

# Special Care Issues

Attention Deficit/Hyperactivity Disorder

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# 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 rejection by peers, academic difficulties 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. The National Institutes of Mental Health estimates that 3-5% of school age children have 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, 4<sup>th</sup> Edition (DSM-IV), there are three subtypes of ADHD:

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

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 seven.

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 both 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-IV* 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** 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 often distracted by extraneous stimuli.
  - Is often forgetful in daily activities.
2. Six or more of the following symptoms of **hyperactivity/impulsivity** 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 leisure 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).

2. Some hyperactive impulsive or inattentive symptoms that caused impairment were present before 7 years of age.

3. Some impairment from the symptoms is present in two or more settings (e.g., at school or at work or at home).
4. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
5. The symptoms do not occur exclusively during the course of a pervasive developmental disorder, 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).

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# Management of ADHD

## Clinical Practice Guidelines

The American Academy of Pediatrics (AAP) partnered with the Agency for Healthcare 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 and school-based professionals to monitor the progress and effectiveness of interventions.

**Recommendation 1: Primary care clinicians should establish a management program that recognizes ADHD as a chronic condition.** Clinicians should establish a management program that recognizes ADHD as a chronic condition, with possibly 60-80% persistence into adolescence. They should provide information and counseling about the condition, including educating parents and children about “the ways in which ADHD can affect learning, behavior, self-esteem, social skills, and family function.” Clinicians should ensure the coordination of health care services and help families set specific goals. “What distinguishes this condition from most other chronic conditions managed by primary care clinicians is the important role that the education system plays in the treatment and monitoring of children with ADHD” (AAP, 2001).

**Recommendation 2: The treating clinician, parents, and the child, in collaboration with school personnel, should specify appropriate target outcomes to guide management.** At least three to six target outcomes should be developed to guide management and monitoring by clinician, parents, child, and school personnel. The primary goal of treatment should be to maximize function. The guideline identifies six desired results.

**Recommendation 3: The clinician should recommend stimulant medication, as appropriate, to improve target outcomes in children with ADHD.** Extensive research demonstrates the efficacy of stimulant medications on “measures of observable social and classroom behaviors and on core symptoms of attention, hyperactivity, and impulsivity” with modest effects on intelligence and achievement tests.

- **First-Line Treatment:** Methylphenidate, dextroamphetamine, and amphetamine salts are approved in various forms (short, intermediate, and long-acting) and do not require serologic, hematologic, or cardiac monitoring. Stimulant dosages are not weight dependent and different dosages should be tried to determine the optimal dose. Appetite suppression and weight loss are common side effects, although no long-term impairment of growth/height has been found.
- **Second-Line Treatment:** Tricyclic antidepressants and bupropion are the only other supported medications, although they should only be used after 2 or 3 stimulants have failed. Clonidine “falls outside the scope of this guideline” and its use is documented primarily in children with coexisting conditions, especially sleep disturbances. Pemoline is no longer recommended as first or second line treatment due to its rare, but potentially fatal, hepatic effects.

**Recommendation 3A: For children on stimulants, if one stimulant does not work at the highest feasible dose, the clinician should recommend another.** 80% of children are reported to respond to one of the stimulants.

The guideline discusses behavior therapy, describing it as a broad set of specific interventions with the goal of modifying the physical and social environment to alter or change behavior. Behavior therapy is usually implemented by training parents and teachers in positive reinforcement or consequences for behavior.

Psychological interventions (such as play therapy or cognitive therapy) are differentiated from behavior therapy. Psychological therapy is designed to change emotional status or thought patterns and has little proven efficacy in treating ADHD.

Effective behavioral techniques such as positive reinforcement, time-out, response cost, and token economies are discussed. Behavior therapy may improve results of medication therapy and commonly includes parent training and classroom management. Results of the MTA study, which found parents and teacher satisfaction with behavior therapy, are noted. Students can receive behavior therapy as part of an individualized education plan (IEP) or Section 504 plan. IEPs and Section 504 plans require schools to make classroom adaptations to help children with ADHD and may include preferential seating, decreased assignments and homework, and behavior techniques implemented by the teacher.

**Recommendation 4: When the selected management for a child with ADHD has not met target outcomes, clinicians should evaluate the original diagnosis, use of all appropriate treatments, adherence to the treatment plan, and presence of coexisting conditions.**

Information should come from multiple sources in this evaluation. Criteria for treatment failure are described, along with the recommendation that the child should be referred to a mental health specialist.

**Recommendation 5: The clinician should periodically provide a systematic follow-up for the child with ADHD. Monitoring should be directed to target outcomes and adverse effects by obtaining specific information from parents, teachers, and the child.**

One major new medication has been approved for the treatment of ADHD since these guidelines were developed in 2001. Atomoxetine, a non-stimulant selective norepinephrine reuptake inhibitor, was approved by the FDA in 2003 for the treatment of ADHD. In research trials, it was found to be as effective as stimulants in the treatment of symptoms of ADHD. It is the first non-stimulant approved by the FDA for the treatment of ADHD. Because it is not a controlled drug, it is considered to have less risk of abuse and may be refilled without a doctor's appointment.

## **Pharmacotherapies**

Psychopharmacologic agents represent one part of a thorough treatment plan 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 3 above, involve the use of one of three 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. In recent years, several long-acting forms of ADHD medications have been approved for use. They have gained popularity because their once-daily dosing can be done at home and does not require administration during the day at school.

Since the publication of these recommendations, the non-stimulant atomoxetine has been approved by the FDA for use after it demonstrated similar efficacy to stimulants in

treating ADHD. Widespread public use of this medication remains to be tested. The stimulant medication pemoline (Cylert) was once widely used, but is no longer recommended due to its risk of hepatotoxicity.

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.

School personnel in Virginia are prohibited from recommending the use of psychotropic medications for any student. They may recommend that a student be evaluated by an appropriate medical practitioner. (See Virginia Department of Education Superintendents' Memo #54 dated August 16, 2002 for details.)

The table below summarizes the medications used for ADHD:

Drug	Pharmacokinetics (T1/2=Half-life) DBE=Duration of behavioral effect)	Comments
<b>Amphetamine Mixtures</b>		
<ul style="list-style-type: none"> <li><i>Adderall</i></li> </ul>	T1/2=4-6 hrs DBE=4-6 hrs	May require multiple dosing.
<ul style="list-style-type: none"> <li><i>Adderall XR</i></li> </ul>	T1/2=9-11 hrs DBE=12 hrs.	Once daily dosing.
<b>Dextroamphetamine</b>		
<ul style="list-style-type: none"> <li><i>Dexedrine tablet</i></li> </ul>	T1/2=4-6 hrs. DBE=4-6 hrs.	Inexpensive. May require multiple dosing. Greater abuse potential?
<ul style="list-style-type: none"> <li><i>Dexedrine Spansule</i></li> </ul>	T1/2=12 hrs. DBE 6-8 hrs.	Slow onset.
<b>Methylphenidate Preparations</b>		
<ul style="list-style-type: none"> <li><i>Concerta</i></li> </ul>	T1/2=3-4 hrs. DBE=12 hrs.	Once daily. Quick onset; long duration. Cannot be crushed.
<ul style="list-style-type: none"> <li><i>Metadate CD</i></li> </ul>	T1/2=6-8 hrs DBE=9 hrs.	Once daily. Quick onset.
<ul style="list-style-type: none"> <li><i>Ritalin</i></li> </ul>	T1/2=2-3 hrs. DBE=3-5 hrs.	Requires multiple daily dosing.
<ul style="list-style-type: none"> <li><i>Ritalin SR</i></li> </ul>	T1/2=3-4 hrs DBE=8 hrs.	Intermediate acting. May require multiple dosing.
<b>Selective Norepinephrine Reuptake Inhibitor</b>		
<ul style="list-style-type: none"> <li>Atomoxetine</li> <li><i>Strattera</i></li> </ul>	T1/2=4-5 hrs.	Non-stimulant. Usually once daily, but may be divided into two doses. Less

Drug	Pharmacokinetics (T1/2=Half-life) DBE=Duration of behavioral effect)	Comments
		insomnia than stimulants.
<b>Antidepressants</b>		
<ul style="list-style-type: none"> <li>• Bupropion (Wellbutrin)</li> </ul>	T1/2=20-37 hrs.	Second line treatment. Long half-life. Not associated with cardiac concerns of TCAs.
<ul style="list-style-type: none"> <li>• Tricyclic Antidepressants               <ul style="list-style-type: none"> <li>○ Desipramine (Norpramine, Pertofrane)</li> <li>○ Imipramine (Tofranil)</li> <li>○ Nortriptyline (Pamelor, Aventyl)</li> </ul> </li> </ul>	T1/2=12 hrs	Second-line treatment. Sometimes used in children with co-morbid depression or anxiety. Some concern about effects on cardiac conduction.

**Source:**

Virginia Department of Health. (November 2002). *The Prevalence of Methylphenidate and Amphetamine Prescriptions in the Commonwealth*. House Document No. 12 pursuant to House Joint Resolution 122. Richmond, VA.

**School Based Interventions**

The teacher and other school personnel’s attitude toward ADHD is 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 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 child 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, 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 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 a consensus development conference on

ADHD were published in 2002 and addressed six key questions with the following statements.

***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 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 under-diagnosed 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 (usually IgE) reactions 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.

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. Avoidance of the offending food(s) is the only way to prevent a reaction.

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 and tree nuts
- 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

Reactions to these foods, however, tend to be less severe and may lessen as the child gets older.

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.

## Potential Settings

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.

### **Staff Preparation**

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.

### **Components of the Individualized Health Care Plan**

Each student's individualized health care plan (IHCP) must be tailored to the individual's needs. Any student with prescribed epinephrine should have an IHCP that discusses continuous monitoring, emergency plans, and evaluation. A sample Food Allergy Action 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
- 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
- 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)
- Consider informing parents of other students if a severe allergy exists
- Teach classmates (especially adolescents) how to respond to an allergic reaction
- Teach food service workers to avoid cross-contamination in preparing or cleaning up foods

# Food Allergy Action Plan

Place  
Child's  
Picture  
Here

ALLERGY TO: \_\_\_\_\_

Student's Name: \_\_\_\_\_ D.O.B: \_\_\_\_\_ Teacher: \_\_\_\_\_

Asthmatic Yes\*  No  \*High risk for severe reaction

## ◆ SIGNS OF AN ALLERGIC REACTION ◆

**Systems:**      **Symptoms:**

- MOUTH**      itching & swelling of the lips, tongue, or mouth
- THROAT\***    itching and/or a sense of tightness in the throat, hoarseness, and hacking cough
- SKIN**        hives, itchy rash, and/or swelling about the face or extremities
- GUT**         nausea, abdominal cramps, vomiting, and/or diarrhea
- LUNG\***      shortness of breath, repetitive coughing, and/or wheezing
- HEART\***     "thready" pulse, "passing-out"

The severity of symptoms can quickly change. \*All above symptoms can potentially progress to a life-threatening situation.

## ◆ ACTION FOR MINOR REACTION ◆

1. If **only symptom(s)** are: \_\_\_\_\_, give \_\_\_\_\_  
medication/dose/route

Then call:

2. Mother \_\_\_\_\_, Father \_\_\_\_\_, or emergency contacts.  
3. Dr. \_\_\_\_\_ at \_\_\_\_\_

If condition does not improve within 10 minutes, follow steps for Major Reaction below.

## ◆ ACTION FOR MAJOR REACTION ◆

1. If **ingestion is suspected and/or symptom(s)** are: \_\_\_\_\_,  
give \_\_\_\_\_ IMMEDIATELY!  
medication/dose/route

Then call:

2. Rescue Squad (ask for advanced life support)  
3. Mother \_\_\_\_\_, Father \_\_\_\_\_, or emergency contacts.  
4. Dr. \_\_\_\_\_ at \_\_\_\_\_

**DO NOT HESITATE TO CALL RESCUE SQUAD!**

Parent's Signature \_\_\_\_\_ Date \_\_\_\_\_ Doctor's Signature \_\_\_\_\_ Date \_\_\_\_\_



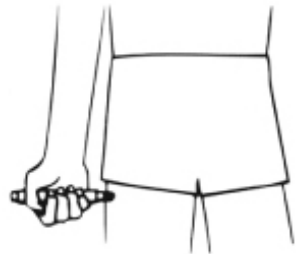
EMERGENCY CONTACTS	TRAINED STAFF MEMBERS
1. _____	1. _____ Room _____
Relation: _____ Phone: _____	
2. _____	2. _____ Room _____
Relation: _____ Phone: _____	
3. _____	3. _____ Room _____
Relation: _____ Phone: _____	

### EPIPEN® AND EPIPEN® JR. DIRECTIONS

1. Pull off gray activation cap.



2. Hold black tip near outer thigh (always apply to thigh).



3. Swing and jab firmly into outer thigh until Auto-Injector mechanism functions. Hold in place and count to 10. The EpiPen® unit should then be removed and taken with you to the Emergency Room. Massage the injection area for 10 seconds.

For children with multiple food allergies, use one form for each food.



# Managing Anaphylaxis

## Overview

Anaphylaxis is a severe, sudden, systemic, potentially fatal allergic reaction that can involve the skin, respiratory tract, gastrointestinal tract, and cardiovascular system. Symptoms occur within minutes to two hours after contact with the allergy-causing substance, but in rare instances may occur up to four hours later.

Common food triggers include:

- Peanuts
- Tree nuts (walnuts, cashews, etc.)
- Shellfish
- Fish
- Milk
- Eggs

Individuals who are allergic to foods and have asthma are believed to be at a higher risk for developing an anaphylactic reaction. Adolescents who have peanut and tree nut allergy and asthma 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, a sensation of warmth, wheezing, chest tightness, swelling of the mouth and throat, difficulty breathing, vomiting, diarrhea, cramping, a drop in blood pressure, and loss of consciousness. These symptoms may begin as a tingling sensation, itching, or metallic taste in the mouth. Symptoms may occur within a few minutes but may worsen over hours. Symptoms also may resolve but recur two to three hours later.

## Treatment

Epinephrine is used to treat an anaphylactic reaction by reversing the symptoms. This medication is available via prescription as an EpiPen® or EpiPen® Jr. Epinephrine Auto-Injector.

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.

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

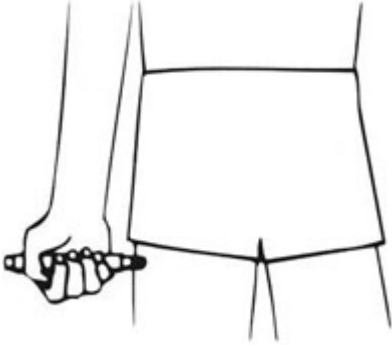
### 3 R's for treating anaphylaxis

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

## Procedure for Using an Epinephrine Auto-Injector

**Note: Parent provides equipment, supplies, and medications.**

1. Pull off gray safety cap
2. Place black tip on outer thigh (always apply to thigh)



3. Using a swing and jab motion, press hard into thigh until Auto-Injector mechanism functions. Hold in place and count to 10.
4. The EpiPen® unit should then be removed and discarded. Massage the injection area for 10 seconds.

### **How to Dispose of an EpiPen®**

After using an EpiPen®, throw away the gray cap. Place a penny in the bottom of the plastic tube, slip the EpiPen® into the tube, and close it. Return the used EpiPen® to your doctor for disposal.

**Source:** Food Allergy and Anaphylaxis Network. Available online at <http://www.foodallergy.org>.

### **Steps for treating an anaphylactic reaction:**

- Act quickly!
- Follow the Allergy Action Plan
- Call Emergency Medical Services (or 911)

### **School Food Allergy Program**

School divisions in Virginia are encouraged to establish local policies and procedures for caring for students with food allergies. Resources that school divisions may use in developing these policies can be found in the VDOE *Superintendents Memos #170* dated December 20, 2002 and include:

1. *The School Food Allergy Program*, The Food Allergy and Anaphylaxis Network (FAAN), 10400 Eaton Place, Suite 107, Fairfax, VA 22030-2208, Telephone Number 1-800-929-4040 FAX 703-691-2713, website [www.foodallergy.org](http://www.foodallergy.org).

The Food Allergy and Anaphylaxis Network has developed a comprehensive manual for managing food allergies in school. The program provides information on food allergy basics for teachers, school nurses, principals, parents, and food service workers, as well as a model school program, information on legal issues, sample forms, a training video, and an EpiPen trainer.

Each school principal must submit a written request to the Food Allergy and Anaphylaxis Network at the above address or website to obtain copies of this program.

2. *Spokane Public Schools Staff and Parent Guidelines for Students with Life Threatening Allergies* (Washington State) provide information for parents, students, and school staff relative to 504-plans and enrollment procedures. Sample forms are provided for emergency action plans, medication requests, letters, and school food substitutions. <http://www.sd81.k12.wa.us/NutritionServices/Allergies/index.stm>
3. *Managing Life Threatening Food Allergies in Schools*, Massachusetts Department of Education, 350 Main Street, Malden, MA 02148, telephone (781) 338-3000. This document published in 2002 provides information for parents, students, and school staff, sample individualized health care plans, sample 504 plans, and enrollment recommendations. <http://www.doe.mass.edu>
4. *ANAPHYLAXIS: Preventing Life-Threatening Food Allergy Emergencies in Schools: A Resource for School Nurses and Administrators*. <http://www.asthmaandallergies.org/Anaphylaxis.html>.
5. *Managing food anaphylaxis at school requires emergency plan*. [http://www.schoolhealth.org/food\\_allergies.htm](http://www.schoolhealth.org/food_allergies.htm)

6. *A Principal's Guide to Children's Allergies*, a publication of the National Association of Elementary School Principals, September 1999.  
<http://www.naesp.org/comm/p0999a.htm>
7. Formanek, R. Jr. (2001). *Food Allergies: When Food Becomes the Enemy*. Federal Food and Drug Administration.  
[http://www.fda.gov/fdac/features/2001/401\\_food.html](http://www.fda.gov/fdac/features/2001/401_food.html)
8. United States Department of Agriculture Food and Nutrition Service, (2001). *Accommodating Children with Special Dietary Needs in the School Nutrition Programs*. <http://www.fns.usda.gov/cnd/Guidance>.

### **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*. Section II 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.

The form entitled *Physician's Statement for Students with Special Dietary Needs* must be completed and submitted to the school nutrition program for each student with special dietary needs. Any changes to the statement must be made in writing. A copy of this form, as well as more details of the regulation, can be found in the Virginia Department of Education (VDOE) *Superintendents Memos #8* dated October 11, 2002.

<b>Physician's Statement for Students with Special Dietary Needs*</b>			
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 <b>Part B</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 <b>Part B</b> of this form and have it signed by a recognized medical authority.		Yes	No
<b>PART B</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.**

**Sources:**

- Food Allergy and Anaphylaxis Network. (2002). *School Guidelines for Managing Students with Food Allergies*. Available at [www.foodallergy.org/school/guidelines.html](http://www.foodallergy.org/school/guidelines.html)
- Gaudreau, JM. (2000). The Challenge of Making the School Environment Safe for Children with Food Allergies. *Journal of School Nursing* 16(2): 5-10.
- Munoz-Furlong, A. (2003). Daily Coping Strategies for Patients and Their Families. *Pediatrics* 111(6): 1654-1661.
- National Association of School Nurses. (2000), *Position Statement: Epinephrine Use in Life-Threatening Emergencies*. Available at [www.\\_\\_\\_\\_\\_](http://www.nasn.org).
- Sicherer, SH, Munoz-Furlong A, Murphy R, Wood RA, & Sampson HA. (2003). Symposium: Pediatric Food Allergy. *Pediatrics* 111(6): 1591-1594.
- VDOE (2002). Guidance for Accommodating Children with Special Dietary Needs in School Nutrition Programs. Superintendents Memo #8, 11 October 2002.
- VDOE. (2002). School Allergy Program Information and Recommendations. Superintendents Memo #170, 20 December 2002.
- Zeiger, RS. (2003). Food Allergen Avoidance in the Prevention of Food Allergy in Infants and Children. *Pediatrics* 111(6): 1662-1671.

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

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.

Recent medical studies report that there is a link between latex allergies and certain food allergies. The studies indicate 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.***

The *First Aid Guide for School Emergencies (2003)* describes steps to be taken in the event of an allergic reaction. 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://www.sbaa.org>>.

**Sources:**

- Blanco, C., Carrillo, T., Castillo, R., Quiraite, J., & Cuevas, M. (1994). Avocado Hypersensitivity. *Allergy* 49 (6): 454-459.
- Blanco, C., Carrillo, T., Castillo, R., Quiraite, J., & Cuevas, M. (1994). Latex Allergy: Clinical Features and Cross-Reactivity with Fruits. *Annals of Allergy*, 73: 309-314.
- California Department of Education (1990). Anaphylactic Reaction: Emergency Care Procedure. In *Guidelines and Procedures for Meeting the Specialized Physical Health Care Needs of Pupils*.
- Kim, K.T. et al (1998). Implementation Recommendations for Making Health Care Facilities Latex Safe. *Association of Operating Room Nurses Journal* 67:616-631.
- Lavaud, F. et al (1995). Allergy to Latex, Avocado, Pear, and Banana: Evidence of 30 kd Antigen in Immunoblotting. *Journal of Allergy and Clinical Immunology*, 95 (2): 557-564.
- Meeropol, E. (1998). *Keeping Your Child Latex-Safe at School*. Available online at: [http://www.sbaa.org/docs/insights/keeping\\_your\\_child\\_latex\\_safe.pdf](http://www.sbaa.org/docs/insights/keeping_your_child_latex_safe.pdf).
- Spina Bifida Association of America. (2003). *Latex Information*. Available online at: [http://www.sbaa.org/html/sbaa\\_latex.html](http://www.sbaa.org/html/sbaa_latex.html).



SPINA BIFIDA ASSOCIATION  
OF AMERICA

## LATEX in the Hospital Environment

*Updated Summer 2002*

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.

Frequently contain LATEX	LATEX-SAFE alternatives
Adhesives and skin (Smith&Nephew)	Mastisol (Ferndale)
Anesthesia: circuits, bags, oxygen masks	Neoprene (Anesthesia Associates, Ohmeda adult), some Vital Signs
Bandaids	Active Strip (3M), CURAD Neon, Readi-Bandages, NHP, Coverlet, some Airstrip
Blood pressure cuff and tubing (J&J)	Cleen Cuff (Vital Signs), nylon, some Triline
Bulb syringe	Some Davol, Medline, Rusch, Premium, Baxter
Casts: Delta-Lite Podiatry, Orthoflex (J&J)	Scotchcast soft, Delta-Lites, recent Conformable (J&J), Caraglas Ultra, 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, Rochester, Rusch, Vitaid. Adapters & plug (Addto)
Catheters: cardiac, vascular, pulmonary	Some World Medical, Am BioMed
Catheters: straight, coude	Mentor, RobNel (Sherwood), Coloplast, selected Bard, Rusch catheters
Catheters: feeding	Accumark feeding catheter (Sims Portex)
CPR manikins and medical training aids	Most Laerdal products
Dressings: Dyna-flex, butterfly closures (J&J), BDF Elastoplast, Action Wrap, Coban (3M), Lyofoam (Acme), Spandage (Medi-tech), Telfa	Dressings: Dyna-flex, butterfly closures (J&J), 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
<b>NOTE: latex in package only:</b> Steri-strip wound closure system, Tegaserb, Active Strips (3M), Nu-Derm (J&J), CURAD	
Ear Plugs	Grainger (5F767)
Elastic wrap: ACE, Esmarch, Zimmer Dyna-flex, Elastikon (J&J)	E-Cotton, CEB elastic (coNco), Champ (Carolon), Adban Adhesive, X-Mark (Avcor) Co-Flex, PowerFlex (Andover), Comprilan (Jobst), Esmark (DeRoyal, NHP)
Electrode bulbs, pads, grounding	Some Baxter, Dantec EMG, Conmed, ValleyLab, Vermont Med, Staodyn, Neotrode
Endotracheal tubes, airways	Selected Berman, Mallinckrodt, Polamedco, Portex, Rusch, Sheridan, Shiley
Enemas	BabyLax, Theravac, Bowel Management Tube (MIC), Pharmaseal set, all Fleet Ready-to-Use, cone irrigation set (Convatec), silicone retention cuff tip (Lafayette)
G-tubes, buttons	Silicone (Bard, Flexiflo, MIC, Rusch, 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
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	Cover Y-sites and bag ports - do not puncture. Use stopcocks for meds. 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)
OR/Infection Control masks, hats, shoe covers	Some by Kimberly Clark, TECNOL, OR and sterile packs (CML, DeRoyal) twill ties
Medication vial stoppers	Some AmRegent, Astra, Bedford Labs, Fujisawa, Gensia, Glaxo, Lilly, Roche
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
Respirators	Advantage (MSA), HEPA-Tech (Uvex), PFR 95 (Tecnol), 3M 1860
Resuscitators, manual	Certain Ambu, Armstrong, Laerdal, Puriton Bennett, Vital Blue, Respironics, Rusch
Spacer (for metered dose inhalers)	ACE spacer (Center Labs), OptiHaier (HealthScan)
Stethoscope tubing	PVC (some Littman) cover with ScopeCoat or latex-free stockinette (Albahealth)
Suction tubing	PVC (Daval, 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, Waterproof (J&J), adhesive felt (Acme)	Dermicel (J&J), Durapore, Microfoam, Micropore, Transpore (3M) Cath-Strip (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 stockings (TEDS)	Compriform Custom (Jobst)



## LATEX in Home and Community *Updated Summer 2002*

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.

Frequently contain LATEX	LATEX-SAFE alternatives
Art supplies: paints, glue, erasers, fabric paints	Elmers (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
Balloons	Mylar balloons, self-sealing Myloons
Balls: Koosh balls, tennis balls, bowling balls, Ball Pits	PVC (Hedstrom Sports Ball), Nerf Foam Balls
Carpet backing, gym floor, basement sealant	Provide barrier – cloth or mat
Chewing gum	Bubblicious, Trident (Warner-Lambert), Wrigley gums (check new products)
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), Wideseal Silicone Diaphragms (Millex), Trojan Supra Condom
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, some Attends, Drypers Diapers (not training pants), Confidence (Paper-Pak), Pampers, Luvs
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
Infant toothbrush-massager	Soft bristle brush or cloth, Gerber/NUK
Kitchen cleaning gloves	PVC MYPLEX (Megle), cotton liners (Allerderm)
Latex paint	There is no natural rubber in latex paint
Miscellaneous items	Some medical stickers by MediBadge, UAL, Cushie Tushie Potty Seat
Newsprint, ads, coupons, lottery scratch tickets	None
Pacifiers	Soothies (Children's Med Ventures), selected Binky, Gerber, Infa, Kip, MAM
Rubber bands, bungee cords	Plasti bands
Toys - Stretch Armstrong, old Barbies	Jurassic Park figures (Kenner), 1993 Barbie, Disney dolls (Mattel), many toys by Fisher Price, Little Tikes, Playschool, Discovery, Troils (Norfin), Silly-putty
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

**NOTE:** Associated allergies: Foods include: banana, avocado, chestnut, kiwi. 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 of America 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 SBAA website at [www.sbaa.org](http://www.sbaa.org) or send a SASE with 37¢ postage to Spina Bifida Association of America, 4590 MacArthur Blvd., NW, Suite 250, Washington, DC 20007-4226, 800-621-3141.

A.L.E.R.T, Inc.: 888-972-5378, [www.latexallergyresources.org](http://www.latexallergyresources.org).

### Latex-free products can be ordered through these catalogs:

- Decent Exposures: 800-524-4949
- CETRA products for Latex-free Living: 888-LATEX-NO
- Catalog #: 800-525-4949
- [www.latexfree.com](http://www.latexfree.com)
- [www.schoolhealth.com](http://www.schoolhealth.com)

# 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 schools. **Glass thermometers should not be used in schools** due to concerns regarding the safety of mercury within the 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. Move clothing away from shoulder and arm. Raise student's arm and gently place probe into the center of axilla. Lower arm over probe and place arm across student's chest.
6. Leave thermometer probe in place until audible signal occurs and student's temperature appears on digital display.
7. Remove probe from axilla and discard oral probe cover.
8. Return probe to storage position of thermometer. Return thermometer to charger.
9. Remove gloves, if worn, and dispose of appropriately. Wash hands.
10. 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.  
*Students may not be familiar with chemical dot thermometer and may remove thermometer to check results before they are complete.*

3. 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).  
*Heat from superficial blood vessels in sublingual pocket produces the temperature reading.*
4. Have child keep mouth closed without biting the thermometer.
5. Leave thermometer probe in place for 3 minutes (for some brands, one minute).
6. 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.
7. Dispose of thermometer in appropriate receptacle.
8. Wash hands.

### **Oral Temperature Measurement Using Electronic Thermometer**

1. Assess factors which may influence oral temperature measurement. Recent intake of cold or hot beverages or use of oxygen mask 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**

Glass thermometers should not be used in schools.

## **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.

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. Remove protective cap. Be sure lens is clean.
4. Gently position the probe flat on the center of the forehead, midway between the eyebrow and hairline. Press and hold the SCAN button.
5. 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.*
6. Release the SCAN button and remove the thermometer from the head.
7. Read the temperature on the display. Temperatures obtained by temporal artery thermometers are generally 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.*
8. Replace the protective cap on thermometer to protect the sensor when not in use.
9. Wash hands.
10. 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.

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 under 3, 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.

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