found 11% of children had been diagnosed with ADHD (other estimates range from 2-15%), with a higher rate among boys than girls.

Current Diagnostic Criteria

According to the Diagnostic and Statistical Manual, 5th Edition (DSM-5), there are three presentations of ADHD:

- Primarily Hyperactive/Impulsive—exhibit 6 or more symptoms of hyperactivity/impulsivity
- Primarily Inattentive—exhibit 6 or more symptoms of inattention.
- Combined—exhibits 6 or more symptoms of both hyperactivity/impulsivity and inattention; most children with ADHD exhibit this presentation.

To be diagnosed with ADHD, the child must not only meet these behavioral criteria, he/she must demonstrate functional impairment, display symptoms in two or more settings, and have had evidence of onset of symptoms before the age of twelve. For many years, diagnostic criteria for ADHD focused on children. DSM-5 recognizes that ADHD often persists into adulthood and includes guidelines for diagnosing and treating adults. People 17 and older must have at least five symptoms of inattention or hyperactivity/impulsivity.

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It is important to realize that students with ADHD may have other co-existing conditions, such as learning disabilities, oppositional defiant disorder, and/or anxiety disorders, although many students have ADHD alone. Not all students with inattention, hyperactivity, and impulsivity have ADHD. A comprehensive evaluation must take place for diagnosis. Generally, this evaluation will include interviews with the parents and the student, as well as observations of the student in school. Rating scales from both the parents and educators are often used in this process. In addition, psychoeducational testing can be useful in the evaluation to rule out specific medical syndromes, neurologic disorders, pervasive developmental disorders, and sensory deficits. Psychological evaluation can help evaluate for conduct disorders, oppositional defiant disorders, anxiety, depression, adjustment reaction, obsessive-compulsive disorder, family dysfunction, or poor environmental fit.

The underlying cause of ADHD is not understood. Research indicates that the disorder may have a genetic link and may be related to a biochemical imbalance or structural anomaly in the brain. Children born preterm have a 2-3 times greater risk of developing ADHD. However, the exact cause of ADHD in any specific student cannot usually be determined.

The *DSM-5* diagnostic criteria for ADHD are based upon the following five observable characteristics:

A. Either 1 or 2

1. Six or more of the following symptoms of **inattention** presentation have persisted for at least 6 months to a degree that is maladaptive and inconsistent with the developmental level:
 - Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.
 - Often has difficulty sustaining attention in tasks or play activities.
 - Often does not listen when spoken to directly.
 - Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions).
 - Often has difficulty organizing tasks and activities.
 - Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).
 - Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, or books).
 - Is easily distracted by extraneous stimuli.
 - Is often forgetful in daily activities.
2. Six or more of the following symptoms of **hyperactivity/impulsivity** presentation have persisted for at least six months to a degree that is maladaptive and inconsistent with the developmental level:

Hyperactivity

- Often fidgets with hands or feet or squirms in seat.
 - Often leaves seat in classroom or in other situations in which remaining seated is expected.
 - Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents and adults, may be limited to subjective feelings of restlessness).
 - Often has difficulty playing or engaging in activities quietly.
 - Is often “on the go” or often acts as if “driven by a motor.”
 - Often talks excessively
 - Impulsivity
 - Often blurts out answers before questions have been completed.
 - Often has difficulty awaiting a turn.
 - Often interrupts or intrudes on others (e.g., butts into conversations or games).
3. Some hyperactive impulsive or inattentive symptoms that caused impairment were present before 12 years of age.
 4. Some impairment from the symptoms is present in two or more settings (e.g., at school or at work or at home).
 5. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
 6. The symptoms do not occur exclusively during the course of schizophrenia, or other psychotic disorder, and are not better accounted for by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, or a personality disorder).
DSM-5 does allow a person to be diagnosed with ADHD and Autism Spectrum Disorder.

The Vanderbilt ADHD Rating Scales are recommended as part of the evaluation and diagnosis of ADHD in children and adolescents. The following behavioral rating scales can be used in addition to the initial evaluation: Conners' Rating Scales (the revised Conners' Parent Rating Scale [CPRS-R], the revised Conners' Teacher Rating Scale [CTRS-R], and the Conners'/Wells Self-Report of Symptoms rating scale [CASS]), Achenbach Scales: Child Behavioral Checklist (CBCL), Teacher Report Form (TRF), Youth Self-Report (YSR), ADHD Rating Scale – IV (ADHD RS-IV) (DSM-IV-based), and the Swan, Nolan, and Pelham Questionnaire (SNAP) (DSM-IV-based).

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Management of ADHD

Clinical Practice Guidelines

The American Academy of Pediatrics (AAP) partnered with the Agency for Health care Research and Quality (AHRQ) and other agencies in developing the evidence base for clinical practice guidelines for the treatment of ADHD. They recommend use of stimulant medication and/or behavioral therapy to reach target goals. They emphasize that primary care clinicians should collaborate with both parents/guardians and school-based professionals to monitor the progress and effectiveness of interventions.

Action Statement 1: The primary care clinician should initiate an evaluation for ADHD for any child 4 through 18 years of age who presents with academic or behavioral problems and symptoms of inattention, hyperactivity, or impulsivity (**quality of evidence B/strong recommendation**).

Action Statement 2: To make a diagnosis of ADHD, the primary care clinician should determine that *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition Text Revision* (DSM-5) criteria have been met (including documentation of impairment in more than 1 major setting), and information should be obtained primarily from reports from parents or guardians, teachers, and other school and mental health clinicians involved in the child's care. The primary care clinician should also rule out any alternative cause (**quality of evidence B/strong recommendation**).

Action Statement 3: In the evaluation of a child for ADHD, the primary care clinician should include assessment for other conditions that might coexist with ADHD, including emotional or behavioral (e.g., anxiety, depressive, oppositional defiant, and conduct disorders), developmental (e.g., learning and language disorders or other neurodevelopmental disorders), and physical (e.g., tics, sleep apnea) conditions (**quality of evidence B/strong recommendation**).

Action Statement 4: The primary care clinician should recognize ADHD as a chronic condition and, therefore, consider children and adolescents with ADHD as children and youth with special health care needs. Management of children and youth with special health care needs should follow the principles of the chronic care model and the medical home (**quality of evidence B/strong recommendation**).

Action Statement 5: Recommendations for treatment of children and youth with ADHD vary depending on the patient's age.

Action Statement 5a: For preschool-aged children (4-5 years of age), the primary care clinician should prescribe evidence-based parent and/or teacher-administered behavior therapy as the first line of treatment (**quality of evidence A/strong recommendation**) and may prescribe methylphenidate if the behavior interventions do not provide significant improvement and there

is moderate-to-severe continuing disturbance in the child's function. In areas in which evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment (**quality of evidence B/recommendation**).

Action Statement 5b: For elementary school-aged children (6-11 years of age), the primary care clinician should prescribe U.S. Food and Drug Administration (FDA) approved medications for ADHD (**quality of evidence A/strong recommendation**) and/or evidence based parent- and/or teacher administered behavior therapy as treatment for ADHD, preferably both (**quality of evidence B/strong recommendation**). The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended-release guanfacine, and extended-release clonidine (in that order) (**quality of evidence A/strong recommendation**). The school environment, program, or placement is a part of any treatment plan.

Action Statement 6: Primary care clinicians should titrate doses of medication for ADHD to achieve maximum benefit with minimum adverse effects (**quality of evidence B/strong recommendation**).

Pharmacotherapies

Psychopharmacologic agents represent one part of a thorough treatment plan for children aged 6 and older after the diagnosis of ADHD has been confirmed. Prior to starting the use of stimulants, baseline assessments of blood pressure, pulse, height, weight, and physical examination should be done.

First-line treatment recommended by the AAP and AHRQ, as specified in Recommendation 5B above, involve the use of one of the stimulant medications: methylphenidate, dextroamphetamine, or amphetamine salts. No significant differences in efficacy have been found among the stimulants available and combination therapies are not routinely recommended. Several long-acting forms of ADHD medications are approved for use and have gained popularity because their once-daily dosing can be done at home and does not require administration during the day at school.

Because they are controlled substances, stimulants should have locked storage and receive careful documentation upon receiving and dispensing them.

There have been some reports of crushing and intranasal abuse of stimulants by students and/or family members. Concerta, a long-acting form of methylphenidate, cannot be crushed and abused because it contains a high molecular polymer that is mixed with the methylphenidate. If a crushed tablet is mixed with water, the tablet forms a gel that makes methylphenidate separation from the polymer nearly impossible.

The stimulant medication pemoline (Cylert) was once widely used, but is no longer recommended due to its risk of hepatotoxicity.

School personnel are discouraged from recommending the use of psychotropic medications for any student. They may recommend that a student be evaluated by an appropriate medical practitioner.

The table below summarizes the medications used for ADHD:

Drug	Pharmaco-kinetics DBE=Duration of behavioral effect)	Comments
Amphetamine Mixtures		
• <i>Adderall</i>	DBE=4-6 hrs.	May require multiple dosing.
• <i>Adderall XR</i>	DBE=12 hrs.	Once daily dosing.
Dextroamphetamine		
• <i>Dexedrine tablet</i>	DBE=4-6 hrs.	Inexpensive. May require multiple dosing. Greater abuse potential?
• <i>Dexedrine Spansule</i>	DBE 6-8 hrs.	Slow onset.
Lisdexamfetamine		
• <i>Vyvanse</i>	DBE=10-14 hrs.	Once daily dosing. Long-acting stimulants may have greater effects on sleep and appetite.
Methylphenidate Preparations		
• <i>Concerta</i>	DBE=10-12 hrs.	Once daily. Quick onset; long duration. Cannot be crushed.
• <i>Metadate CD</i>	DBE=9 hrs.	Once daily. Quick onset.
• <i>Ritalin</i>	DBE=3-5 hrs.	Requires multiple daily dosing.
• <i>Ritalin SR</i>	DBE=8 hrs.	Intermediate acting. May require

Drug	Pharmaco-kinetics DBE=Duration of behavioral effect)	Comments
		Multiple dosing.
<ul style="list-style-type: none"> • <i>Methylin</i> 	DBE=3-5 hrs.	Liquid or chewable form.
<ul style="list-style-type: none"> • <i>Quillivant</i> 	DBE-12 hrs.	Long acting liquid form.
<ul style="list-style-type: none"> • <i>Datrayna Patch</i> 	10-12 hrs.	Transdermal delivery system. FDA warning issued June 2015 that it may cause permanent loss of skin color known as chemical leukoderma.
Dexmethylphenidate		
<ul style="list-style-type: none"> • <i>Focalin</i> 	4-6 hrs.	Also comes in extended release form Focalin ER.
Selective Norepinephrine Reuptake Inhibitor		
<p>Atomoxetine</p> <ul style="list-style-type: none"> • <i>Strattera</i> 	DBE=12-24 hrs.	Non-stimulant. Usually once daily, but may be divided into two doses. Less insomnia than stimulants.
Guanfacine ER		
<i>Intuiv</i>	DBE=10-12 hrs.	<p>For ADHD in students 6-17. Especially useful for hyperactivity. Used in adults</p> <p>For high blood pressure.</p>
Clonidine ER		
<i>Kapvay</i>	10-12 hrs.	Once or twice daily. Also used to treat high blood pressure.
Antidepressants		
<ul style="list-style-type: none"> • Bupropion (<i>Wellbutrin</i>) • Tricyclic Antidepressants <ul style="list-style-type: none"> ○ Desipramine (<i>Norpramine, Pertofrane</i>) ○ Imipramine (<i>Tofranil</i>) 		Not FDA approved to treat ADHD in children. Concern for suicidal ideation. May be tried if stimulants aren't tolerated or student has other medical conditions.

Drug	Pharmaco-kinetics DBE=Duration of behavioral effect)	Comments
<ul style="list-style-type: none"> • Nortriptyline (<i>Pamelor, Aventyl</i>) • Venlafexine (<i>Effexor</i>) • Escitalopram (<i>Lexapro</i>) • Sertraline (<i>Zoloft</i>) 		

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**Intermediate School District 917
Consent for Administration of Special Health Care Procedures**

Student _____ Birth Date _____ School Year _____

Primary Diagnosis _____ ICD-10 _____

Diagnosis _____ ICD-10 _____ Diagnosis _____ ICD-10 _____

This form is used for specialized procedures which may include, but not be limited to administration of oxygen, urinary catheterization or wound care procedures which may be needed and provided for a student while he/she attends school. The procedure(s) may be performed by school personnel trained and supervised by a School Nurse.

Parent/Guardian Authorization

I authorize the school nurse to contact the licensed provider as needed concerning this medication/s.

Provider/Clinic _____ Phone # _____ Fax # _____

- I understand that parent/guardian authorization is required for any prescription medication to be given at school. Prescription medications must have a physician or licensed provider authorization.
- I understand that I must provide all medication(s) and equipment for the procedure(s) below.
- I understand all medications must be provided with an accurately labeled prescription container. (Please ask your health provider for the medication to be divided into two containers-one for school, & one for home) Nonprescription medications must be in an original container with label and directions.
- I will notify the school immediately if my child's health status changes or there is a cancellation of the procedure(s).
- The medication may not necessarily be administered by a school nurse. The medications may be administered by school personnel trained and supervised by a licensed school nurse.
- I have read this *Parent/Guardian Authorization* section and agree to the instructions it provides.

Parent/Guardian Signature _____ Date _____

Physician's Orders

Procedure _____

Instruction _____

Time/interval procedure is to be done _____

Amount (if applicable) _____

Precautions and/or adverse reactions _____

Physician's Signature _____ Date _____

<i>For office use only:</i>	
LSN Signature _____	Date _____
Name of Staff Routing _____	Date _____
Please check off who was routed this form <input type="checkbox"/> Student File <input type="checkbox"/> IEP Manager <input type="checkbox"/> 917 LSN <input type="checkbox"/> Building Nurse	

School Based Interventions

The teacher and other school personnel's attitudes toward ADHD are important for educational success. Understanding the disorder encourages use of appropriate interventions and strategies. Open communication between school professionals and parents is critical in success of the child with ADHD. Classroom interventions may involve making environmental, instructional, behavioral, and social modifications. Each child with ADHD can benefit from a plan individualized to his or her needs. Possible modifications can include:

Environmental:

- Seat in quiet area
- Seat near good role model
- Increase distance between desks
- Allow student to stand while working
- Provide notebook with dividers
- Reward neatness of desk/area; do not punish sloppiness
- Use tape recorder instead of writing notes, assignments, or homework
- Allow frequent breaks to walk or stretch
- Structure a similar routine for each day
- Seat near teacher
- Colorize/organize subjects with folders and/or notebooks

Instructional:

- Allow extra time to complete tasks
- Shorten assignments
- Break long assignments into smaller parts; give assignments one at a time
- Reduce amount of homework; require fewer correct responses; pair written and oral instructions
- Provide peer assistance in note taking
- Remind students to recheck work
- Review instructions and directions frequently
- Avoid oral reading in front of class if difficult area for student
- Accept oral responses
- Accept use of word processor or computer
- Limit quantity of written work
- Accept use of calculator
- Provide immediate feedback
- Model math and writing processes
- Read to the student frequently
- Highlight relevant information
- Use timer to set limit for task completion
- Limit the amount of work on one page
- Vary test responses

- Provide hands on approach to learning
- Provide information in small steps
- Break tasks down into small steps
- Review information frequently and provide repetition
- Summarize key points provide student a copy of lecture notes
- Use outlining, webbing, and visual diagrams
- Practice dictation
- Illustrate vocabulary
- Verbalize steps in the process; talk slower when giving directions
- Provide wait time for response to question
- Use graph paper for math assignments
- Adjust type, difficulty and sequence of material required

Behavioral:

- Encourage self-monitoring
- Provide visual charts
- Post simply and clearly written rules
- Provide cues and prompts as reminders
- Ignore minor inappropriate behavior
- Increase immediacy of rewards and consequences
- Provide visual of hierarchy of consequences
- Supervise closely during unstructured periods
- Avoid lecturing and criticism
- Model appropriate behaviors
- Use behavior contract for one behavior at a time with appropriate reward
- Call on only when hand is raised
- Speak softly in non-threatening manner
- Provide leadership role opportunities
- Reinforce compliant behavior immediately and consistently
- Provide purposeful learning assignments
- Include high interest activities
- Practice verbally rehearsing the appropriate behavior
- Provide opportunity for practicing the appropriate behavior
- Use home-based consequences
- Stick to set limits
- Directly verbalize expectations
- Plan ahead for new activities or unstructured events
- Be flexible
- Learn to increase structure
- Establish one goal at a time
- Give the student two choices to decide upon
- Avoid creating competitive situations and activities

Social:

- Increase contact by touch or name
- Structure interactions
- Promote acceptable social behavior
- Assign special responsibilities to boost self esteem
- Send positive notes home
- Train appropriate anger control
- Provide encouragement
- Teach social skills directly
- Foster acceptance of differences among peers

Student and Parent/Guardian Issues

The student with ADHD has to cope with frequent health care provider visits and medication adjustments. He or she must also learn to handle related frustration, social, and behavioral concerns. Having difficulty controlling behavior according to classroom expectations, along with discipline referrals and academic difficulties, greatly influence the development of the student's self-esteem. Each student must be evaluated on an individual basis and his strengths must be emphasized.

Students with ADHD may also have great difficulty complying with parental instructions. The parents/guardians, in return, may become frustrated trying to manage their student's behavior effectively. Homework often becomes an issue of concern due to failure to complete the assignment within a reasonable amount of time and with reasonable effort. Supervision can become an issue due to the student's impulsivity and poor judgment.

Other demands may be placed upon the parents/guardians and siblings of students with ADHD, which may result in high levels of family stress. Support groups, behavioral consultation, and counseling can help families adapt.

National Institutes of Health Consensus Statement on ADHD

The National Institutes of Health (NIH) held a consensus development conference of experts in the field to examine what was known about ADHD. Consensus statements often do not represent the latest findings in a particular field because such findings need to be further studied and replicated before becoming widely accepted as standards. The value of consensus statements is that they reflect an "educated consensus" of what is known about a particular subject and are developed by scientists and citizens chosen for their expertise and impartiality. Results of the development conference on ADHD were published in 2000 and addressed six key questions with the following statements (this is the most recent consensus statement).

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What is the scientific evidence to support ADHD as a disorder?

Although no independent valid test exists for ADHD, diagnosis “can be made reliably using well-tested diagnostic interview methods....Evidence supporting the validity of ADHD includes the long-term developmental course of ADHD over time, cross-national studies revealing similar risk factors, familial aggregation of ADHD, and heritability” (NIH, 2000). The consensus statement notes that there appears to be a central nervous system basis for ADHD, but further research is needed to definitely determine this. Problems of diagnosis include differentiation from other behavioral disorders and determining “the appropriate boundary between the normal population and those with ADHD.” It also notes the need for research to determine diagnostic criteria for young children, adolescents, and adults.

What is the impact of ADHD on individuals, families, and society?

ADHD represents a costly, major public health issue. Children with ADHD experience rejection by peers, academic difficulties, and higher injury rates. Adolescents, and later, some adults with untreated ADHD are at greater risk for substance abuse, injuries, and dysfunctional social relationships. Parents of children with ADHD experience frustration, marital discord, and additional financial expense. In society, persons with ADHD need more services from the health care system, the judicial system, schools, and social services. Families face difficult treatment decisions made worse by “the media war between those who overstate the benefits of treatment and those who overstate the dangers of treatment” (NIH, 2000).

What are the effective treatments for ADHD?

Short-term trials of both stimulants and psychosocial treatments have established their efficacy in alleviating symptoms of inattention, hyperactivity, impulsivity, and aggressiveness. Psychosocial therapies include behavioral strategies such as reward/consequence management, parent/guardian training, and teacher training. Cognitive-behavioral treatment is not effective. Studies comparing stimulants with psychosocial treatment consistently report greater efficacy with stimulants. Alternative treatments such as diet management, vitamins, herbs, biofeedback, and perceptual stimulation demonstrate inconsistent results and have not been proven effective.

What are the risks of the use of stimulant medication and other treatments?

There appear to be no conclusive evidence that stimulant use is harmful. However, studies of long-term effects are not available. Adverse drug reactions are usually dose related. There may be short-term effects on growth rate, but ultimate height is not affected. Data is limited and conflicting as to whether stimulant use increases the risk of substance abuse—more research is needed in this area. The increased use of stimulants may result in a risk of oversupply and illicit use for society.

What are the existing diagnostic and treatment practices, and what are the barriers to appropriate identification, evaluation, and intervention?

There are wide variations in practice among communities and physicians, suggesting no consensus. Children may sometimes be underdiagnosed and sometimes be over diagnosed. Closer follow-up and collaboration between clinician, family, and school personnel is needed. Barriers to care include negative media portrayal of ADHD, the lack of specialists to care for children with ADHD, inadequate collaboration between the educational system and the practitioner and insurance coverage that limit reimbursement for mental health treatments.

What are the directions for future research?

A list of ten areas needing research is delineated. Moreover, the need for research into the etiology of ADHD is emphasized because as long as the cause is not known, there are no universal strategies for prevention.

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Managing Food Allergies in Schools

Overview

Food allergies can be life threatening. They refer to reactions involving immunologic reactions (usually IgE) to particular foods. They may be immediate or delayed, mild or severe. When severe, food allergies can cause systemic (throughout the body) hypersensitivity reactions in cardiovascular, respiratory, gastrointestinal, and cutaneous tissues. The problem is growing. According to the American Academy of Pediatrics, 8% of children in the U.S. have a food allergy.

Reactions may occur from actual *ingestion* of a food or from *contact* with the food. This contact may occur anywhere at school—in the cafeteria, in the classroom, on the bus, or on the playground. Students with severe allergies may experience an allergic reaction just from sniffing the offending food, from touching another student who has handled the offending food, or from utensils that have touched the offending food and later touch another food that the student ingests.

Allergic reactions to food are increasing and are among the most common medical emergencies that occur at school. Almost 18% of students with food allergies are reported to have had an allergic reaction at school. Avoidance of the offending food(s) is the only way to prevent a reaction. The principles of successful management of food allergies are prevention and preparedness--avoiding the allergen and preparing for treatment of acute allergic reactions.

The list of foods that can cause allergic reactions is unlimited. However, several foods typically cause the vast majority of severe allergic reactions in school-age children and include:

- Peanuts
- Tree nuts (e.g., pecans, walnuts)
- Fish (e.g., cod, whitefish)
- Shellfish (shrimp, lobster, crab, scallops, or oysters).

Ingredients containing these foods (such as peanut oil or peanut flour) may also be hidden in other prepared foods. These foods can cause severe anaphylactic reactions, and sensitivity continues throughout life.

Other foods that are commonly associated with allergic reactions include:

- Milk
- Eggs
- Soybeans
- Wheat

Reactions to these foods, however, tend to be less severe and may lessen as the child gets older. Many children are said to “outgrow” these allergies.

Food allergy and food intolerance are often confused. For comparison, food intolerances refer to reactions that are non-immunologic, such as lactose intolerance involving a deficiency of an

enzyme necessary for the digestion of milk. Food sensitivities involve digestive reactions and other symptoms that occur after eating particular food additives such as food coloring, monosodium glutamate, or sulfites (used in dried fruits). Celiac disease is a gluten-sensitive enteropathy. Although it has symptoms which make it look like an allergy, it is not an IgE-mediated immune response. It may be an autoimmune response that results in the body attacking normal tissue in the GI tract in response to eating products that contain gluten (such as wheat, barley, or oats).

Settings and Staff

Management of food allergies should occur throughout the entire school day and in all settings. Allergic reactions to food do not just occur in the cafeteria. Materials used in class projects or snacks in the classroom can trigger a reaction. Contact with other students who have had contact with allergy-causing food(s) can also cause an allergic reaction. Students interacting on a bus can accidentally expose an allergic student to an allergen.

Some schools may designate areas or tables in the cafeteria where certain foods are not allowed to decrease exposure. However, according to the National Association of School Nurses (NASN) Position Statement, “completely banning nuts or other foods is not recommended as it is 1) not possible to control what other people bring onto the school grounds, and 2) does not provide the allergic student with an environment where he/she can safely learn to navigate a world containing nuts....A ban can create a false sense of security.”

All school personnel who have contact with the student with food allergies should know how to decrease the risk of allergic reactions and how to activate the Food Allergy Action Plan or established school emergency plan for the student.

The Centers for Disease Control & Prevention has compiled an extensive list of recommendations for schools in the management of food allergies. *Voluntary Guidelines for Managing Food Allergies In Schools and Early Care and Education Programs* is available to all schools by calling 1-800-CDC-INFO or going online to www.cdc.gov/healthyyouth.

Individualized Health care Plan (IHP)

Each student’s individualized health care plan (IHP) must be tailored to the individual’s needs. Any student with prescribed epinephrine should have an IHP that discusses continuous monitoring, emergency plans, and evaluation. A sample Food Allergy Action Plan (Food Allergy & Anaphylaxis Emergency Care Plan) is included.

Managing a Food Allergy

- Some points to remember in the management of food allergies include:
- Teach the student with a food allergy how to manage the allergy (as developmentally appropriate), including how to avoid unsafe foods and foods with unknown ingredients,

how to read food labels, symptoms of allergic reactions, and how to get help when needed

- Obtain health care provider orders for care
- Collaborate with the family to develop strategies to manage the allergy
- Develop a **written** Allergy Action Plan
- Have appropriate medications available in the event of an emergency (and not locked away)
- Develop plans for field trips, school bus rides, substitute teacher days, and after-school programs which allow the student to participate while accommodating his/her needs
- Develop plans for carrying and storing epinephrine for students who have permission to self-carry
- Make sure that all personnel who interact with the student on a regular basis know how to recognize symptoms of an allergic reaction and know what to do if one occurs
- Institute a “no sharing” food policy between students
- Avoid foods whose ingredients are unknown. Recognize other names for allergenic foods on food labels (e.g., casein hydrolysate for milk).
- Consider designating a table where a particular allergic food could not be eaten if a student has a severe allergy (e.g., peanut-free table). However, it is not possible or advisable to make a school “nut free” or “allergy free.” It can be “nut aware” or “allergy aware”.
- Consider informing parents/guardians of other students if a severe allergy exists with parental permission
- Teach classmates (especially adolescents) how to respond to an allergic reaction
- Expand “no bullying” policies to cover students who are bullied due to food allergies and restrictions
- Teach food service workers to avoid cross-contamination in preparing or cleaning up foods
- Inform students and staff that hand sanitizers do **not** remove food proteins—use soap and water to do so
- Plan for yearly training on food allergy and epinephrine use
- Communicate with all parents/guardians about allergy awareness policies. When parents/guardians don’t understand why certain school policies exist, they may not comply and may become resentful. Teaching basics can increase acceptance and compliance.

Resources--School Food Allergy Program

Many resources exist for help in developing food allergy management programs in schools. Some of these include:

1. *Safe at School and Ready to Learn*, National School Boards Association, a comprehensive manual to guide development of policies for managing food allergies in schools. It can be accessed free online: www.nsba.org/foodallergyguide.pdf.
2. *Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Programs*, Centers for Disease Control and Prevention (CDC), comprehensive guidelines for school food allergy management. Developed by Food Allergy Research Education, NASN, and CDC. Available online from www.cdc.gov or www.foodallergy.org/cdc.
3. *Online Food Allergy Tool Kit*, National Association of School Nurses. Contains a variety of factsheets, guidelines, articles, checklists, sample forms, and care plans for managing food allergies at school. Available online: <http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis>.
4. *Guidelines for the Diagnosis and Management of Food Allergy in the United States, Summary for Patients, Families, and Caregiver*, National Institute of Allergy and Infectious Diseases, National Institutes of Health. Available online: <http://www.niaid.nih.gov/topics/foodAllergy/clinical/Documents/FAguidelinesPatient.pdf>.
5. *Managing Food Allergies in the School Setting (2011)*. Twenty minute video developed by Food Allergy Research Education in cooperation with the CDC, NASN, and SCBA to help schools manage food allergies. Available online: <https://www.youtube.com/watch?v=zvM8EaQpckw>.
6. *How to C.A.R.E. for Students with Food Allergies: What Educators Should Know*. Free online interactive course teaches educators how to prepare for food allergy and anaphylaxis. Available online: <http://allergyready.com/>.
7. *Be a PAL: Protect a Life from Food Allergies*. This program teaches children how to avoid allergen exposure and how to deal with a reaction. Available online: <http://www.foodallergy.org/be-a-pal>.
8. Resources to help children understand the seriousness of food allergies.
 - *Fabulous Me, Piper Lee and the Peanut Butter Itch* by Tolya Thompson
 - *Alexander, the Elephant Who Couldn't Eat Peanuts* Book Series (Reference www.store.foodallergy.org)
 - Arthur Family Health Video, "Binky Goes Nuts: Understanding Peanut Allergies" (Reference www.pbskids.org)
9. *It's Not a Joke*, Food Allergy Research Education program that addresses food allergy bullying. Available online: <https://www.foodallergy.org/its-not-a-joke>.

Oklahoma Guidelines for Healthcare Procedures in Schools

10. *Kids Living with Food Allergies*, video by the Food Allergy Research & Education (FARE) using children with allergies to help other children understand food allergies. Available online:

<http://www.bing.com/videos/search?q=kids+living+with+food+allergies+video+by+fare&qpv=pvt=kids+living+with+food+allergies+video+by+fare&view=detail&mid=2A5A82AA7FFB9DBAAF062A5A82AA7FFB9DBAAF06&FORM=VRDGAR>

Federal Regulations

The United States Department of Agriculture (USDA) outlines federal regulations for providing meals to students with special dietary needs in the manual, *Accommodating Children with Special Dietary Needs in School Nutrition Programs for School Food Service Staff* (2001, rev.2013) available online:

http://www.fns.usda.gov/sites/default/files/special_dietary_needs.pdf) and includes a section on food allergies.

Schools participating in a federally-funded school nutrition program must provide substitutions to the standard meal for disabled students and may make substitutions for non-disabled students with medically-certified dietary needs.

Students needing modifications for specific dietary needs should submit the dietary changes signed by the physician to the school nutrition program for each student with special dietary needs. Any changes to the statement must be made in writing and signed by the student's physician.

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- Oklahoma Guidelines for Healthcare Procedures in Schools

Wisconsin School Health Services Project. (2014). *Food allergies: Managing and preventing acute reactions in the school setting*. Available online:
<http://www.wpha.org/?page=Resourcesprojects>

Name: _____ D.O.B.: _____

Allergy to: _____

Weight: _____ lbs. Asthma: Yes (higher risk for a severe reaction) No

**PLACE
PICTURE
HERE**

NOTE: Do not depend on antihistamines or inhalers (bronchodilators) to treat a severe reaction. USE EPINEPHRINE.

Extremely reactive to the following allergens: _____





THEREFORE:




If checked, give epinephrine immediately if the allergen was LIKELY eaten, for ANY symptoms.

If checked, give epinephrine immediately if the allergen was DEFINITELY eaten, even if no symptoms are apparent.

FOR ANY OF THE FOLLOWING:

SEVERE SYMPTOMS





			
LUNG	HEART	THROAT	MOUTH
Shortness of breath, wheezing, repetitive cough	Pale or bluish skin, faintness, weak pulse, dizziness	Tight or hoarse throat, trouble breathing or swallowing	Significant swelling of the tongue or lips

			OR A COMBINATION Of symptoms from different body areas.
SKIN	GUT	OTHER	
Many hives over body, widespread redness	Repetitive vomiting, severe diarrhea	Feeling something bad is about to happen, anxiety, confusion	

↓ ↓ ↓

1. **INJECT EPINEPHRINE IMMEDIATELY.**
2. **Call 911.** Tell emergency dispatcher the person is having anaphylaxis and may need epinephrine when emergency responders arrive.
- Consider giving additional medications following epinephrine:
 - » Antihistamine
 - » Inhaler (bronchodilator) if wheezing
- Lay the person flat, raise legs and keep warm. If breathing is difficult or they are vomiting, let them sit up or lie on their side.
- If symptoms do not improve, or symptoms return, more doses of epinephrine can be given about 5 minutes or more after the last dose.
- Alert emergency contacts.
- Transport patient to ER, even if symptoms resolve. Patient should remain in ER for at least 4 hours because symptoms may return.

MILD SYMPTOMS

			
NOSE	MOUTH	SKIN	GUT
Itchy or runny nose, sneezing	Itchy mouth	A few hives, mild itch	Mild nausea or discomfort

FOR **MILD SYMPTOMS** FROM **MORE THAN ONE** SYSTEM AREA, GIVE EPINEPHRINE.

FOR **MILD SYMPTOMS** FROM **A SINGLE SYSTEM** AREA, FOLLOW THE DIRECTIONS BELOW:

1. Antihistamines may be given, if ordered by a healthcare provider.
2. Stay with the person; alert emergency contacts.
3. Watch closely for changes. If symptoms worsen, give epinephrine.

MEDICATIONS/DOSES

Epinephrine Brand or Generic: _____

Epinephrine Dose: 0.15 mg IM 0.3 mg IM

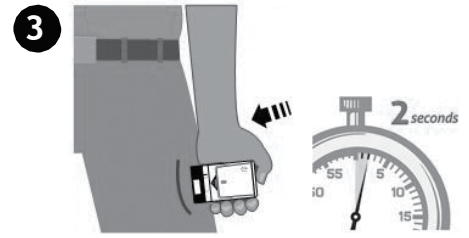
Antihistamine Brand or Generic: _____

Antihistamine Dose: _____

Other (e.g., inhaler-bronchodilator if wheezing): _____

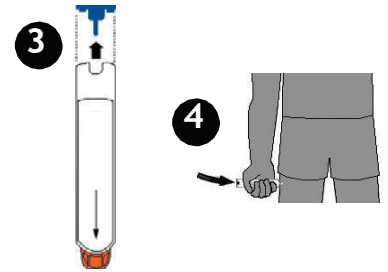
HOW TO USE AUVI-Q® (EPINEPHRINE INJECTION, USP), KALEO

1. Remove Auvi-Q from the outer case.
2. Pull off red safety guard.
3. Place black end of Auvi-Q against the middle of the outer thigh.
4. Press firmly until you hear a click and hiss sound, and hold in place for 2 seconds.
5. Call 911 and get emergency medical help right away.



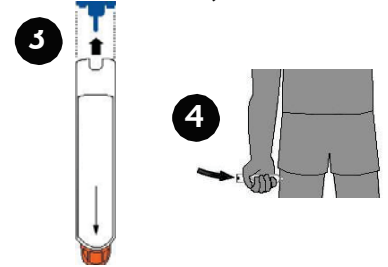
HOW TO USE EPIPEN® AND EPIPEN JR® (EPINEPHRINE) AUTO-INJECTOR, MYLAN

1. Remove the EpiPen® or EpiPen Jr® Auto-Injector from the clear carrier tube.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward.
3. With your other hand, remove the blue safety release by pulling straight up.
4. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'.
5. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
6. Remove and massage the injection area for 10 seconds.
7. Call 911 and get emergency medical help right away.



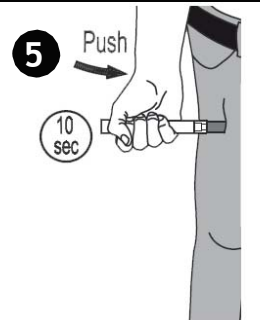
HOW TO USE EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF EPIPEN®), USP AUTO-INJECTOR, MYLAN

1. Remove the epinephrine auto-injector from the clear carrier tube.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward.
3. With your other hand, remove the blue safety release by pulling straight up.
4. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'.
5. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
6. Remove and massage the injection area for 10 seconds.
7. Call 911 and get emergency medical help right away.



HOW TO USE IMPAX EPINEPHRINE INJECTION (AUTHORIZED GENERIC OF ADRENALCLICK®), USP AUTO-INJECTOR, IMPAX LABORATORIES

1. Remove epinephrine auto-injector from its protective carrying case.
2. Pull off both blue end caps: you will now see a red tip.
3. Grasp the auto-injector in your fist with the red tip pointing downward.
4. Put the red tip against the middle of the outer thigh at a 90-degree angle, perpendicular to the thigh.
5. Press down hard and hold firmly against the thigh for approximately 10 seconds.
6. Remove and massage the area for 10 seconds.
7. Call 911 and get emergency medical help right away.



ADMINISTRATION AND SAFETY INFORMATION FOR ALL AUTO-INJECTORS:

1. Do not put your thumb, fingers or hand over the tip of the auto-injector or inject into any body part other than mid-outer thigh. In case of accidental injection, go immediately to the nearest emergency room.
2. If administering to a young child, hold their leg firmly in place before and during injection to prevent injuries.
3. Epinephrine can be injected through clothing if needed.
4. Call 911 immediately after injection.

OTHER DIRECTIONS/INFORMATION (may self-carry epinephrine, may self-administer epinephrine, etc.):

Treat the person before calling emergency contacts. The first signs of a reaction can be mild, but symptoms can worsen quickly.

EMERGENCY CONTACTS – CALL 911

RESCUE SQUAD: _____

DOCTOR: _____ PHONE: _____

PARENT/GUARDIAN: _____ PHONE: _____

OTHER EMERGENCY CONTACTS

NAME/RELATIONSHIP: _____

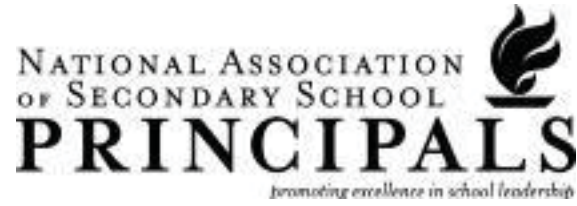
PHONE: _____

NAME/RELATIONSHIP: _____

PHONE: _____

Physician's Statement for Students with Special Dietary Needs*			
Student's Name		Age	
Name of School		Grade Level	Classroom
Does the child have a disability? If Yes, describe the major life activities affected by the disability.		Yes	No
Does the child have special nutritional or feeding needs? If Yes, complete Part B of this form and have it signed by a licensed physician.		Yes	No
If the child is not disabled, does the child have special nutritional or feeding needs? If Yes, complete Part B of this form and have it signed by a recognized medical authority.		Yes	No
PART B			
List any dietary restrictions or special diet.			
List any allergies or food intolerances to avoid.			
List foods to be substituted.			
List foods that need the following change in texture. If all foods need to be prepared in this manner, indicate "All." Cut up or chopped into bite size pieces: Finely ground: Pureed:			
List any special equipment or utensils that are needed.			
Indicate any other comments about the child's eating or feeding patterns.			
Physician or Medical Authority's Signature		Date:	

*This statement must be updated annually.



SCHOOL GUIDELINES FOR MANAGING STUDENTS WITH FOOD ALLERGIES

Food allergies can be life threatening. The risk of accidental exposure to foods can be reduced in the school setting if schools work with students, parents, and physicians to minimize risks and provide a safe educational environment for food-allergic students.

Family's Responsibility

- Notify the school of the child's allergies.
- Work with the school team to develop a plan that accommodates the child's needs throughout the school including in the classroom, in the cafeteria, in after-care programs, during school-sponsored activities, and on the school bus, as well as a Food Allergy Action Plan.
- Provide written medical documentation, instructions, and medications as directed by a physician, using the Food Allergy Action Plan as a guide. Include a photo of the child on written form.
- Provide properly labeled medications and replace medications after use or upon expiration.
- Educate the child in the self-management of their food allergy including:
 - Safe and unsafe foods
 - Strategies for avoiding exposure to unsafe foods
 - Symptoms of allergic reactions
 - How and when to tell an adult they may be having an allergy-related problem
 - How to read food labels (age appropriate)
- Review policies/procedures with the school staff, the child's physician, and the child (if age appropriate) after a reaction has occurred.
- Provide emergency contact information.

School's Responsibility

- Be knowledgeable about and follow applicable federal laws including ADA, IDEA, Section 504, and FERPA and any state laws or district policies that apply.
- Review the health records submitted by parents and physicians.
- Include food-allergic students in school activities. Students should not be excluded from school activities solely based on their food allergy.
- Identify a core team of, but not limited to, school nurse, teacher, principal, school food service and nutrition manager/director, and counselor (if available) to work with parents and the student (age appropriate) to establish a prevention plan. Changes to the prevention plan to promote food allergy management should be made with core team participation.

- Assure that all staff who interact with the student on a regular basis understands food allergy, can recognize symptoms, knows what to do in an emergency, and works with other school staff to eliminate the use of food allergens in the allergic student's meals, educational tools, arts and crafts projects, or incentives.
- Practice the Food Allergy Action Plans before an allergic reaction occurs to assure the efficiency/effectiveness of the plans.
- Coordinate with the school nurse to be sure medications are appropriately stored, and be sure that an emergency kit is available that contains a physician's standing order for epinephrine. In states where regulations permit, medications are kept in an easily accessible secure location central to designated school personnel, not in locked cupboards or drawers. Students should be allowed to carry their own epinephrine, if age appropriate after approval from the student's physician/clinic, parent and school nurse, and allowed by state or local regulations.
- Designate school personnel who are properly trained to administer medications in accordance with the State Nursing and Good Samaritan Laws governing the administration of emergency medications.
- Be prepared to handle a reaction and ensure that there is a staff member available who is properly trained to administer medications during the school day regardless of time or location.
- Review policies/prevention plan with the core team members, parents/guardians, student (age appropriate), and physician after a reaction has occurred.
- Work with the district transportation administrator to assure that school bus driver training includes symptom awareness and what to do if a reaction occurs.
- Recommend that all buses have communication devices in case of an emergency.
- Enforce a "no eating" policy on school buses with exceptions made only to accommodate special needs under federal or similar laws, or school district policy. Discuss appropriate management of food allergy with family.
- Discuss field trips with the family of the food-allergic child to decide appropriate strategies for managing the food allergy.
- Follow federal/state/district laws and regulations regarding sharing medical information about the student.
- Take threats or harassment against an allergic child seriously.

Student's Responsibility

- Should not trade food with others.
- Should not eat anything with unknown ingredients or known to contain any allergen.
- Should be proactive in the care and management of their food allergies and reactions based on their developmental level.
- Should notify an adult immediately if they eat something they believe may contain the food to which they are allergic.

More detailed suggestions for implementing these objectives and creating a specific plan for each individual student in order to address his or her particular needs are available in The Food Allergy & Anaphylaxis Network's (FAAN) *School Food Allergy Program*. The *School Food Allergy Program* has been endorsed and/or supported by the Anaphylaxis Committee of the American Academy of Allergy Asthma and Immunology, the National Association of School Nurses, and the Executive Committee of the Section on Allergy and Immunology of the American Academy of Pediatrics. FAAN can be reached at: 800/929-4040.

The following organizations participated in the development of this document:

American School Food Service Association
 National Association of Elementary School Principals
 National Association of School Nurses
 National School Boards Association
 The Food Allergy & Anaphylaxis Network



Teacher Checklist for Managing Food Allergies

Work with parents, the school nurse, and other appropriate school personnel to determine if any classroom modifications are needed to make sure that students with food allergies can participate fully in class activities.

Avoid the use of ~~identified~~ allergens in class projects, parties, holidays and celebrations, arts, crafts, science experiments, cooking, snacks, or rewards. Modify class materials as needed.

Use non-food incentives for prizes, gifts, and awards.

Consider designated allergy-friendly seating arrangements in the cafeteria.

Include information about children with special needs, including those with known food allergies, in instructions to substitute teachers.

Encourage children to wash hands before and after handling or consuming food.

Determine if the intended location for a field trip is safe for students with food allergies. If it's not safe, the trip might have to be changed or cancelled if accommodations cannot be made. Students cannot be excluded from field trips because of food allergies.

Avoid ordering food from restaurants because food allergens may be present, but unrecognized.

Have rapid access to epinephrine auto-injectors. If you suspect a severe food allergy reaction or anaphylaxis, take immediate act on, consistent with your school's food allergy management emergency response protocol.

Be a role model by respecting the needs of students with food allergies and reinforcing the school's rules against discrimination and bullying.



Student Name: _____ Grade: _____
 Teacher/Staff Contact Person: _____ Date of IHP: _____ Review Date: _____
 Secondary Health Concerns: _____

Sample Individualized Healthcare Plan – Food Allergy Management

Goal: Student will have an integrated appropriate allergy management regimen during the school day with a focus on prevention. School personnel will be prepared and trained to respond in an emergency medical situation.

INTERVENTIONS	IMPLEMENTED DATE & INITIAL	EVALUATION or OUTCOME INDICATORS (Circle & Date)																																				
<p>Food Allergy Management at School</p> <ul style="list-style-type: none"> ▪ Food Allergen – Signs and Symptoms <ul style="list-style-type: none"> ○ Assist student to recognize symptoms of an allergic reaction and encourage him/her to access appropriate care and medications when needed. Show respect for self-management and self-determination. ▪ Maintain individual school health record to note allergy information from healthcare provider and exposure at school <ul style="list-style-type: none"> ○ Document original diagnosis ○ Document each episode of allergic reaction ○ Document any medications given ▪ Provide instruction to student and staff on prevention measures and emergency response <ul style="list-style-type: none"> ○ Provide appropriate guidance in creating a safe classroom and school environment to minimize the risk of exposure to food allergens. <ul style="list-style-type: none"> • Alert classroom teacher to request alternative snacks from parent ○ Provide faculty with presentation related to food allergy management. ○ Work with Food Service personnel <ul style="list-style-type: none"> • Determine if food allergic food is served 		<p>Student Health Needs and Responses Parent participation in health needs – Provides for child's physical needs Provides needed medical information, medical orders and medication to school</p> <table border="1" data-bbox="651 491 737 953"> <tr> <td>Never demonstrated</td> <td>Consistently demonstrated</td> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>4</td> <td>2</td> </tr> <tr> <td>5</td> <td>1</td> </tr> </table> <p>Student self-care - Student recognizes symptoms and self-manages food allergy well</p> <table border="1" data-bbox="818 491 904 953"> <tr> <td>Never demonstrated</td> <td>Consistently demonstrated</td> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>4</td> <td>2</td> </tr> <tr> <td>5</td> <td>1</td> </tr> </table> <p>The following records are up to date, accurate and legible:</p> <ul style="list-style-type: none"> • Cumulative Health Record, Student Visit Record • Allergy Action Plan (Emergency Care Plan) • Medication Record <table border="1" data-bbox="1040 491 1097 953"> <tr> <td>Never</td> <td>Consistently</td> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>4</td> <td>2</td> </tr> <tr> <td>5</td> <td>1</td> </tr> </table> <p>Prevention measures that allow student to fully access educational program</p> <ul style="list-style-type: none"> • Faculty and staff has been trained to reduce accidental exposures to allergens • Faculty and staff is willing and has been trained to respond to an anaphylactic emergency • Faculty and staff has alternative foods in classroom for curricular and celebration use 	Never demonstrated	Consistently demonstrated	1	5	2	4	3	3	4	2	5	1	Never demonstrated	Consistently demonstrated	1	5	2	4	3	3	4	2	5	1	Never	Consistently	1	5	2	4	3	3	4	2	5	1
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Individualized Healthcare Plan written by: _____ © National Association of School Nurses 2011 Page 1 of 3

Managing Anaphylaxis

Overview

Anaphylaxis is a severe, sudden, **systemic**, potentially fatal allergic reaction that occurs when the immune system responds to a substance in the environment and can involve the skin, respiratory tract, gastrointestinal tract, and cardiovascular system. Symptoms typically occur within minutes to two hours after contact with the allergy-causing substance. Anaphylaxis can rapidly progress to airway constriction, skin and intestinal irritation, and altered heart rhythms. Without prompt treatment in severe cases, it can lead to complete airway obstruction, shock, and death.

Common food triggers include:

- Peanuts
- Tree nuts (walnuts, cashews)
- Shellfish
- Fish
- Milk
- Eggs
- Soy
- Wheat

Other common triggers include:

- Insect bites/stings
- Medications
- Latex/rubber

Individuals who have been allergic to foods and have asthma are believed to be at a higher risk for developing an anaphylactic reaction. Adolescents who have asthma, along with peanut and tree nut allergy, and do not have quick access to an EpiPen® during a reaction are at highest risk for a fatal reaction.

Symptoms of an Anaphylactic Reaction

An anaphylactic reaction can include:

- Hives
- Itching
- Flushing or redness of the skin
- Sudden difficulty breathing

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- Wheezing
- Swelling of the lips, tongue or throat
- Throat tightness, difficulty swallowing
- Drop in blood pressure
- Tingling sensation or metallic taste in mouth
- Vomiting, diarrhea
- Feeling of apprehension, agitation

Young children may not be able to accurately articulate these symptoms and may say things like, “my tongue itches,” “my tongue has hair on it,” “there’s something stuck in my throat,” “there are bugs in my ears,” “I can’t swallow,” “my throat feels thick,” or “I can’t breathe.”

Symptoms may occur within a few minutes but may worsen over hours. Symptoms also may resolve, but reoccur two to three hours later (without re-exposure to the allergen).

Treatment

Epinephrine is used to treat an anaphylactic reaction by reversing the symptoms. This medication is available via prescription in an auto-injecting pen; examples include an EpiPen® or EpiPen® Jr., Epinephrine Auto-Injector, or as Adrenaclick®. Another mode of delivery is the Auvi-Q®, a compact auto-injector of epinephrine which has an audio component to assist in administering the injection. Generic auto-injectors may become available in the future, but the FDA has not designated any of them as therapeutically equivalent yet.

Epinephrine should be administered as soon as the individual feels the symptoms of anaphylaxis. Students who have been prescribed epinephrine should carry it with them (if appropriate) or have **immediate access** to the medication at all times. It should be stored **away from light at room temperature (59-86° F)** and **not** in a refrigerator or the glove compartment of a car.

The dose of epinephrine administered should be 0.15 mg intramuscularly in the outer thigh for students weighing 33- 66 pounds and 0.3 mg for students weighing more than 66 pounds. (According to the CDC growth charts, 66 pounds is in the 50th percentile for 9-year-olds). Note: **The American Academy of Pediatrics has recommended modifying the dosage to 0.15mg for students under 55 pounds and 0.3mg for those over 55 pounds so some prescriptions may indicate this, and the guideline may be changed in the future. Every auto-injector brand is available in both 0.15mg and 0.3mg doses and has training devices available to demonstrate and practice their use.

Epinephrine administration should result in an immediate call to Emergency Medical Services or 911. A second injection may be needed in 5-15 minutes if symptoms do not subside. The student should not be left alone and may experience a bi-phasic reaction where symptoms reappear 2 or 3 hours later without another exposure to the allergen. There is no absolute

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contraindication to the administration of epinephrine. Experts agree that when in doubt about an anaphylactic reaction, the best option is to administer epinephrine.

Antihistamines and asthma medications should never be prescribed **instead of** epinephrine because they cannot reverse the symptoms of anaphylaxis.

3 R's for Treating Anaphylaxis

- **Recognize** symptoms early
- **React** quickly
- **Review** what happened and plan to prevent it from reoccurring (avoid the trigger)

Keep in mind that families will often be very anxious when bringing their child to school if he/she has a history of anaphylaxis. Open communication and collaboration between family and school can help lessen fears for everyone.

Oklahoma Regulations

In 2013, Oklahoma enacted legislation to allow local school boards to voluntarily adopt and implement policies for the possession and administration of epinephrine in public schools by the beginning of the 2013-14 school year; and in 2013 amended the Code to protect from liability those who administer it. The law below is from Oklahoma Title 70. Chapter 1 Article 1 Section 1-116.3:

A. Notwithstanding the provisions of Section 1-116.2 of this title, the board of education of each school district shall adopt a policy on or before September 1, 2008, that permits the self-administration of inhaled asthma medication by a student for treatment of asthma and the self-administration of **anaphylaxis** medication by a student for treatment of **anaphylaxis**. The policy shall require:

1. The parent or guardian of the student to authorize in writing the student's self-administration of medication;
2. The parent or guardian of the student to provide to the school a written statement from the physician treating the student that the student has asthma or **anaphylaxis** and is capable of, and has been instructed in the proper method of, self-administration of medication;
3. The parent or guardian of the student to provide to the school an emergency supply of the student's medication to be administered pursuant to the provisions of Section 1-116.2 of this title;
4. The school district to inform the parent or guardian of the student, in writing, that the school district and its employees and agents shall incur no liability as a result of any injury arising from the self-administration of medication by the student; and
5. The parent or guardian of the student to sign a statement acknowledging that the school district shall incur no liability as a result of any injury arising from the self-administration of medication by the student.

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B. The school board of each school district that elects to stock Epinephrine injectors shall amend the policy identified in subsection A of this section. The amended policy shall require:

1. The school district to inform the parent or guardian of each student, in writing, that a school nurse or school employee trained by a health care professional or trained in correlation with the State Department of Health's Diabetes Management Annual School Training Program may administer, with parent or guardian permission but without a health care provider order, an Epinephrine injection to a student whom the school nurse or trained school employee in good faith believes is having an anaphylactic reaction;
2. A waiver of liability executed by a parent or guardian be on file with the school district prior to the administration of an Epinephrine injection pursuant to paragraph 1 of this subsection; and
3. The school district to designate the employee responsible for obtaining the Epinephrine injectors at each school site.

C. The school district and its employees and agents shall incur no liability as a result of any injury arising pursuant to the discharge or non-discharge of the powers provided for pursuant to paragraph 1 of subsection B of this section.

D. A licensed physician who has prescriptive authority may write a prescription for Epinephrine injectors to the school district in the name of the district as a body corporate specified in Section 5-105 of this title which shall be maintained at each school site. Such physician shall incur no liability as a result of any injury arising from the use of the Epinephrine injectors.

E. The school district may maintain at each school a minimum of two Epinephrine injectors in a secure location. Provided, however, that nothing in this section shall be construed as creating or imposing a duty on a school district to maintain Epinephrine injectors at a school site or sites.

F. In the event a student is believed to be having an anaphylactic reaction, a school employee shall contact 911 as soon as possible.

G. The State Board of Education, in consultation with the State Board of Health, shall develop a model policy which school districts may use in compliance with this section.

H. The State Board of Education, in consultation with the State Board of Health, shall promulgate rules to implement this section.

I. As used in this section:

1. "Medication" means a metered dose inhaler or a dry powder inhaler to alleviate asthmatic symptoms, prescribed by a physician and having an individual label, or an anaphylaxis medication used to treat anaphylaxis, including but not limited to Epinephrine injectors, prescribed by a physician and having an individual label; and
2. "Self-administration" means a student's use of medication pursuant to prescription or written direction from a physician.

J. The permission for self-administration of asthma or anaphylaxis medication is effective for the school year for which it is granted and shall be renewed each subsequent school year upon fulfillment of the **requirements** of this section.

K. A student who is permitted to self-administer asthma or anaphylaxis medication pursuant to this section shall be permitted to possess **and** use a prescribed inhaler or anaphylaxis medication, including but not limited to an Epinephrine injector, at all times.

Sources:

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Wisconsin School Health Services Project. (2014). *Food allergies: Managing and preventing acute reactions in the school setting*. Available online:
<http://www.wpha.org/?page=Resourcesprojects>

Responding to Anaphylaxis

1. Based on symptoms, determine that an anaphylactic reaction appears to be occurring. Act quickly. It is safer to give epinephrine than to delay treatment. **Anaphylaxis is a life-threatening reaction.**
2. (If you are alone and are able to provide epinephrine, call out or yell for help as you immediately go to get the epinephrine. Do not take extra time seeking others until you have provided the epinephrine.)
3. (If you are alone and do not know how to provide epinephrine, call out or yell for help. If someone is available to help you, have them get the personnel trained to provide epinephrine and the epinephrine while you dial 911 and follow the dispatcher's instructions. Advise the 911 operator that anaphylaxis is suspected and epinephrine is available. **Your goal is to get someone (EMS or trained personnel) to provide epinephrine and care as soon as possible.**
4. Select appropriate epinephrine auto-injector to administer, based on weight.

Dosage: 0.15 mg Epinephrine auto-injector IM, if less than 66 pounds

0.30 mg Epinephrine auto-injector IM, if 66 pounds or greater

Frequency: If symptoms persist or return, a second dose should be administered 5-15 minutes after first dose.

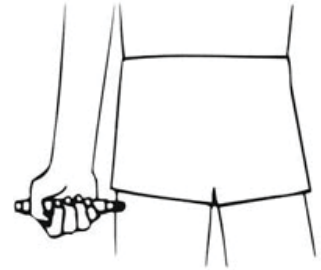
5. Inject epinephrine via auto-injector: Pull off safety release cap. Swing and jab firmly into upper, outer thigh, (through clothing if necessary). Hold in place for *5 or 10 seconds to deliver medication and then remove. *Note: Check manufacturer instructions for time of delivery of medication. Massage the area for 10 more seconds. Note the time.
6. Call or have a bystander call 911 immediately or activate the Emergency Medical System (EMS). Advise the 911 operator that anaphylaxis is suspected and epinephrine was given.
7. Keep the individual lying down or seated. If they lose consciousness, check if they are breathing and have a pulse. If not, begin CPR (cardiopulmonary resuscitation), call out for help and continue CPR until the individual regains a pulse and is breathing or until EMS arrives and takes over.
8. Call School Nurse/Front Office school personnel and advise of situation.
9. Repeat the dose after 5 to 15 minutes if symptoms persist.
10. Stay with the individual until EMS arrives, continuing to follow the directions in No. 5 above if repeat dose needed.
11. Provide EMS with used Epinephrine auto injector labeled with name, date, and time administered to transport to the ER with the student.

12. Assure parents/guardians have been notified and advised to promptly let the student's primary care physician know about the episode of suspected anaphylaxis.
13. Complete required documentation of incident. (See Attachment: Sample Report of Anaphylactic Reaction.)
14. Order replacement epinephrine auto injector(s).

Procedure for Using an Epinephrine Auto-Injector

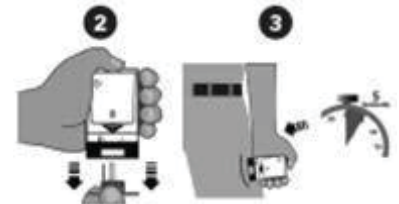
EpiPen® or EpiPen Jr.®

1. Remove the EpiPen Auto-Injector from the plastic carrying case.
2. Pull off the blue safety release cap.
3. Swing and firmly push (jab) orange tip against mid-outer thigh.
4. Hold for approximately 10 seconds
5. Remove and massage the area for 10 seconds.
6. Save the EpiPen unit to label and send with the student when EMS arrives.



Auvi-Q™

1. Remove the outer case of Auvi-Q. This will automatically activate the voice instructions.
2. Pull off red safety guard.
3. Place black end against mid-outer thigh.
4. Press firmly and hold for 5 seconds.
5. Remove from thigh.
6. Save the Auvi-Q unit to label and send with the student when EMS arrives.



Adrenaclick®

1. Remove the outer case.
2. Remove gray caps labeled “1” and “2”
3. Place red rounded tip against mid-outer thigh (can go through clothes).
4. Press down hard until needle penetrates.
5. Hold for 10 seconds. Remove from thigh.
6. Save the Adrenaclick unit to label and send with the student when EMS arrives.



Resources for Learning How to Use Epinephrine Auto-

Injectors Oklahoma Guidelines for Health care Procedures in Schools

Auvi-Q®: www.auvi-q.com

- Training Video https://www.auvi-q.com/hcp/school-nurse-resources?s_mcid=AQDH1DM
- Trainers available.
- Mobile app <https://www.auvi-q.com/mobile-app>



EpiPen®, EpiPen Jr.®: www.epipen.com/How-to-Use-EpiPen

- Training Video <https://www.epipen.com/about-epipen/how-to-use-epipen>
- Trainers available Call 1-800-395-3376 or <https://www.epipen.com/en/resources/order-a-training-device>
- My EpiPlan® app for iPhone or Android: <https://www.epipen.com/en/about-epipen/my-epiplan-app>



AdrenaClick®: <http://adrenaclick.com/index.php>

- Training Video: http://adrenaclick.com/how_to_use_adrenaclick_epinephrine_injection_USP_auto_injector.php
- Trainers available, call 1-855-EPINEPH



Sample Protocol for Treatment of Symptoms of Anaphylaxis-
Epinephrine Auto injector Administration by School Health Professionals and Trained
Personnel for School Age Children Pre-K- Grade 12

**ARE SIGNS AND SYMPTOMS OF ANAPHYLAXIS PRESENT AND WAS THERE AN
EXPOSURE TO A POSSIBLE TRIGGER (food, insect sting, latex, medication or other
trigger)?**

If YES, contact the school nurse immediately, if available, and proceed with this protocol.

If NO, see Signs, Symptoms & Triggers section on the next page.

If the student has an **Emergency Care Plan/ Action Plan or Physician Orders**, follow the plan
immediately.

Signs and Symptoms of Anaphylaxis

LUNG: Short of breath, wheeze,
repetitive cough

HEART: Pale, blue, faint,
weak pulse, dizzy, confused

THROAT: Tight, hoarse,
trouble

MOUTH: Obstructive swelling
(tongue and/or lips) Difficulty
talking

SKIN: Hives, itchy rashes, swelling (eyes, lips)

GUT: Vomiting, cramping pain, diarrhea

HEENT: excessive sneezing, swollen eyes,
phlegm throat(saliva thickened)

OTHER: Confusion, agitation, feeling
of impending doom, collapse

If YES, quickly follow the protocol below:

DO NOT DELAY TREATING ANAPHYLAXIS.

When in doubt, give epinephrine.

*Treating anaphylaxis in the first few minutes can save a life. Not all anaphylaxis has skin
symptoms.*

When giving Epinephrine 911 must be called!

You have a short time to get them to continued care.

Epinephrine Autoinjector Administration by School Health Professionals and Trained Personnel

DO NOT DELAY TREATING ANAPHYLAXIS.

Treating anaphylaxis in the first few minutes can save a life.

School nurse administration is preferable. Training non-licensed staff to recognize and treat first time anaphylaxis requires extensive and well thought out training.¹ Nursing assessment cannot be delegated.

Signs, Symptoms & Triggers:

- SEVERE SYMPTOMS WITH NO KNOWN TRIGGER: Seeing rashes such as hives AND additional serious symptoms warrant epinephrine administration.
 - If no trigger found and symptoms are severe, contact the school nurse. If there is no school nurse available, contact the school designee for assistance and CALL 911 as needed per district guidelines.
 - When unsure or unclear, do not let concerns over whether severe difficulty breathing is caused by anaphylaxis or asthma keep you from using epinephrine. Severe asthma can be treated with epinephrine.⁴
- MILD SYMPTOMS: Whether or not there was exposure to a known trigger, refer to the school nurse to monitor closely and assess. Do not delay administration of epinephrine if symptoms progress.
 - Do not leave the student. Mild symptoms can quickly become severe.
 - **If symptoms become severe, administer epinephrine per protocol on reverse.**

Determining the proper dose of stock epinephrine (recommended):

Currently several methods may be used to decide at what weight or age to give an adult strength dose autoinjector.

- Weight based, although most accurate, may not be practical in emergency situations and an alternative method should be determined by local policy. Do not delay giving epinephrine to obtain weight.
- See your state's regulations and train accordingly.

Weight	Length	Grade	Age	Epinephrine Autoinjector
Less than 55 lb. (25kg) ²	Less than 125 cm. (measure top of head to heel) Consider using tape or a string of this length and storing with stock epinephrine	Pre-k or Kindergarten	3 – 6	0.15 mg Junior <i>May give adult dose if pediatric dose unavailable.</i>
Greater or equal to 55 lbs. (25kg) ²	Greater than or equal to 125 cm. (measure top of head to heel)	1 st grade and up	7 – adult	0.30 mg Adult

Transporting to the emergency room:

- Call 911
- Students should always be transported to the emergency room following administration of epinephrine.
- They are at risk for a secondary or biphasic reaction which may require immediate treatment (as many as 1/3 of children will experience a secondary reaction).³

After an emergency event:

- Make sure parents/guardians are notified to follow up with private physician. Follow up with family - evaluate plan.
- In the case of the student with known history, discuss how exposure occurred and if new allergen avoidance measures are needed. For students with no previous history of anaphylaxis, consider developing an IHP in collaboration with the PCP for possible future occurrences.
- Complete documentation per district policy.
- Make sure replacement epinephrine autoinjector is obtained.
- Review response and emergency communication, update as needed to improve outcomes.

¹Role of the School Nurse in Providing School Health Services. Council on School Health Pediatrics 2008;121;1052.

²Sicherer, S. & Simons, E. (2007). Self-injectable epinephrine for first-aid management of anaphylaxis. *Pediatrics*, 119 (3), 638 – 646. NIAID food allergy guidelines 6.3.1, accessed from <http://www.niaid.nih.gov/topics/foodallergy/clinical/Pages/default.aspx>

³Schoessler, S. & White, M. (2013). Recognition and treatment of anaphylaxis in the school setting: The essential role of the school nurse. *Journal of School Nursing*, 29, 407 – 415. doi: 10.1177/1059840513506014

⁴NAEPP Suggested Emergency Nursing Protocol for Students with Asthma Symptoms Who Don't Have a Personal Asthma Action Plan at <http://www.nhlbi.nih.gov/files/docs/resources/lung/sch-emer-actplan.pdf>

Report of Epinephrine Administration

Student Demographics and Health History

School District: _____

Name of School: _____

Age: _____

Type of Person: Student Staff Visitor Gender: M F

Ethnicity: Spanish/Hispanic/Latino: Yes No

Race: American Indian/Alaskan Native African American Asian Native Hawaiian/other Pacific Islander White Other

History of severe or life-threatening allergy: Yes, Known by student/family Yes, Known by school Unknown

If known, specify type of allergy: _____

If yes, was allergy action plan available at school? Yes No Unknown

History of anaphylaxis: Yes, known by student/family Yes, known by school Unknown

Previous epinephrine use: Yes, by student/family Yes, at school No Unknown

Diagnosis/History of asthma: Yes, known by student/family Yes, known by school No Unknown

School Plans and Medical Orders

Individual Health Care Plan (IHCP) in place? Yes No Unknown

Written school district policy on management of life-threatening allergies in place?

Yes No Unknown

Does the student have a student specific order for epinephrine? Yes No Unknown

Expiration date of epinephrine _____ Unknown

Epinephrine Administration Incident Reporting

Date/Time of occurrence: _____

Vital signs: BP ____ / ____ Temp _____ Pulse _____ Respiration _____

If known, specify trigger that precipitated this allergic episode:

Food Insect Sting Exercise Medication Latex

Other _____ Unknown

If food was a trigger, please specify which food:

Please check: Ingested Touched Inhaled

Other Specify: _____

Did reaction begin prior to school? Yes No Unknown

Location where symptoms developed:

Classroom Cafeteria Health Office Playground Bus

Other Specify: _____

How did exposure occur?

Symptoms (Check all that apply):

Respiratory Cough Difficulty breathing Hoarse voice Nasal congestion/rhinorrhea
 Oral Pruritus Swollen (throat, tongue) Shortness of Breath Stridor
 Wheezing Difficulty swallowing Sneezing

GI Abdominal discomfort Diarrhea Nausea Vomiting Uterine cramping

Skin Angioedema Cyanosis Flushing Diaphoresis General pruritus
General rash Hives Lip swelling Localized rash

Cardiac/Vascular Chest discomfort Dizziness Loss of consciousness Faint/Weak
pulse Hypotension Tachycardia Pale Tightness (chest, throat)

Other Irritability Metallic taste Headache Red eyes

Location where epinephrine administered: Health Office

Other Specify: _____

Location of epinephrine storage: Health Office

Other Specify: _____

Epinephrine administered by: RN Self Other

If epinephrine was self-administered by a student at school or a school-sponsored function, was the student formally trained?

Yes If known, date of training: _____ No

Did the student follow school protocols to notify school personnel and activate EMS?

Yes No NA

If epinephrine was administered by other, please specify: _____

Was this person formally trained? Yes Date of training _____ No Don't know

Time elapsed between onset of symptoms and communication of symptoms:
_____ minutes

Time elapsed between communication of symptoms and administration of epinephrine:
_____ minutes

Parent notified of epinephrine administration: (time) _____

Was a second dose of epinephrine required? Yes No Unknown

If yes, was that dose administered at the school prior to arrival of EMS? Yes No
Unknown

Approximate time between the first and second dose _____

Biphasic reaction: Yes No Unknown

Disposition

EMS notified at: (time) _____

Transferred to ER: Yes No Unknown

If yes, transferred via ambulance Parent/Guardian Other Discharged after
_____ hours

Parent: At school Will come to school Will meet student at hospital

Other: _____

Hospitalized: Yes If yes, discharged after _____ days

No Name of hospital: _____

Student/Staff/Visitor outcome:

If first occurrence of allergic reaction:

Was the individual prescribed an epinephrine autoinjector in the ER? Yes No Do not know

If yes, who provided the epinephrine autoinjector training?

ER PCP School Nurse Other _____ Don't know

Did the ER refer the individual to PCP and/or allergist for follow-up? Yes No Do not know

School Follow-up

Did a debriefing meeting occur? Yes No

Did family notify prescribing MD? Yes No Unknown

Recommendation for changes: Protocol change Policy change Educational change
Information sharing None

Comments (include names of school staff, parent, others who attend debriefing):

Form completed by: _____ (please print)

Date: _____ Title: _____

_____ Phone number: () _____ - _____ Ext.: _____

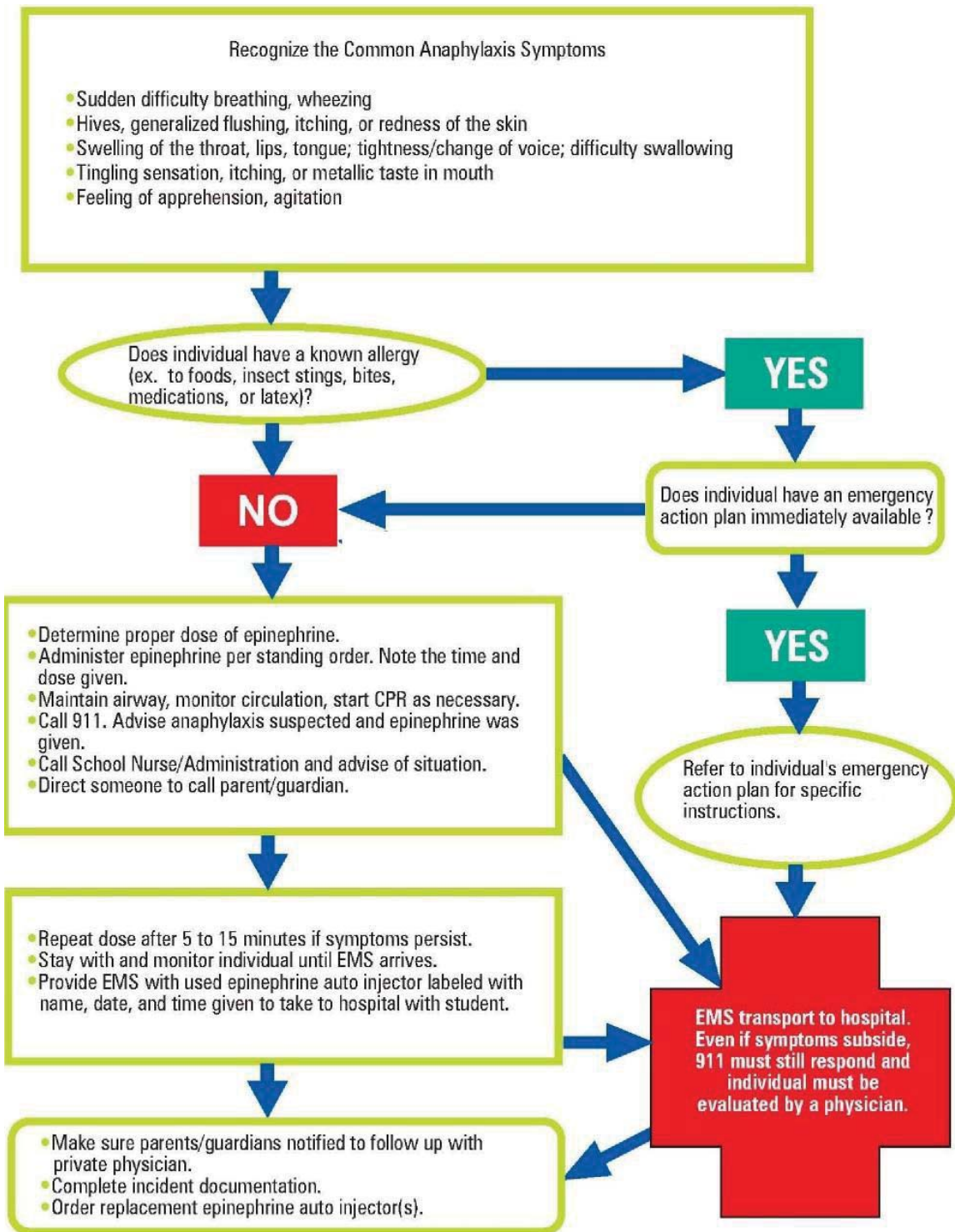
Email : _____

School District: _____

School address: _____

Rev 03/2017 - Please complete all pages. Revised and used with permission of the MA Department of Health, School Health Unit

Recognize Anaphylaxis Symptoms



Anaphylaxis Emergency Action Plan

Patient Name: _____ Age: _____

Allergies: _____

Asthma Yes (high risk for severe reaction) No

Additional health problems besides anaphylaxis: _____

Concurrent medications: _____

	Symptoms of Anaphylaxis
MOUTH	itching, swelling of lips and/or tongue
THROAT*	itching, tightness/obscure, hoarseness
SKIN	itching, hives, redness, swelling
GUT	vomiting, diarrhea, cramps
LUNG*	shortness of breath, cough, wheeze
HEART*	weak pulse, dizziness, passing out

Only a few symptoms may be present. Severity of symptoms can change quickly.
 *Some symptoms can be life-threatening. **ACT FAST!**

Emergency Action Steps - DO NOT HESITATE TO GIVE EPINEPHRINE!

1. Inject epinephrine in thigh using (check one):
- | | |
|--|---|
| <input type="checkbox"/> Adrenasolok (0.15 mg) | <input type="checkbox"/> Adrenasolok (0.3 mg) |
| <input type="checkbox"/> Auvi-Q (0.15 mg) | <input type="checkbox"/> Auvi-Q (0.3 mg) |
| <input type="checkbox"/> EpiPen Jr (0.15 mg) | <input type="checkbox"/> EpiPen (0.3 mg) |
| Epinephrine Injection, USP Auto-Injector- authorized generic | |
| <input type="checkbox"/> (0.15 mg) | <input type="checkbox"/> (0.3 mg) |
| <input type="checkbox"/> Other (0.15 mg) | <input type="checkbox"/> Other (0.3 mg) |

Specify others: _____

IMPORTANT: ASTHMA INHALERS AND/OR ANTIHISTAMINES CAN'T BE DEPENDED ON IN ANAPHYLAXIS.

2. Call 911 or rescue squad (before calling contact)

3. Emergency contact #1: home _____ work _____ cell _____

Emergency contact #2: home _____ work _____ cell _____

Emergency contact #3: home _____ work _____ cell _____

Comments: _____

 Doctor's Signature/Date/Phone Number

 Parent's Signature (for individuals under age 18 yrs)/Date

This information is for general purposes and is not intended to replace the advice of a qualified health professional. For more information, visit www.aaaai.org. © 2013 American Academy of Allergy, Asthma & Immunology 7/2013

Source: American Academy of Allergy, Asthma & Immunology. Available online:
<http://www.aaaai.org/conditions-and-treatments/allergies/anaphylaxis.aspx>

Sample Anaphylaxis Policy(from Virginia Department of Education)

(Severe Allergic Reaction)

It is the policy of _____ Public Schools to provide at least two (2) doses of auto-injectable epinephrine (hereinafter called ‘unassigned or stock epinephrine’) in each school, to be administered by a school nurse or employee of the school board who is authorized and trained in the administration of epinephrine to any student believed to be having an anaphylactic reaction on school premises, during the academic day. Title 70. Chapter 1 Article I Section 1-116.3 provides civil protection for employees of a school board who are appropriately trained to administer epinephrine.

Policy Limitations

Parents of students with known life threatening allergies and/or anaphylaxis should provide the school with written instructions from the students’ health care provider for handling anaphylaxis and all necessary medications for implementing the student specific order on an annual basis. This anaphylaxis policy is not intended to replace student specific orders or parent provided individual medications. This policy **does not** extend to activities off school grounds (including transportation to and from school, field trips, etc.) or outside of the academic day (sporting events, extra-curricular activities, etc.).

Overview

Anaphylaxis is a severe systemic allergic reaction from exposure to allergens that is rapid in onset and can cause death. Common allergens include animal dander, fish, latex, milk, shellfish, tree nuts, eggs, insect venom, medications, peanuts, soy, and wheat. A severe allergic reaction usually occurs quickly; death has been reported to occur within minutes. An anaphylactic reaction can occur up to one to two hours after exposure to the allergen.

Symptoms of Anaphylaxis

- Shortness of breath or tightness of chest; difficulty in or absence of breathing
- Sneezing, wheezing or coughing
- Difficulty swallowing
- Swelling of lips, eyes, face, tongue, throat or elsewhere
- Low blood pressure, dizziness and/or fainting
- Heart beat complaints: rapid or decreased
- Blueness around lips, inside lips, eyelids
- Sweating and anxiety
- Itching, with or without hives; raised red rash in any area of the body
- Skin flushing or color becomes pale
- Hoarseness

- Sense of impending disaster or approaching death
- Loss of bowel or bladder control
- Nausea, abdominal pain, vomiting and diarrhea
- Burning sensation, especially face or chest
- Loss of consciousness

Although anaphylactic reactions typically result in multiple symptoms, reactions may vary. A single symptom may indicate anaphylaxis. **Epinephrine should be administered promptly at the first sign of anaphylaxis. It is safer to administer epinephrine than to delay treatment for anaphylaxis.**

Training

Building level administration shall be responsible for identifying at least two employees, in addition to the school nurse (RN), to be trained in the administration of epinephrine by auto-injector. Only trained personnel should administer epinephrine to a student believed to be having an anaphylactic reaction. Training should be conducted annually or more often as needed.

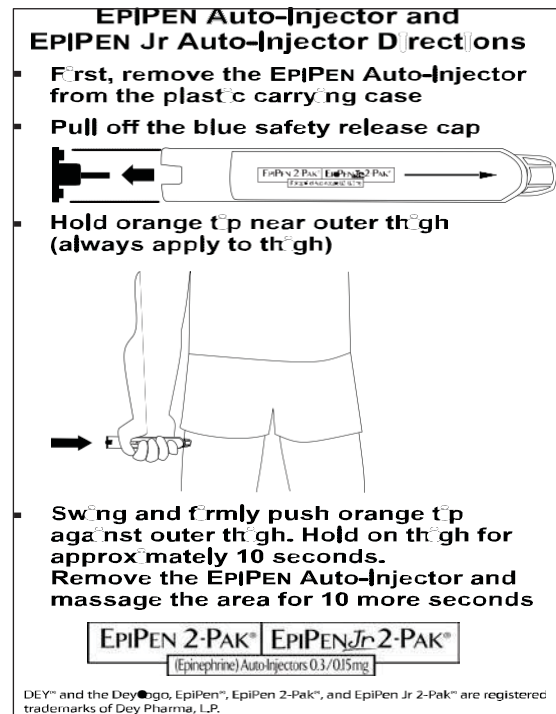
Responding to Anaphylaxis

If student-specific orders are on file they should be followed for students with known life threatening allergies and/or anaphylaxis.

For suspected anaphylaxis without specific orders:

1. Based on symptoms, determine that an anaphylactic reaction is occurring.
2. Act quickly. It is safer to give epinephrine than to delay treatment. **This is a life and death decision.**
3. Determine the proper dose and administer epinephrine. Note the time.

4. Direct someone to call 911 and request medical assistance. Advise the 911 operator that anaphylaxis is suspected and that epinephrine has been given.
5. Stay with the person until emergency medical services (EMS) arrives.
6. Monitor their airway and breathing.
7. Reassure and calm person as needed.
8. Call School Nurse/Front Office school personnel and advise of situation.
9. Direct someone to call parent/guardian.
10. If symptoms continue and EMS is not on the scene, administer a second dose of epinephrine 5 to 15 minutes after the initial injection. Note the time.
11. Administer CPR if needed.
12. EMS to transport individual to the emergency room. Document individual's name, date, and time the epinephrine was administered on the used epinephrine auto-injector and give to EMS to accompany individual to the emergency room.
13. Even if symptoms subside, 911 must still respond and individual must be evaluated by a physician. A delayed or secondary reaction may occur.
14. Document the incident and complete the incident report.
15. Replace epinephrine stock medication as appropriate.



Courtesy of FAAN, 2012

Post Event Actions

- Once epinephrine is administered, local Emergency Medical Services (911) shall be activated and the student transported to the emergency room for follow care. In some reactions, the symptoms go away, only to return one to three hours later. This is called a “biphasic reaction.” Often these second-phase symptoms occur in the respiratory tract and may be more severe than the first-phase symptoms. Therefore, follow up care with

a health care provider is necessary. The student will not be allowed to remain at school or return to school on the day epinephrine is administered.

- Document the event.
- Complete incident report.
- Replace epinephrine stock medication immediately.

Storage, Access and Maintenance

Epinephrine should be stored in a safe, unlocked and accessible location, in a dark place at room temperature (between 59-86 degrees F). Epinephrine should **not** be maintained in a locked cabinet or behind locked doors. Staff should be made aware of the storage location in each school. It should be protected from exposure to heat, cold or freezing temperatures. Exposure to sunlight will hasten deterioration of epinephrine more rapidly than exposure to room temperatures. The expiration date of epinephrine solutions should be periodically checked; the drug should be replaced if it is approaching the expiration date. The contents should periodically be inspected through the clear window of the auto-injector. The solution should be clear; if it is discolored or contains solid particles, replace the unit.

Each school should maintain documentation that stock epinephrine has been checked on a monthly basis to ensure proper storage, expiration date, and medication stability.

The school division shall maintain a sufficient number of extra doses of epinephrine for replacement of used or expired school stock on the day it is used or discarded. Expired auto-injectors or those with discolored solution or solid particles should not be used. Discard them in a sharps container.

Physician's Statement for Students with Special Dietary Needs*		
Student's Name		Age
Name of School	Grade Level	Classroom
Does the child have a disability? If Yes, describe the major life activities affected by the disability.		Yes No
Does the child have special nutritional or feeding needs? If Yes, complete Part B of this form and have it signed by the child's physician.		Yes No
PART B		
List any dietary restrictions or special diet.		
List any allergies or food intolerances to avoid.		
List foods to be substituted.		
List foods that need the following change in texture. If all food needs to be prepared in this manner, indicate "All." Cut or chopped into bite sized pieces: Finely ground: Pureed:		
List any special equipment or utensils that are needed.		
Indicate any other comments about the child's eating or feeding patterns.		
Physician Signature		Date:

***This statement must be updated annually.**

Managing Latex Allergies

Latex is a natural rubber which is used to manufacture many medical supplies such as gloves, catheters and other tubing, as well as common household items. Common items which may contain latex:

Medical items:	Non-medical items:
<ul style="list-style-type: none"> • Ace wraps • Band-Aids • Catheters • Elastic bandages • Gloves • Intravenous set up ports • Medication vials • Pads on crutches • Tape • Tourniquets • Wheelchair cushions 	<ul style="list-style-type: none"> • Art supplies • Balloons • Elastic in clothing • Erasers • Pacifiers • Rubber balls • Rubber bands • Rubber mats, carpet backs • Toys (Koosh ball)

Latex allergies are frequently identified in individuals who have repeated and prolonged exposure to rubber. Therefore, individuals who have multiple surgeries or procedures involving contact with latex (e.g., students with spina bifida), health professionals, and others who use latex products on a frequent basis are at risk for developing a hypersensitivity to latex. Approximately 2/3 students with spina bifida or multiple surgeries and 8-17% of health care workers have developed latex allergies. Non-latex gloves should be used in school settings.

Research indicates that there is a link between latex allergies and certain food allergies. It found that latex has similar antigenic characteristics to a variety of fruits. Individuals with latex allergies have experienced a range of allergic reactions including rashes, asthma, and anaphylaxis with the ingestion of certain foods. Offending foods commonly include bananas, chestnuts, walnuts, avocados, kiwi, and papaya. Food that has been handled by latex gloves may also cause a reaction in a latex-sensitive student.

Latex reactions include watery eyes, wheezing, rash, hives, swelling, and in severe cases, life threatening anaphylactic shock. Allergic responses can occur when latex-containing items:

- Touch the skin
- Touch mucous membranes, including the mouth, urethra, rectum, or genitals
- Enter the bloodstream
- Are inhaled (often carried by the powder from latex gloves or balloons)
- Come into contact with internal organs during surgery

Recommendations for individuals with latex allergies:

- Use non-latex products which are usually made of vinyl, silicone, or plastic (these alternative products are recommended not only for those with a history of latex allergy, but also for individuals who are at risk for developing this allergy, such as health care workers and persons with spina bifida or urologic problems)
- Do not eat the offending foods
- Do not eat items that are made with these foods
- Avoid these foods even if they have been eaten without problems in the past (repeated exposures may cause increased sensitivity to the foods)

It is important to remember that packages labeled “hypoallergenic” are not necessarily latex free.

Students with known sensitivity to latex should have a plan with specific guidelines for that student. School personnel who use latex products should be aware of the possibility of allergic reactions. Communication with students and families about this allergy and documentation of the allergy are recommended. Allergic individuals should discuss with their primary health care provider the possible use of Medic alert tags, injectable epinephrine kits, and prophylactic medication.

The next two pages contain lists of items in the community and hospital that often contain latex, along with a list of latex-safe alternatives. The list is compiled by the Spina Bifida Association of America and updated annually. An updated list can be obtained online at <http://spinabifidaassociation.org/?s=latex+allergy> or from the

Sources:

American Academy of Allergy Asthma & Immunology. (2015). *Latex allergy*. Available online: <http://www.aaaai.org/conditions-and-treatments/Library/At-a-Glance/Latex-Allergy.aspx>

American College of Allergy, Asthma & Immunology. (2014). *Latex allergy*. Available online: <http://acaai.org/allergies/types/skin-allergies/latex-allergy>

American Latex Allergy Association. (2011). *School safety guidelines for latex-allergic students* (2nd Ed.). Singer, WI: American Latex Allergy Association.

Asthma and Allergy Foundation of America. (2015). *Latex allergy*. Available online: <https://www.aafa.org/display.cfm?id=9&sub=21&cont=383>

Grier, T. (n.d.). *Latex Allergy: Latex Cross-reactive foods Fact Sheet*. American Latex Allergy Association. Available online: <http://latexallergyresources.org/latex-cross-reactive-foods-fact-sheet>

Kelly, K. (n.d.). *Latex allergy fact sheet*. American Latex Allergy Association. Available online: <http://latexallergyresources.org/allergy-fact-sheet>.

National Library of Medicine Medline Plus. (n.d.). *Latex allergy*. Available online at <http://www.nlm.nih.gov/medlineplus/latexallergy.html>

Spina Bifida Association. (2015). *Latex list*. Available online: <http://spinabifidaassociation.org/latex>

This list provides a guide to some of the most common objects containing latex and offers alternatives. It is not meant to be a comprehensive list. **Federal law, 801.437 - CFR - Code of Federal Regulations Title 21, requires makers to label all medical items containing rubber latex. ALWAYS CHECK THE PRODUCTS PACKAGING.** If in doubt regarding the safety of an item, call the manufacturer.

Frequently contains LATEX	LATEX-Safe Alternatives
Anesthesia: circuits, bags, oxygen masks	Neoprene (Anesthesia Associates, Ohmeda adult), some Vital Signs
Band-Aids	Active Strip (3M), CURAD Neon, Readi-Bandages, NHP, Coverlet, some Airstrip, Advanced Healing
Blood pressure cuff and tubing (J&J)	Cleen Cuff (Vital Signs), nylon, some Trimline
Bulb syringe	Some Davol, Medline, RÜSCH, Premium, Baxter
Casts: Delta-Lite Podiatry, Orthoflex (J&J)	Scotchcast soft, Delta-Lites, recent Conformable Caraglas Ultra (J&J), liners (Gore)
Catheters: condom	Clear Advantage, ProSys NL, selected Coloplast, Rochester, PolyTech (Hollister)
Catheters: indwelling & systems, UDS	Some Am BioMed, Argyle, Bard, Cook, Dale, Kendall, Lifetech, Mentor/Coloplast, Rochester, RÜSCH, Vitaid, Adapters & plug (Addto)
Catheters: cardiac, vascular, pulmonary	Some World Medical, Am BioMed
Catheters: straight, coude, foley	Selected RobNel (Sherwood), Coloplast, Bard, RUSCH, Hollister, AstraTech, or Rochester catheters Be sure to check labeling on the box. Individual catheter packages are not always labeled.
Catheters: feeding	Accumark feeding catheter (Sims Portex)
Dressings: Dyna-flex, butterfly closures (J&J), Tensoplast (formerly Elastoplast), Action Wrap, Lyofoam (Acme), Spandage (Medi-tech), Telfa	Duoderm, Reston foam (3M), Opsite, Venigard, Comfeel, Sorbaview, Telfa (some) Xeroform, PinCare, Bioclusive, Montgomery strap (J&J), Webril, Metalline, Selopor, OpraFlex, Centurion brief, some Airstrips, Rainbow Net (Surgilast), VAC, Warm-up
NOTE: latex in package only: Steri-strip wound closure system, Tegisorb, Active Strips (3M), Nu-Derm (J&J), CURAD	
Ear Plugs	Grainger (5F767)
Elastic wrap: ACE, Esmarch, Zimmer Dyna-flex, Dyna-flex, Elastikon (J&J), Coban (3M)	E-Cotton, CEB elastic (coNco), Champ (Carolyn), Adban Adhesive, X-Mark (Avcor), Co-Flex (Tetra), PowerFlex (Andover), Comprilan (Jobst), Esmark (DeRoyal, NHP), 3M™ Coban™ LF Latex Free Self-Adherent Wrap, “CoFlex-AFD” and “Co-Flex NL” by Andover Healthcare
Electrode bulbs, pads, grounding	Some Baxter, Dantec EMG, Conmed, ValleyLab, Vermont Med, Staodyn, Neotrode
Endotracheal tubes, airways	Selected Berman, Mallinckrodt, Polamedco, Portex, RÜSCH, Sheridan, Shiley
Enemas	BabyLax, Enemeez, Bowel Management Tube (MIC), Pharmaseal set, all Fleet Ready-to-Use, cone irrigation set (Convatec), silicone retention cuff tip (Lafayette), Coloplast Cone Tip enema set
G-tubes, buttons	Silicone (Bard, Flexiflo, MIC, RÜSCH, Stomate)
Gloves: sterile, clean, surgical, orthodontic	Allergard (J&J), dermaprene (Ansell), N-DEX (Best), Safeskin Nitrile, Neolon, SensiCare, Tru-touch (Maxxim), Nitrex, Tactyl 1,2 (SmartPractice), Duraprene, (Allegiance Healthcare), Elastyren (Hermal, Center Labs), Boston Medical, Masel, Neotech, Biogel Skin Sense (Regent Medical)
Incentive deep breathing exerciser	Voldyne 5000 (Sherwood David & Geck), Triflo II
IV access: injection ports, Y-sites, bags, pumps, buretrol ports, PRN adapters, needleless systems	Polymer injection caps, burettes and Safsite (Braun), Abbot Systems, Walrus, Gemini (IMED), selected Baxter (InterLink), Statlock, Ready Med, ConMed, Clave, Alaris, Hudson, selected Sims, IV boards (Avcor), Terumo Pumps: Mach II, ADS 100, Clic-Open (vial top remover—Sepha Pharm)

Frequently contains LATEX	LATEX-Safe Alternatives
OR/Infection Control masks, hats, shoe covers	Some by Kimberly Clark, TECNOL, OR and sterile packs (CML, DeRoyal) twill ties
Ostomy supplies	Check with individual companies regarding latex content of products
Medication/Immunization vial stoppers	Some AmRegent, Astra, Bedford Labs, Fujisawa, Gensia, Glaxo, Lilly, Roche. Check the CDC website for up to date information at /www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf
Miscellaneous items	Soft-Grip fabric clamp covers (Scanlan), Precision Dynamics ID bracelets
Penrose drains	Jackson-Pratt, Zimmer Hemovac
Pulse oximeters, thermometer probes	Nonin oximeters, selected Nellcor sensors, Diatec probe covers
Reflex hammers	Cover with plastic bag, Pedipals
Respirators	Advantage (MSA), HEPA-Tech (Uvex), PFR 95 (TecnoI), 3M 1860
Resuscitators, manual	Certain Ambu, Armstrong, Laerdal, Puriton Bennett, Vital Blue, Respironics, RÜSCH
Skin Adhesives	Mastisol (Ferndale)
Spacer (for metered dose inhalers)	ACE spacer (Center Labs), OptiHaler (HealthScan)
Stethoscope tubing	PVC (some Littman) cover with ScopeCoat or latex-free stockinet (Albahealth)
Suction tubing	PVC (Davol, Laerdal, Mallinckrodt, Superior, Yankauer) Medline, Ballard
Syringes, disposable	Terumo Medical, Abbott PCA Abboject, Norm-Ject (Air-Tite), EpiPen, selected BD syringes, AdvantaJet (Activa)
Tapes: pink, Waterproof (3M), Zonas, Moleskin cloth	Dermicel (J&J), Durapore, Microfoam, Micropore, Transpore (3M) Cath-Strip Molepad, Hytape Pink, STATtape
Waterproof (J&J), adhesive felt (Acme)	(Genetic Labs), Ice Tape (P.O.Pak), All-Felt (Universal Foot Care), Hypafix
Tonopen disposable covers (glaucoma tester)	None
Tourniquets	Children's Medical, Grafco, VelcroPedic, X-Tourn straps (Avcor), Free-Band (Kent)
Theraband (also strip, tube), other OT supplies	REP Bands and Cords (OPTP), Exercise putty (Rolyan), new Thera-Band Exercisers
Tubing, sheeting	Plastic tubing—Tygon LR-40 (Norton), elastic thread, sheets (JPS Elastomerics)
Vascular/Compression stockings	Compriform Custom (Jobst), Latex Free TEDs, some varieties of Sigvaris

This list provides a guide to some of the most common objects containing latex and offers some alternatives. It is not meant to be a comprehensive listing. **Makers are not required to label home and community products which contain natural rubber.** ALWAYS CHECK THE PRODUCTS PACKAGING. If in doubt regarding the safety of an item, call the manufacturer.

Frequently contains LATEX	LATEX-Safe Alternatives
School/Office/Art supplies: paints, glue, erasers, fabric paints, grips for writing utensils, duct tape	Elmer's (School Glue, Glue-All, GluColors, Carpenters Wood Glue, Sno-Drift paste) FaberCastel erasers, Crayola (except stamps, erasers), Liquitex paints, DickBlick tempera, acrylic paints and soap erasers, Play-Doh, Pro-Craft, Clic Eraser, Pentel erasers, pens, and pencils, 3M Post-it Notes, Staedtler Mars Plastic Eraser, masking tape, STATtape, Dixon/Ticonderoga Company (Erasers, Wooden Pencils and Art Supplies)
Balloons	Mylar balloons, Mister Balloon, plastic balloons
Balls: Koosh balls, tennis balls, bowling balls, ball pits	PVC (Hedstrom Sports Ball), Nerf Foam Balls, Gertie Balls, Google Imperial Toys, AMF Bowling balls
Carpet backing, gym floor, gym mats	Broadloom carpets contain no NRL. For other products, provide barrier cloth or mat.
Chewing gum	Bubblicious, Trident (Warner-Lambert), Wrigley gums (check new products), Bazooka gum, Bubble Yum, Ice Breakers gum
Clothes: liquid appliques on tee-shirts, elastic on socks, underwear, sneakers, sandals	Cloth-covered elastic, neoprene (Decent Exposures, NOLATEX Industries), Buster Brown elastic-free socks (Vermont Country Store)
Condoms, contraceptive sponges, diaphragm	Polyurethane (Avanti), female condom (Reality), Widesael Silicone Diaphragms (Milex), Trojan Supra Condom, FemCaps
Costumes: masks, face paint, nail polish, etc.	Check all products
CPR manikins and medical training aids	Most Laerdal products
Crutches: tips, axillary pads, hand grips	Cover with cloth or tape
Dental dams, cups, bands, root canal material, orthodontic rubber bands	PURO/M27 intraoral elastics (Midwest Orthodontic), wire springs, sealant (Delton) dams (Meer Dental, Hygenic Corp), John O Butler, Earloop masks (Richmond)
Diapers, incontinence pads, rubber pants	Huggies, First Quality, Gold Seal, Tranquility, Always, Attends, Drypers Diapers (not training pants), Confidence (Paper-Pak), Pampers, Luvs, Seventh Generation Diapers
Feeding nipples	Silicone, vinyl (selected Gerber, Evenflo, MAM, Ross, Mead Johnson)
Food handled with latex gloves	Synthetic gloves for food handling
Handles on racquets, tools, bicycles	Vinyl, leather handles or cover with cloth or tape
Kitchen cleaning gloves	PVC MYPLEX (Magla), cotton liners (Allerderm)
Mattress / pressure relief	Check each one for latex content
Miscellaneous items	Some medical stickers by MediBadge, UAL, Cushie Tushie Potty Seat, Bumbo Seat, Water Pik shower head and hose
Newsprint, ads, coupons, lottery scratch tickets	None
Pacifiers	Soothies (Children's Med Ventures), selected Binky, Gerber, Infa, Kip, MAM
Paints, sealants, stains, etc.	There is NO NATURAL RUBBER in latex paint, though it may be present in some waterproof paints and sealants
Playpits, playground surfaces	Natural rubber latex may be a component of surfaces, Boundless Playgrounds
Rubber bands, bungee cords	Plasti bands
Toothbrushes / infant massager	Soft bristle brush or cloth, Gerber/NUK, all Oral B products
Toys: Stretch Armstrong, old Barbies	Jurassic Park figures (Kenner), 1993 Barbie, Disney dolls (Mattel), many toys by Fisher Price, Little Tikes, Playschool, Discovery, Trolls (Norfin), Silly-putty

Frequently contains LATEX	LATEX-Safe Alternatives
Water toys and equipment: beach thongs, masks, bathing suits, caps, scuba gear, goggles	PVC, plastic, nylon, Suits Me Swimwear
Wheelchair cushions	Jay, ROHO cushions, Sof Care bed/chair cushions (Gaymar)
Wheelchair tires	Recommend using leather gloves
Zippered plastic storage bags	Waxed paper, plain plastic bags, Ziploc bags, Glad Press N' Seal

Associated Allergies

Foods include: banana, avocado, chestnut, kiwi, pear. Plants include: Poinsettia and milk weed pods.

About These Lists

These lists are offered by the Latex Committee of the Nursing and Healthcare Professionals Council of the Spina Bifida Association as a guideline to individuals, families, and professionals. It is updated annually.

The information contained in these lists is constantly changing as manufacturers improve their products and as we learn more about latex allergy.

PLEASE NOTE: The latex content of products may vary between companies and product series. Companies that offer “alternatives” may ALSO make many LATEX products. We recommend that you check with suppliers before exposing individuals with latex allergies to the product.

REMEMBER: Always check the label—even if the product is on this list. If a product has recently replaced latex, many institutions will continue to use the old stock before they replace it with the new.

For More Information

For the most current version of this list, visit the SBA Web site at www.spinabifidaassociation.org.

Online Resources

Spina Bifida Association
www.spinabifidaassociation.org

American Latex Allergy Association/ALERT
www.latexallergyresources.org
Type I Versus Type IV Allergic Reactions: How do they Differ?
www.latexallergyresources.org/Newsletter/newsletterArticle.cfm?NewsletterID=16

Centers for Disease Control and Prevention—latex in vaccine packaging
www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf

Decent Exposures
(latex free undergarments)
1-800-524-4949
www.decentexposures.com

OSHA
www.osha.gov/SLTC/latexallergy

American College of Allergy, Asthma & Immunology
www.acaai.org

Center for Disease Control Latex in Vaccine Packaging
www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf

Service Animals in Schools

Overview

The Americans with Disabilities Act (ADA) defines a *service animal* as any dog or miniature horse individually trained to do work or perform tasks for the benefit of an individual with a disability. Service animals are working animals who have been trained to provide service directly related to a person's disability. Animals whose function is to provide comfort or emotional support do not qualify as service animals under ADA.

Examples of tasks that service animals can perform include:

- Assisting people who are blind or have low vision with navigation and other tasks
- Alerting people who are deaf or hard of hearing
- Pulling a wheelchair
- Retrieving or carrying items
- Opening doors
- Alerting and assisting a person who is having a seizure
- Sensing and alerting a person with diabetes to hypoglycemia or hyperglycemia
- Alerting a person to the presence of an allergen
- Providing physical support and assistance with balance and stability
- Calming a person with Post Traumatic Stress Disorder during an anxiety attack
- Reminding a person with mental illness to take prescribed medications

A *trained service dog* can be called a guide dog, hearing dog, assistance dog, seizure alert dog, diabetic alert dog, mobility dog, psychiatric service dog, or autism service dog. A trained service dog is NOT called a skilled companion dog, therapy dog, social dog, facility dog, agility dog, police dog, helping dog, support dog, or search and rescue dog. Service animals must be healthy (with appropriate immunizations), housebroken, and trained.

Legal Guidelines

Service animals must be allowed to accompany students and staff with disabilities in all areas of the school where the public is normally allowed to go. The animal must be under control of its handler. This usually means on a leash or harness unless the animal needs to be able to move about more freely to accomplish its work and then it needs to be under voice control of the handler. A service dog for students with visual impairment must be identified by a harness, for students with hearing impairments by a blaze orange leash, and for students with mobility impairments by a harness, backpack, or vest identifying it as a trained service dog. Service animals are not pets so a "no pet" policy cannot be applied to them.

School divisions are not responsible for the care (including feeding and elimination) or supervision of a service animal. Often, the student is the handler for the service animal. When

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this is not possible, arrangements are worked out between the family and school division. Schools may request that a service animal be removed if it is out of control and the handler does not take effective action to control it. Under ADA, a school division may not require proof of service animal "certification" or "licensing."

Service animals have usually been accepted when they were working with a student with observable physical disabilities. As the use and number of service animals increases with students with less observable disabilities, concerns have arisen. Most commonly, they relate to other students and staff who have allergies or identified fears of dogs. Service animals must be qualified and carefully weighed against the right of other students who are equally entitled to receive educational benefits at the school. However, ADA requirements of 2010 state that "allergies and fear of dogs are not valid reasons for denying access or refusing service to people using service animals. When a person who is allergic to dog dander and a person who uses a service animal must spend time in the same room or classroom, they both should be accommodated by assigning them, if possible, to different locations within the room or different rooms in the facility."

Types of Service Dogs

Most people are aware of service dogs which provide services to people with visual, hearing, or mobility impairments. In recent years, other dogs have been specially trained to work with other health conditions.

- Diabetic Alert Dogs (DADs)--these dogs have been shown to be able to detect changes in blood sugar and alert their owners to both hypoglycemia and hyperglycemia. Some studies have found that they can help decrease the number of hypoglycemic episodes and improve hemoglobin A1C levels.
- Seizure Alert Dogs (SADs) or Seizure Response Dogs (SRDs)--although there is less scientific literature about these dogs, it is speculated that SADs can detect an odor or other autonomic characteristic (such as increased heart rate) and warn their owner of an impending seizure so that the person can get to a safe location, take extra anti-seizure medication, or use a Vagal Nerve Stimulator to thwart a seizure. If the individual experiences a seizure, the dog can respond to keep them safe or get assistance.
- Autism Service Dogs--to meet ADA requirements, these dogs must not be used for just emotional support. Some dogs have been used to prevent escape (such as running into traffic) or to alert a caregiver to self-injurious behavior. This safety support could facilitate independent functioning of the child with autism. However, since ADA states that service dogs must be controlled by their handler, and students with autism do not assume responsibility for their dog, there can be differing views about the use of autism service dogs.



Service Animals vs. Emotional Support Animals

Your district may receive a request to allow a service dog to accompany a student with a disability at school. While many of these requests involve service animals, some of these dogs may instead fall into the category of an emotional support or companion animal. Title II of the ADA treats service animals and emotional support animals differently and those differences impact your responsibility to make reasonable modifications for these animals. Use this chart to understand the differences.

Service animal	Emotional support or companion animal
<ul style="list-style-type: none"> ● Defined in regulations. The 2010 Title II ADA regulations define a service animal as "any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability." 28 CFR 35.104. 	<ul style="list-style-type: none"> ● Excluded from service animal definition. Title II specifically excludes "emotional support" from the definition of work or tasks in its definition of a service animal. According to the regulations, "the crime deterrent effects of an animal's presence and the provision of emotional support, well-being, comfort, or companionship do not constitute work or tasks for the purposes of this definition." 28 CFR 35.104.
<p>Must perform work or tasks. The definition further explains that the "work or tasks" performed by the service animal must be directly related to the handler's disability.</p> <p>The Title II regulations provide examples such as:</p> <ul style="list-style-type: none"> ● Assisting individuals who are blind or have low vision with navigation and other tasks. ● Alerting individuals who are deaf or hard of hearing to the presence of people or sounds. ● Providing nonviolent protection or rescue work, pulling a wheelchair. ● Assisting an individual during a seizure. ● Alerting individuals to the presence of allergens. ● Retrieving items such as medicine or the telephone. ● Providing physical support and assistance with balance and stability to individuals with mobility disabilities. ● Helping persons with psychiatric and neurological 	<ul style="list-style-type: none"> ● Distinction between psychiatric service animal, emotional support animal. A key difference between an emotional support animal and a "psychiatric" service animal is that a "psychiatric" service animal is trained to perform work or tasks related to the handler's disability. The presence of an emotional support animal may be calming or reassuring, but if the animal is not trained to perform any work or tasks related to the individual's disability, then it is not a service animal.

<p>disabilities by preventing or interrupting impulsive or destructive behaviors. 28 CFR 35.104.</p>	
<p>Schools must make reasonable modifications to permit service animals. Title II requires school districts to "make reasonable modifications in policies, practices, or procedures to allow service animals when necessary in order to avoid discrimination on the basis of disability, unless the entity can demonstrate that making the modifications would fundamentally alter the nature of the service, program, or activity." 28 CFR 35.104.</p>	<ul style="list-style-type: none"> • Title II does not require schools to make modifications for emotional support animals. Title II does not require school districts to modify policies or practices to allow emotional support or companion animals in schools.

Jennifer Herseim covers Section 504 and education technology as it relates to special education for LRP Publications.

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Individualized Health care Plan (IHP)

Each student’s individualized health care plan (IHP) must be tailored to the individual’s needs. Any student requiring a service animal should have an IHP that considers the following:

- Reason for the service animal
- Type of training the animal has had as well as medical/immunization records
- Need for notification of parents of other students in the class
- Plan for service animal's control and care at school including:
 - handling
 - hydration
 - rest place for the service animal
 - elimination
- Emergency evacuation plan
- Fire drill plan/participation
- Transportation
- Alternate plans if the service animal or its primary handler (if not the student) is not able to accompany the student to school
- Training for staff or aides who may handle the service animal
- Educational program to educate students and staff on how to interact appropriately with the service animal.

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Trauma-Informed Care

Overview

Students are frequently exposed to violence in their homes and communities. There is growing scientific evidence that this exposure can have a permanent negative effect on the chemical and physical structures of the brain. Exposure to violence can result in the experience of trauma. Prolonged activation of the stress response systems can cause cognitive impairments such as trouble with attention, concentration, and memory. Stress on other body systems (endocrine, cardiovascular, immune-response) can increase the risk for stress-related disease in adulthood.

An Attorney General's task force has reported that 46 million children, or two out of every three children in the United States, are exposed to an act of violence, crime, abuse, or psychological trauma in any given year. Potentially traumatic events include being the victim of, or witnessing family violence, community violence (such as gang violence or shootings), natural disasters, child abuse or neglect, sexual assault, or bullying. Girls are more likely to experience sexual assault, dating violence, and child abuse while boys are more likely to witness physical harm and scenes of war, fire, and natural disasters. Events that cause great stress to the maturing brain are called *adverse childhood experiences* (ACE) and include the death of a parent, divorce, abuse or neglect, witnessing domestic violence, incarceration of a family member, and living with someone who has a mental illness or substance abuse problem. Some researchers also include chronic economic hardship, social exclusion by peers, and being treated unfairly due to race or gender orientation. Children who have received repeated "doses" of trauma or ACEs have been found to be at increased risk for disease (cardiovascular, lung, and liver), depression, substance abuse, obesity, violence, and risky sexual behaviors.

Caring adults can act as a buffer against the harmful effects of trauma and chronic stress. Every child is unique and responds differently to trauma. Younger children may cling to caregivers, cry, or regress in behavior while adolescents may engage in risky behavior, substance use, or have suicidal thoughts. Recognizing signs of exposure to violence can help in identifying which students may need support and assistance in coping with chronic stress or exposure to violence. Bowen and Mahnke (2015) published this list of behaviors to monitor:

- anxiousness and irritability
- trouble concentrating and/or sleeping
- easily startled
- hyper vigilance or watchfulness
- withdrawal from social interactions
- dissociation (detachment, forgetfulness)
- challenging behaviors such as picking fights, disobeying, aggressive outbursts
- avoidance of places where trauma may have occurred
- physical signs of abuse or of self-injury

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- feelings of powerlessness
- traumatic play (reenacting play with toys or playmates)
- trouble developing or maintaining relationships with peers
- regression in development
- substance use
- risky sexual behavior

Settings and Staff

Although most cases of exposure to violence do not occur on school grounds, students can certainly exhibit manifestations of such exposure at school. Any adult at school can assist in helping children cope with the stress they experience. Additionally, school staff are mandated by law to report evidence of child abuse and neglect to child protective services (CPS).

When violence does occur on school grounds, the National Association of School Nurses notes that school nurses have knowledge and skills that can be used to address violent behaviors by their ability to coordinate emergency response until rescue teams arrive, provide nursing care for injured students, apply crisis intervention strategies to help resolve conflicts, identify and refer students who need counseling, and participate on crisis intervention teams.

Care for the Student

Even when students are exposed to violence, many show resilience and are not traumatized or permanently harmed. A student can have protective factors that reduce the effect of the stressful event on the student's life. Protective factors can be internal (temperament, conflict resolution skills) or external (strong relationships, mentors, healthy caregivers, stable living environments, safe places to play, positive school climate). See the Guidelines that follow for ways that school nurses and other educational staff can help to develop resilient students and support students who are exposed to traumatic events.

Students from low socioeconomic backgrounds are particularly vulnerable to family and community violence. Their families are also more likely to be stressed themselves and have limited resources to offer their children. Many of these students have Medicaid, which can be an important source of reimbursement for physical and behavioral health services for those who have experienced violence and trauma. Students covered by Medicaid are entitled to a special benefit called Early and Periodic Screening, Diagnosis and Treatment (EPSDT), which covers some mental health services not otherwise covered by Medicaid. Both screenings and treatment are covered by this benefit, although it can be challenging for families to navigate the system without assistance.

Students exposed to violence can have lasting physical, mental, and emotional harm. They may develop difficulties with attachment, anxiety, and aggressive behaviors, which impair their capacity for partnering and parenting later in life. The Futures Without Violence organization

has proposed 16 recommendations to help *all* students develop resilience and cope with the effects of exposure to violence and trauma. Specific recommendations for supporting students exposed to Intimate Partner Violence (IPV) follow. Finally, policy recommendations to ensure students thrive in supportive communities will be covered. Research demonstrating that caring adults can help students become more resilient provides the basis for these recommendations.

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Recommendations to Help Students Develop Resilience

Adapted from: *Everyday Magic: 16 Ways Adults Can Support Children Exposed to Violence and Trauma* (2015).

1. **Take care of yourself.** Dealing with challenging behaviors can be difficult and listening to a student's story can be stressful. It can trigger past experiences with trauma and interfere with supporting children. Taking care of oneself can help a person to become a more effective caregiver.
2. **Reach out, connect, and support.** Make connections with the students you see each day. Greet them by name and create a welcoming environment that will help them feel valued and increase their sense of belonging to a community.
3. **Be a good listener.** Practice respectful active listening to show children they are heard and valued. Establishing an emotional, non-judgmental connection can help to build trust while listening is a tool that can help them express their thoughts and make sense of their experience. However, do not force a student to discuss an experience that has been traumatic because doing so can re-traumatize. Let the student take the lead and set the tone. Using reflection and helping a student identify their emotions through words can promote healing. Always keep in mind mandatory reporting laws.
4. **Answer a child's questions honestly but age appropriately.** Use basic understanding language for elementary-age children, acknowledging that sometimes bad things happen

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that we can't explain. More direct language with discussion and analysis can be appropriate for adolescents. If the adolescent is angry, try to remain calm and help to discover the basis for his/her anger.

5. **Respect a child's cultural background.** A strong cultural identity can be a protective factor and should be supported. Connect students with supportive cultural resources in the community. If language barriers exist, use reassuring body language and basic conversation that show interest and care.

6. **Don't make promises you can't keep.** Students may look to adults for safety after traumatizing events. However, you cannot promise safety if that is not possible, especially for children living in communities where violence is common. You can say "I will do everything in my power to keep you safe" or "I have some good ideas about what we can do to help you feel better." You can brainstorm what students can do if feeling unsafe or overwhelmed and can discuss safe places they can go at home or ways to stay safe in their community. Praise them for being brave in sharing fear-provoking feelings. Help them to identify other adults that might be able to support them.

7. **Reduce stress and build coping skills.** Supportive adults who help create safe environments can help students decrease chronic stress and overcome adversity. They can help students identify soothing activities (such as listening to music, talking with a friend, playing with a pet, taking a walk or writing in a journal) which have helped them feel better in the past. They can help them identify unhealthy coping strategies (such as getting angry, lashing out at others, drinking, or smoking) and help them replace those strategies with more effective ones.
8. **Connect children to what they love.** Adults can help children identify their strengths and natural talents and encourage them to flourish, giving them positive feelings to feel good about. By actively listening to students, adults can discover what activities students enjoy and encourage them to seek out those activities when they are stressed, and to develop mastery and leadership skills in those areas. Encouraging extracurricular activities can also help to decrease social isolation and increase relationships with peers and other adults. Encouraging volunteering and using student strengths to help others can assist in developing a sense of purpose and self-value.
9. **Help children manage their emotions.** Students who have been traumatized may exhibit challenging behaviors. Helping students to see the connection between their emotions and their behaviors can help them understand their emotional reactions and begin to develop better coping behaviors. For example, using supportive language such as, "If that happened to me, I might feel the same way too. It is okay to be sad, but it is not okay to [insert unsafe behavior]."
10. **Support peer relationships for children exposed to trauma.** Students who have been exposed to trauma may react with impulsive, regressive, or withdrawn behaviors. Helping them identify supportive friends that make them feel happy and confident can increase their coping skills and inspire them to mimic the behaviors of their supportive friends.
11. **Be a role model.** Watching how adults handle stress and how they calmly deal with stressors can be a model for a child learning to cope with stress. Showing respect and compassion for others while being optimistic and resourceful can set a powerful example for students. Adults can help students identify signs of unhealthy relationships and unhealthy ways of dealing with stress (such as yelling, disrespectful language, name calling, hitting, or kicking).
12. **Be a mentor.** Mentoring is one proven way to help develop resiliency. Mentors who can provide consistent, caring support over time help children develop a sense of worth and become important role models for future behavior.
13. **Identify a child's "anchors."** Anchors are members of the student's support network and may be parents, teachers, coaches, grandparents, siblings, faith leaders, school staff, neighbors and friends. Discovering who provides support or who the student looks up to is

part of helping to cultivate this network of supportive persons in the student's life. By working together, a more resilient environment can be created. Also, some of the student's support network may have also been traumatized (e.g. the parent in an abusive situation) and supporting that person can better prepare them to help the traumatized student.

14. **Create calm, stable, and predictable environments.** Students exposed to trauma may be extra vigilant or in a constant state of worry and sensory overload, always on alert for possible threats. This heightened state of alertness can affect their ability to concentrate and finish their schoolwork. Providing a calm environment and structure where students can predict what is going to happen next can help lessen their sense of uneasiness. Promoting an atmosphere of no bullying or teasing also removes that potential stressor.
15. **If a child uses challenging or difficult behavior, do not resort to shaming or isolating punishments.** When students are exposed to trauma, they may act aggressively or use other challenging behaviors to control their environment (and their feelings). While misbehavior cannot be tolerated, there is a need to recognize that the behaviors may be a reaction to trauma and that the student needs to feel safe and secure. Setting up clear, firm limits and developing logical (not punitive) consequences may help the student to develop self-control and lessen negative behaviors.
16. **Be pro-active and search out child-supporting resources in your community.** Each community has trained mental health professionals, school social workers, faith-based organizations, and child advocacy groups that can assist in supporting students who have been affected by trauma. Help students and their families connect to these resources as appropriate. If there are not adequate resources, work together with others in the community to develop this type of care.

School Nurse Interventions to Prevent Violence

Adapted from the National Association of School Nurses Position Statement *School Violence, Role of the School Nurse in Prevention* (2013)

- 1. Facilitate student connectedness to the school community.**
- 2. Engage parents in school activities that promote connections with their children and foster communication, problem-solving, limit setting, and monitoring of children.**
- 3. Support activities that help establish a climate that promotes respect for others.**
- 4. Support policies of zero tolerance for weapons on school property.**
- 5. Advocate for adult monitoring of hallways between classes, during lunch, on the playground, and at the beginning and end of the school day.**
- 6. Serve as positive role models and help develop mentoring programs for at risk youth.**
- 7. Educate students and their families about gun safety.**
- 8. Assist in the creation of a safe school environment that promotes trust and caring.**
- 9. Engage in classroom discussions that facilitate respectful communication.**
- 10. Facilitate building skills in communication, problem-solving, anger management, coping, and conflict resolution throughout the school.**

Recommendations to Build Resiliency in Students and Parents Exposed to Intimate Partner Violence

Intimate Partner Violence (IPV) has also been known as domestic violence or abuse within families. It is a potent stressor for students whether that student has been a target of the abuse or has observed a family member who is a target of abuse. Caring adults can help students heal and thrive. These recommendations are adapted from *Promising Futures: 16 Trauma-informed, Evidence-based recommendations for Advocates Working with Children Exposed to Intimate Partner Violence* published by Futures Without Violence in 2013.

1. **Recognize that children of all ages, from infancy through adolescence, are vulnerable to the adverse impact of IPV exposure.** Many people think that infants and children exposed to violence cannot remember it and will not be damaged by it, but research has shown that it can affect the neurodevelopment of their brain and how they act in later childhood and beyond.
2. **Establish a respectful and trusting relationship with the child's mother.** Many mothers who are victims of IVP are ashamed and guilty about how their children have been affected. Their protective actions may be misinterpreted as poor parenting and their reluctance to seek help may be due to fear of the abuser retaliating. Letting mothers know that you understand their predicament can help to develop a trusting relationship and can encourage the mother to be more receptive to taking steps to improve the situation. Note: fathers can be the abused in a family relationship, but because mothers are much more likely to be the abused in IPV, this set of guidelines writes the recommendations with that in mind.
3. **Let mothers and children know that it is ok to talk about what has happened if the child would like to engage in this type of discussion.** In families with IPV, mothers avoid discussing the situation with their children, trying to shield their children from trauma. However, many children want to discuss it and it may be a powerful way for the children to heal. Parents may need support in learning how to talk with their children and determining their readiness.
4. **Tell children that violence is not their fault; if children say that the violence is their fault or that they should have stopped it, tell them directly that they are not responsible for violence and that it is not their job to intervene** (or coach their mothers to do so). Children often think egocentrically and blame themselves for violence in the home. Children who blame themselves for the violence have more behavior problems than those who were told it was not their fault.

5. **Foster children's self-esteem by showing and telling them that they are lovable, competent and important.** Developing self-esteem and personal skills is tied to resilience in children. Help parents to know how to respond to their children's stress and provide physical comfort to children (following their children's lead). The parents may never have received hugs or cuddling when they were young.
6. **Help children know what to expect.** Establishing a structured and predictable routine (such as regular meals and bedtime) can help children feel more secure.
7. **Model and encourage good friendship skills.** Students who have good friend networks are more resilient and have higher self-esteem. Students exposed to IPV have fewer behavior problems if they feel accepted by their peers.
8. **Use emotion words to help children understand how others might feel during disagreements.**
9. **Recognize that when children are disruptive, they are generally feeling out of control and may not have the ability to use other strategies to express themselves.** Students who grow up in violent homes may be hyper vigilant and have difficulty controlling their emotions and behaviors. Approaching them calmly and respectfully while avoiding shaming and humiliating them with demands helps them learn that they can trust helping adults.
10. **Incorporate the family's culture into interventions, and support mothers and children to explore the values, norms, and cultural meanings that impact their choices and give them strength.** Culture is a central part of a student's identity and helps to shape values and norms. Work with the culture, not against it.
11. **Actively teach and model alternatives to violence.** Help students learn conflict resolution skills and healthy ways of playing. Help them to see disagreements from other perspectives so that they do not think differing viewpoints are examples of hostility.
12. **Involve mothers in conversations with their children about the children's views of the abuse.** Students may both fear and love an abusing parent and need to discuss these conflicting emotions. Discussing the student's perceptions of the acceptability of violence is important because they are more likely to be aggressive if they view violence as a norm.
13. **Discuss child development with mothers.** Mothers in homes with IPV often describe inappropriate expectations of their children and attribute negative motives to difficult developmentally appropriate behaviors.

14. **Help mothers teach their children how to label their emotions.** When mothers help their children recognize and cope with strong emotions, the children gain a sense of mastery over them and learn to manage their behavior.
15. **Address mothers parenting stress.** When mothers learn effective parenting strategies and are empowered to communicate with their children, their children have fewer behavior problems. Remind parents that they are the most important people in their children's lives.
16. **Work with mothers to help them extend both their own and their child's social support network.** Social supports include friends, family, and community members. Increasing support networks contributes to resilience and helps to develop supportive relationships.

Policy Recommendations to Decrease the Effects of Trauma on Children

A partnership of 14 organizations with leaders in health, education, justice, and child development, developed policy goals to prevent and address childhood exposure to violence and trauma. These are the goals they established for the United States in the *Executive Summary: Safe, Healthy, and Ready to Learn: Policy Recommendations to Ensure Children Thrive in Supportive Communities Free from Violence and Trauma* (Futures Without Violence, 2015).

- 1. Invest early in parents and young children.**
- 2. Help schools promote positive school climates, be trauma sensitive, and raise achievement.**
- 3. Train educators, health care workers, and other child-serving professionals about preventing and responding to youth violence and trauma.**
- 4. Prevent violence and trauma; expand violence prevention efforts to reduce children's exposure to violence.**
- 5. Improve intra-and inter-governmental coordination and alignment.**
- 6. Increase the availability of trauma-informed services for children and families.**
- 7. Increase public awareness and knowledge of childhood violence and trauma.**

Measuring Body Temperatures

Overview

Measuring body temperature is one assessment used in evaluating the physical status of a student. Elevated temperature can be one indication of an infectious or inflammatory process in the body. Temperature can be measured at several sites in the body via the oral, rectal, axillary, skin, temporal artery, or tympanic membrane route. Due to privacy issues, rectal temperatures should generally not be measured at school. Although glass thermometers were used for many years, they are no longer considered safe due to the hazards of mercury and should NOT be used in schools.

According to Selekman, there is no agreement as to the most effective thermometer to use in the school setting. Many school nurses are using temporal artery thermometers because the newest ones do not have to touch the student's skin to record temperatures, which saves money on probe covers/disposable supplies. Temporal artery thermometers are recommended as the thermometer of choice for students with autism (and other students who become apprehensive about contact with thermometers) because no physical contact needs to occur when using the newer temporal artery thermometers.

Axillary Temperature Measurement Using Electronic Thermometer

1. Assess need for axillary measurement. For example, young children may not be able to hold thermometer under their tongues properly for accurate temperature measurement.
2. Wash hands. Put on disposable gloves (optional).

Use of an oral probe cover minimizes the need to wear gloves because it can be removed without physical contact.

3. Explain the way temperature will be taken and importance of maintaining proper thermometer position until reading is complete.

Students can be curious about such measurements and may remove thermometer to check results before they are complete.

4. Remove thermometer pack from charging unit and grasp top of oral probe.
5. Slide probe into disposable plastic probe cover.
6. Move clothing away from shoulder and arm. Raise student's arm and gently place probe into the center of axilla, keeping tip close to skin and not clothing. Lower arm over probe and place arm across student's chest.
7. Leave thermometer probe in place until audible signal occurs and student's temperature appears on digital display.
8. Remove probe from axilla.

9. Return probe to storage position of thermometer. Return thermometer to charger.
10. Remove gloves, if worn, and dispose of appropriately. Wash hands.
11. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Oral Temperature Measurement Using Chemical Dot Thermometer

Chemical dot thermometers are disposable, single-use thermometers with specific chemical mixtures in each dot that melt and change color to measure temperature in increments of two tenths of a degree. They are easy to read and can also be used for axillary temperatures, but must be kept away from heat. They should be stored in areas where temperatures do not exceed 86°. If unused thermometers are exposed to heat greater than 95°F, then they should be placed in a freezer for one hour and then left at room temperature for 24 hours before using.

1. Wash hands. Put on clean gloves (optional).
2. Explain the way temperature will be taken and importance of maintaining proper position until reading is complete.
3. *Students may not be familiar with chemical dot thermometer and may remove thermometer to check results before they are complete.*
4. Gently place dotted end of thermometer under the student's tongue in the left or right posterior pocket (not in the pocket in front of the tongue).
5. *Heat from superficial blood vessels in sublingual pocket produces the temperature reading.*
6. Have child keep mouth closed without biting the thermometer.
7. Leave thermometer probe in place for 3 minutes (for some brands, one minute).
8. Remove thermometer and wait 10-15 seconds for the color change to stabilize before reading. With most brands, the last blue dot indicates the correct temperature.
9. Dispose of thermometer in appropriate receptacle.
10. Wash hands.

Oral Temperature Measurement Using Electronic Thermometer

1. Assess factors which may influence oral temperature measurement. Recent intake of cold or hot beverages, use of oxygen mask, or open-mouth breathing can affect accuracy of measurement.
2. Wash hands. Put on disposable gloves (optional).

Use of an oral probe cover minimizes the need to wear gloves because it can be removed without physical contact.

3. Explain the way temperature will be taken and importance of maintaining proper thermometer position until reading is complete.

Students can be curious about such measurements and may remove thermometer to check results before they are complete.

4. Remove thermometer pack from charging unit and grasp top of oral probe.
5. Slide probe into disposable plastic probe cover.
6. Gently place thermometer probe under the student's tongue in the left or right posterior pocket (not in the pocket in front of the tongue).

With electronic thermometers, temperatures in the left or right sublingual pocket are higher than in the area in front of the tongue. Heat from superficial blood vessels in sublingual pocket produces the temperature reading.

7. Have child keep mouth closed without biting the thermometer.

Holding the thermometer may achieve more accurate readings for some students.

8. Leave thermometer probe in place until audible signal occurs and student's temperature appears on digital display.
9. Remove thermometer probe from under client's tongue. Discard plastic probe cover into appropriate receptacle.

Note: Small digital thermometers designed for home use may run on batteries/microprocessor chip instead of a charger and utilize disposable plastic sleeve covers. Care should be taken when removing the sleeves because it is easier to become contaminated with saliva than when using the hard plastic probe covers.

10. Return probe to storage position of thermometer. Return thermometer to charger.
11. Remove gloves, if worn, and dispose of appropriately. Wash hands.
12. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Oral Temperature Measurement Using Glass Thermometers

DO NOT USE. See Steps to Take in the Event of a Mercury Spill at the end of this section.

Skin Temperature Measurement Using Plastic Strip Thermometers

Plastic strip thermometers are disposable thermometers that use temperature-sensitive patch or tape to measure temperature. Their accuracy has been variable.

1. Wash hands.
2. Explain the way temperature will be taken.
3. Place strip on forehead until color change occurs, usually about 15 seconds.
4. Remove strip and dispose in appropriate receptacle.
5. Wash hands.
6. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Temporal Artery Temperature Measurement

One of the newest methods for measuring temperature is the temporal artery thermometer. It uses infrared technology to measure the temperature of the skin surface over the temporal artery, a major artery of the head. It is quick, noninvasive, and easy to use and recommended as a screening method of temperature measurement. (Some studies have questioned whether it is as accurate as some other measures when measuring febrile babies over time).

There are now two different temporal artery thermometers available. The newest requires no contact with the skin and is preferred for students with autism. Always follow the instructions of the particular thermometer that is being used.

Instructions for Non-Contact Temporal Artery Thermometers:

1. Explain the way temperature will be taken. *Students may not be familiar with temporal artery thermometer and may fear it.*
2. Make sure the thermometer is in the body temperature taking mode if it is also one that can be used to measure ambient temperature or the temperature of liquids.
3. Wipe perspiration or hair from student's forehead.
4. Hold the thermometer 1-3 inches from the student (follow specific device instructions for distance). Press and release the "SCAN" button. Temperature will immediately display.
5. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Instructions for Temporal Artery Thermometers that touch the forehead:

1. Wash hands.
2. Explain the way temperature will be taken
Students may not be familiar with temporal artery thermometer and may fear it.
3. Wipe perspiration or hair from student's forehead.
4. Remove protective cap. Be sure lens is clean.
5. Gently position the probe flat on the center of the forehead, midway between the eyebrow and hairline. Press and hold the SCAN button.
6. Lightly slide the thermometer across the forehead keeping the sensor flat and in contact with the skin until you reach the hairline. Lift the probe from the forehead and touch the neck just behind the ear lobe.
A beeping can be heard and a red LED light will blink to indicate a temperature measurement is taking place. Accuracy of reading is increased if both forehead and neck are scanned, especially if moisture or sweat is present on forehead.
7. Release the SCAN button and remove the thermometer from the head.
8. Read the temperature on the display. Temperatures obtained by temporal artery thermometers may be 0.8-1.0°F (0.4°C) higher than those obtained by oral thermometers (they correlate closer to rectal temperatures).
Thermometer will shut off automatically after 30 seconds.
9. Wait at least 30 seconds before re-scanning for a temperature.
10. Replace the protective cap on thermometer to protect the sensor when not in use.
11. Wash hands.
12. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Tympanic Membrane Temperature Measurement

Tympanic membrane thermometers measure temperature by detecting the infrared heat produced by the eardrum and surrounding tissue. The tympanic membrane is used because both the eardrum and hypothalamus (temperature-regulating center) have the same blood circulation. The measurement is quick, noninvasive, and generally well tolerated, but there are conflicting views regarding its absolute accuracy. Generally, the accuracy is dependent on utilizing proper technique and absence of earwax. Many times, the thermometer is not positioned correctly in the ear canal.

1. Wash hands.

2. Explain the way temperature will be taken and importance of maintaining proper position until reading is complete.
Students may not be familiar with tympanic thermometer and may fear that it could cause pain.
3. Right-handed persons should measure temperature from student's right ear and left-handed persons should measure from student's left ear because the less acute the angle of approach, the better the probe seal.
4. Attach a clean (disposable) probe cover.
5. Perform an ear tug to straighten the ear canal—gently pull ear **up and back**.
Pulling up and back straightens the ear canal in children over 3 years of age. In children less than 3 years of age, pull pinna down and back.
6. While tugging the ear, insert the covered probe tip gently into the ear canal, pointing at the midpoint between the eyebrow and the sideburn on the opposite side of the face. Fit probe snugly into the canal.
Temperature is most accurate with maximum exposure of the tympanic membrane. Gentle pressure seals the ear canal from room temperature, which can alter readings greatly.
7. Press the activation button. Digital reading of temperature appears within 2 seconds.
Some studies suggest taking three measurements and recording the highest reading to obtain the most accurate reading.
8. Carefully remove thermometer from ear canal.
9. Press the ejector button and dispose of probe cover in appropriate receptacle.
Pressing ejector button causes digital reading to disappear.
10. Wash hands.
11. Record temperature. Notify school nurse and family if there is a change from student's usual temperature.

Steps to Take in the Event of a Mercury Spill

Glass mercury thermometers were once standard in schools and medical centers. However, concerns regarding the safety of the mercury within glass thermometers prompted most states to ban mercury thermometers in schools and for the general phase out of the manufacture and calibration of mercury thermometers. Mercury is a neurotoxin and even low levels of mercury exposure can pose harm. Mercury's most dangerous attribute is its ability to vaporize and form a hazardous gas. **Mercury thermometers should never be used in schools.** Most schools no longer have them although some have been found in science labs and back cabinets where their

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existence had been forgotten. Many people mistakenly believe that skin exposure to mercury is the biggest problem and try to clean up mercury spills with caution to avoid touching mercury in the cleanup. However, mercury vaporizes easily and inhalation poses the greatest threat to people. If a mercury spill occurs:

1. Evacuate the immediate area and ventilate as well as possible.
2. Contact an environmental consultant at the health department or an environmental services department for cleanup and disposal instructions.
3. Do **NOT** attempt to clean up a mercury spill using rags or a vacuum. This will only disperse the mercury and encourage volatilization.
4. Do **NOT** use household cleaning products to clean the spill, especially products containing ammonia or chlorine because a toxic gas may be produced.
5. Do **NOT** use a broom. The mercury will break into smaller beads and spread further.
6. Do **NOT** use a vacuum because this will release mercury into the air.
7. Do **NOT** touch spilled mercury droplets. If skin contact occurs, immediately flush area with water for 15 minutes.
8. Complete occurrence report as directed by institution procedure.

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