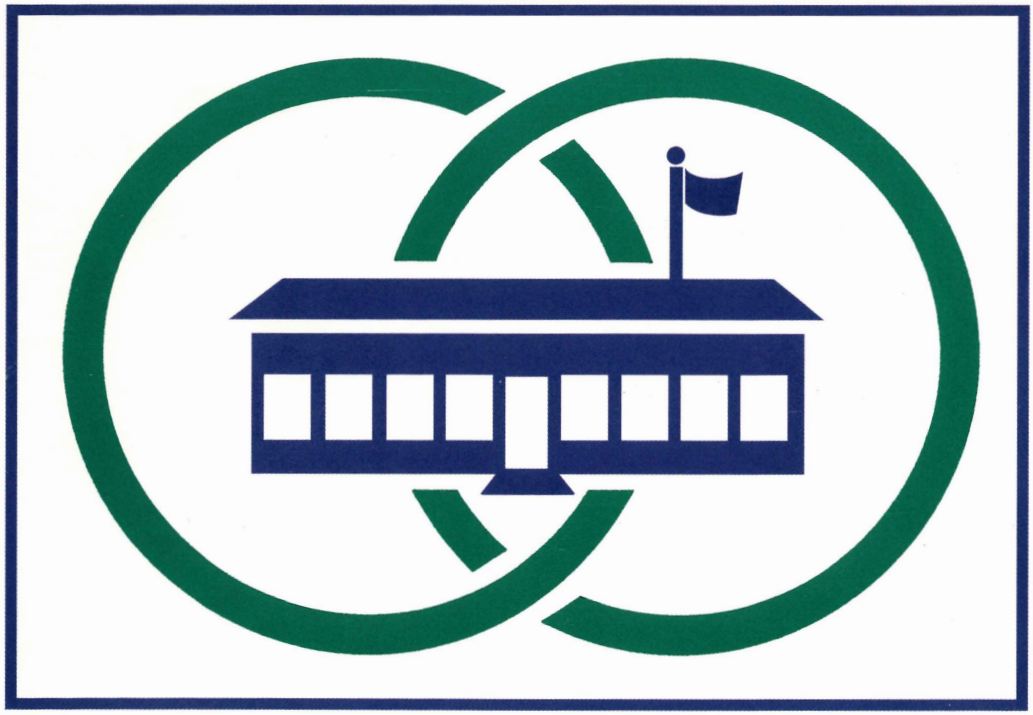
The Comprehensive SCHOOL HEALTH MANUAL

Revised 2007



Massachusetts Department of Public Health

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Chapter 5

HEALTH ASSESSMENT

About The Information in This Manual

From time to time, the Massachusetts Department of Public Health may update some of the materials. Please check the School Health Manual online to see if there are any recent updates.

Please be certain to check for new laws and regulations that may be in effect after publication of this Manual. You may find the Massachusetts General Laws online at http://www.mass.gov/legis/laws/mgl/ and the Code of Massachusetts Regulations at http://www.lawlib.state.ma.us/cmr.html. These sites are periodically updated, but are not the official version of the Massachusetts General Laws (MGL) or Code of Massachusetts Regulations (CMR). You should always refer to an official edition of the MGL and CMR. Official editions may be found at the Statehouse Bookstore and many public and law libraries.

Chapter 5

HEALTH ASSESSMENT

The school nurse and other school health professionals provide health assessments through daily encounters with students and staff, population-based screening programs, and routine physical examinations. A comprehensive health assessment process involves the following:

- collecting subjective and objective data related to students' health and behaviors;
- reviewing the data for accuracy and completeness;
- collecting more data as needed; and
- analyzing the data to identify health risks, health problems, and potential stressors that may impact a student's well-being.

STUDENT HEALTH ENCOUNTERS

Every day, schoolchildren seek assistance from school nurses for a variety of reasons. Each of these office encounters requires a health assessment, and many call for subsequent care or intervention. Every school health encounter, planned or unplanned, is also an opportunity for health education. Through professional development and continuing education, school nurses must prepare themselves to offer assessment, evaluation, and intervention for whatever situations arise. When adequate evaluation and intervention cannot be done in the school setting, referrals must be made to primary care, specialty care, or emergency care.

Students present with a variety of health concerns ranging from major injuries, life-threatening allergies, asthma, diabetes, and behavioral/emotional illnesses to colds, coughs, stomachaches, headaches, head lice, and minor cuts and abrasions. Sometimes students come to the health room to seek advice or support or to take a timeout from the stresses they encounter in the classroom, on the playground, and at home. The school nurse must be prepared to assess and evaluate all encounters quickly with a focus on returning students to the classroom in a timely manner, unless they need to be sent home or to another medical facility. Accurate recording of each encounter also permits the nurse to assess the history of students' health room visits.

Within the school setting, health encounters may occur in a variety of locations. Informal encounters in the hallway, cafeteria, playground, or classroom are often important opportunities for the nurse to learn about the student and his or her needs. Such casual encounters can work well as follow-up visits, since they allow the nurse greater insight into the whole child. School nurses may wish to explore use of handheld computers to ensure documentation of these informal encounters.

While best practices include having a full-time nurse present in every school building, some school systems require nurses to cover more than one school. (See Chapter 2 for recommended nurse-student ratios.) In such situations, a teacher, health aide, or school secretary may be students' initial health care contact. Any school staff who may serve as the initial contact in a health

encounter must understand both the role limitations of an unlicensed person and the types of questions that should be asked to assist licensed health care personnel in making an assessment. *Making a health care or nursing assessment remains the responsibility of the school nurse (RN) or other fully qualified and licensed medical personnel.*

Assessment

When assessing a student, the school nurse needs to obtain both *subjective* data (the history of the complaint) and *objective* data (e.g., the presenting symptoms of an illness, such as body temperature). In addition, the school nurse must skillfully explore the presenting symptoms by eliciting information about frequency, duration, severity, quality, and quantity of symptoms, as well as the setting in which symptoms first occurred, associated symptoms, and factors that make the symptoms better or worse. This information will guide the actions taken. Possible actions include further observation and assessment, notification of parents/guardians, and referral to a primary care, specialty care, or emergency care provider.

Nursing assessment includes the use of physical assessment tools (e.g., temperature, neuro signs, vital signs) and good clinical judgment of the situation and presenting symptoms. Clinical guidelines and standards of care should be followed.

Nurses using school health software will record information in electronic encounter forms. Exhibit 5-1 provides a sample student health encounter form for nurses using paper records. It is important that paper forms be designed in duplicate, so that the second copy (which should omit the student's name) may be collected centrally and entered into a database. (See Chapter 2 for a discussion of school health records.)

Interview

Often the initial interaction with the student is the most important part of the health room encounter. The question "What can I do for you today?" and other open-ended questions create an atmosphere of interest and caring that can encourage a student to share significant concerns affecting his/her health and well-being. A well-structured dialogue helps to differentiate the student's presenting physical problem from any anxiety, stress, fear, or other psychosocial issues. The health room is often viewed by medically, physically, or psychosocially challenged students as the safest place in the school and as a haven in their busy and often stressful school day. It is strongly recommended that the health room/suite have an area dedicated to ensuring privacy and confidentiality during the initial (and ongoing) student health encounter. (See Chapter 2 for a discussion of health room design.)

When conducting an assessment interview, use open-ended questions and statements, such as the following, to gather information.

- "Tell me about it."
- "When did it start?"
- "Has it ever happened before?"
- "What did you do?"
- "Did you tell the person who cares for you at home? What did they do?"
- "Are you taking any medication?"
- "How are you doing in your classes?"
- "What class do you have now?"

Questions may focus on the following areas: home life, food, activities, shelter, supervision, health care, support systems, and school progress. An awareness of students' cultural, ethnic, or socioeconomic backgrounds will enhance the nurse's assessment and plan.

Common Encounters in the School Health Office

The most common types of encounters are first aid, illness assessment, nursing procedures (e.g., catheterizations, insulin pump care, peak flow monitoring), chronic disease and medication management, and health education.

In elementary schools, first aid for injuries and acute illness assessment are primary focuses, as are medication administration, management of acute and chronic conditions, and behavioral health issues. In the secondary school setting, the first aid component relates more to injuries occurring in physical education classes, science laboratories, and industrial and consumer science classrooms. Although rare in elementary schoolchildren, headaches become increasingly common at the middle school and high school levels. In these higher grades, illness assessment, while still a vital part of the health encounters, may be less important than supportive care for psychosocial issues.

Preventive health education is an important area of focus at all levels. In elementary school, the emphasis is on handwashing, good hygiene, healthy eating, and regular exercise. In secondary school, promoting healthy choices in all aspects of life becomes important, including:

- good eating habits;
- physical exercise;
- the importance of adequate rest;
- how to balance schoolwork with employment and leisure activities;
- stress reduction;
- tobacco, drug, and alcohol use; and
- healthy relationships and sexuality.

Several other chapters in this manual provide useful information. Chapter 2 offers information and extensive resources about first aid, Chapter 6 addresses medication management, and Chapter 7 describes the care of children with special health care needs.

Illness Assessment

The following sections deal with assessment of 4 conditions frequently encountered in the school health office: headaches, sore throat, abdominal pain, and general malaise. The focus here is on the initial stage of assessment and not on medical management. The following 4 examples of encounters, contributed by the Simmons College Graduate Program in Primary Health Care Nursing, represent some suggested processes in assessing students. **Note:** If any of these symptoms are brought to the attention of an untrained school staff member, that staff member should refer the student to a licensed professional health provider (school physician, registered nurse, or nurse practitioner).

Below are descriptions of these 4 conditions. The descriptions are followed by examples of encounters with and assessments of students presenting with each of the 4 conditions. Each example includes three steps (questions, actions, assessment).

1. Headaches

Headaches can be classified as acute, chronic, or recurrent. *Acute* headaches are of recent onset and are frequently associated with infectious illnesses such as colds and influenza. *Chronic* and *recurrent* headaches may be associated with stress and tension, migraine, or potentially serious medical problems such as sinusitis, dental problems, concussion, or brain tumor. Up to 20% of all school-age children experience frequent, recurrent headaches.

2. Sore Throat (Pharyngitis)

Infections of the throat may be caused by either viruses or bacteria, but the vast majority of infections are viral. Because it is not possible to know whether the infection is viral or bacterial by inspection, a referral for a throat culture may be necessary to identify a bacterial infection such as strep throat, which when left untreated can lead to serious complications such as rheumatic fever or nephritis. Usually the results of throat cultures are available within 24–48 hours. Approximately 10%–20% of children who present with sore throat have a *Streptococcus* infection (strep throat). The typical incubation period for strep throat is 1–3 days. Viral infections of the throat, as part of a cold or upper respiratory infection, usually last 3–4 days.

3. Abdominal Pain

Abdominal pain, usually classified as acute or recurrent, is a difficult complaint to assess. It can indicate a condition, such as appendicitis, that may require surgery. Several conditions — urinary tract infections, gastroenteritis, or even pneumonia — can mimic acute or serious abdominal problems like appendicitis. The true incidence of an acute abdominal pain caused by appendicitis is estimated at between 7% and 12%; 10%–12% of school-age children are affected by recurrent or chronic abdominal pain.

Recurrent abdominal pain is often a challenge to diagnose since the child usually appears healthy but is complaining of severe pain. Recurrent abdominal pain is classified as 3 or more episodes, severe enough to interfere with activity, occurring over a 3-month period or longer. The etiology is usually unknown but may be psychosomatic in origin and associated with stress at home or in the classroom. (See Chapter 11 for more on psychosomatic illnesses.)

4. General Malaise: "I Don't Feel Well"

This complaint, heard frequently in school health offices, is vague and nonspecific, and can indicate a wide variety of problems, from specific physical conditions to psychosomatic or stress-related ones. School nurses need to obtain accurate information, since this complaint may not be the real reason the child is in the health office. The child may be using this complaint as a means of communicating an underlying problem to the nurse or school personnel. This assessment demands a thorough, skillful, and sensitive interview.

HEADACHES	
QUESTION (SUBJECTIVE DATA)	**ACTION**
1. What is the student's name and age?	Obtain school health record.
2. Has there been any recent head injury?	Examine the child's head for evidence of lacerations, bleeding, bumps, or bruises.
3. Where is the headache located? How severe is it? How long has it persisted?	Any headaches characterized as severe or unilateral, or that have persisted beyond 12 hours, should be evaluated by a licensed provider immediately.
4. Are there any associated symptoms: vomiting, stiff neck, difficulty with vision, drowsiness, or changes in behavior or personality?	If yes, the child should be seen by a licensed provider immediately. These symptoms can be associated with a life-threatening infection such as meningitis.
5. Does the child have any other serious chronic medical disorder?	If yes, the headache may be associated with the disorder. The child should be evaluated by a licensed provider that same day.
6. How often does the child get headaches? What has made them feel worse or better?	The child may benefit from taking certain measures to treat the headache: lying down and resting, taking acetaminophen, or applying a cool washcloth to the forehead. **Note: Administration of medication requires a licensed prescriber's order and parental consent. See Chapter 6.**
7. Does the child feel ill in any other way (e.g., sore throat, stomachache, chills)?	If yes, the child should be seen by a licensed provider that same day for appropriate testing, diagnosis, and treatment. Headaches may be associated with common infectious illnesses such as colds, streptococcal illness, pharyngitis, or influenza.
8. Has the child eaten recently?	Headaches may be associated with hypoglycemia.
ACTION (OBJECTIVE DATA)	**PLAN**
1. Temperature: Is it above normal? 2. Neck: Is there tenderness or pain on motion? 3. Eyes: Are the pupils equal in size? 4. Head: Are there any lacerations, bleeding, bumps, or bruises?	If yes to any of these, the child needs to be evaluated by a licensed provider immediately.
ASSESSMENT	**PLAN**
1. Acute onset headache	Headache may be associated with infectious illness such as strep throat, cold, or flu.
2. Acute recurrent headache	Headache may be migrainous. A child presenting with a severe headache should be sent home to be evaluated by a provider.
3. Chronic nonprogressive headache (as a result of tension or stress)	Dull, constant pain located around the forehead and temporal area can often be alleviated with rest, dim lighting, a cool washcloth, and acetaminophen. **Note: Administration of medication requires a licensed prescriber's order and parental consent. See Chapter 6.**

SORE THROAT	
QUESTION (SUBJECTIVE DATA)	**ACTION**
1. What is the student's name and age?	Obtain school health record.
2. How long has the sore throat been present? How severe is the discomfort?	Any sore throat that is characterized as very painful or that has been present longer than 24 hours should be evaluated by a licensed provider that same day.
3. Are associated symptoms present, such as cold, or cough?	Sore throat associated with upper respiratory symptoms is likely to be caused by a virus.
4. Does the child have headache, rash, chills, or abdominal pain?	Sore throat associated with these symptoms is more likely to be caused by bacteria.
5. Has the child had many sore throats or streptococcal infections in the past?	If yes, the child should have a throat culture to rule out strep throat, a potentially serious infection.
6. Does the child have a serious chronic medical disorder such as kidney disease, diabetes, or congenital heart disease?	If yes, the child should be evaluated by a licensed provider that same day.
7. Has the child had recent contact with anyone who has had strep throat or impetigo (a skin infection caused by *Streptococcus*)?	Sore throat following a recent contact with someone who had strep throat or impetigo warrants a throat culture to rule out *Streptococcus* as a cause of the pharyngitis.
ACTION (OBJECTIVE DATA)	**PLAN**
1. Temperature: Is it higher than normal? 2. Neck: Are the glands in the neck swollen or tender? 3. Mouth: Does the throat appear red? Are the tonsils enlarged? Is pus or exudate present on the throat or tonsils?	If positive for elevated temperature and enlarged and tender glands with a red and pus-like throat, the child needs to be evaluated by a provider.
ASSESSMENT	**PLAN**
1. Viral infection	If there is no rash, fever, difficulty swallowing, swollen and tender glands, abdominal pain, or headache, the child most likely has a viral infection. Taking acetaminophen, drinking fluids, and gargling with weak, warm salt water can alleviate symptoms. **Note: Administration of medication requires a licensed prescriber's order and parental consent. See Chapter 6.**
2. Bacterial infection	Sore throat associated with symptoms such as fever, difficulty swallowing, swollen and tender glands, abdominal pain, rash, or headache is more likely to be caused by bacterial infection. A throat culture should be performed in these cases. Results are usually available within 24–48 hours. If positive, the child should be placed on antibiotics by his or her primary care provider. Children should be considered contagious until at least 24 hours after beginning appropriate antibiotic treatment and resolution of any accompanying fever. (See also Chapter 8.)

ABDOMINAL PAIN	
QUESTION (SUBJECTIVE DATA)	**ACTION**
1. What is the student's name and age?	Obtain school health record.
2. What does the pain feel like? What is its frequency, location, and duration? Does it radiate? What makes it better or worse?	Inspect the area for any obvious recent injury. If the pain is severe and is interfering with activities, the child should be referred to a licensed provider immediately.
3. Is this a new complaint? If not, how many times has the child complained of this?	If this is a common complaint for this child, it may be indicative of stress-related illness, and the child could stay in school.
4. Does the child have associated symptoms such as nausea, vomiting, diarrhea, constipation, or decreased appetite?	Although such symptoms may indicate a viral infection, they may also indicate an acute abdominal condition or other physiological diagnosis that may require immediate intervention. Consult a licensed provider immediately.
5. For girls: Is the pain associated with frequency or burning on urination? Is it associated with menses?	Urinary tract or vaginal infections need to be diagnosed and treated by a provider. If pain coincides with onset of menstrual period, rest, over-the-counter pain reliever (per school protocol or licensed prescriber's order, both with parental consent), and heat may decrease pain and discomfort.
ACTION (OBJECTIVE DATA)	**PLAN**
1. Temperature and blood pressure: Are they abnormal? 2. Abdomen: Is pain localized? Does it radiate? Are there signs of injury? 3. Is child pale or sweaty? 4. Is mobility or activity severely restricted?	If yes to any of these, refer the child immediately to a licensed health care provider to rule out appendicitis and other emergency conditions.
ASSESSMENT	**PLAN**
1. Acute abdominal pain	Appendicitis is the most common cause of acute abdominal pain. If yes to this, refer the child immediately to a licensed health care provider to rule out any emergency conditions.
2. Recurrent abdominal pain	Recurrent pain is associated with urinary tract infection, constipation, gastrointestinal viral infections, stress, and gynecological problems. Refer the child to the primary care provider for evaluation.

GENERAL MALAISE	
QUESTION (SUBJECTIVE DATA)	**ACTION**
1. What is the student's name and age?	Obtain school health record.
2. Review child's body systems: What physical problems/conditions has the child had in the past? Are any of these present now? Proceed from head to toe.	Differentiate between physical and psychological etiology.
3. Ask general questions: Is the child feeling physical pain? Where? Has he/she had trouble sleeping? Has he/she recently experienced nausea, vomiting, or diarrhea?	If answers are positive, follow up with more questions about specific area.
4. Ask open-ended, sensitive questions concerning family, home, school, and peers: "Has anything changed at home? How is school going?"	If child indicates stress in these areas, he/she may benefit from "time out" in health office. Assess for further referral for counseling.
ACTION (OBJECTIVE DATA)	**PLAN**
1. Is body temperature elevated?	Elevated temperature can indicate nonspecific viral or bacterial disease. Refine assessment and refer for further evaluation.
ASSESSMENT	**PLAN**
1. Organic cause	Vague, nonspecific complaints can still be indicative of physical injuries and illnesses. Rule these out by careful history, data collection, and referral to a primary care provider before assuming that the complaint is stress-related.
2. Psychosomatic or stress-related	Stress-related illness and chronic complaints warrant follow-up and counseling by school guidance, if available, or referral to community services.

POPULATION-BASED SCREENING PROGRAMS

General Guidelines

Population-based screening for health problems is an important component of a school health program. By detecting previously unrecognized conditions or preclinical illnesses as early as possible, population-based screening enables timely intervention and remediation, which can limit potential disability, medical costs, and negative impact on scholastic performance. Exhibit 5-2 is an Overview of Basic Required School Health Services. Population-based screenings are frequently done in schools because large numbers of children can be screened in a relatively short period of time. The following guidelines are applicable to any population-based screening program in the school or the community.

Assessment

The scope and nature of a screening program should be based on the documented health needs of the population served. Population-based screening programs, which include referral criteria, are divided into 2 categories: (1) those mandated by statute and regulation (i.e., vision, hearing, and postural screening), and (2) those that are not mandated but may be recommended for the given student population (e.g., dental screening). Local school or community health personnel, parents, students, or educators may have identified the latter types of screenings as needed. Decisions about whether to offer these screening programs should be based on the identification of a target population that is at risk for developing an illness or condition unlikely to be detected without screening. **Note:** School and program planners must exercise caution to ensure that students are not used as a "captive population" by those who would promote screenings that provide little or no health benefit.

Planning

Careful planning is the key to an effective screening program. Time invested at the planning stage makes implementation easier and produces more accurate outcomes. The school nurse plays a major role in the planning phase and must be able to spend the time required to develop a successful program. The following activities and decisions should occur during the planning phase:

- Determine the purpose of the screening program.
- Define the population to be screened.
- Decide which screening procedure or test to use.
- Ensure that adequate resources are available, including equipment and supplies, staff training, and staff time to conduct tests and retests, record results, interpret results to students and families, and conduct follow-up.
- Determine referral criteria using standards set by DPH for vision, hearing, and postural screening and by NIH for high blood pressure, cholesterol, and other screenings.
- Design the implementation of the screening process to maximize students' availability while minimizing students' time out of the classroom.
- Inform parents/guardians of the screening program, educating them about the importance of screening to identify issues relevant to the child's health and education.
- Collaborate with school health team members, school administrators, and teachers to implement the program. Continue to keep staff informed of the implementation process.
- Inform community health care providers about the program and the criteria used for referral for diagnosis and treatment, addressing (1) resources available for follow-up (especially for uninsured students), and (2) the feedback mechanism by which the school will receive information after completion of the referral.
- Plan the mechanics of the actual screening program, including time required for screening; number, type, and identity of screening personnel; and delegation of responsibilities. Such responsibilities might include:
    - ordering supplies;
    - ensuring that the equipment is in good working order (e.g., audiometer, sphygmomanometer, or reflotron calibrated recently);
    - providing educational materials for parents/guardians and obtaining parental consent;
    - training personnel;
    - recruiting, orienting, and training volunteers, if used;
    - arranging for space that is appropriate, quiet, and private;
    - recording findings;
    - rescreening students with borderline or questionable results (usually done by the school nurse); and
    - planning and completing the follow-up procedures, including tracking referrals to ensure completion.

- Decide how to incorporate the content (e.g., of the disease or condition, screening procedure) into the health education curriculum.
- Determine how to evaluate and report the results of the screening program.

Implementation

Implementation begins with the training of screening personnel, who may be staff (nurses, health aides, physical education teachers) or volunteers. It also includes the following steps:

- performance of the actual screening;
- documentation of all test results on student health records;
- referrals for follow-up for all those who fail to meet the criteria;
- notification of parent/guardian by letter and/or telephone call; and
- notification of medical provider by letter, usually via parent/guardian.

Note: Screening tests are not diagnostic in nature. They are designed simply to indicate students who may need further attention. For this reason, it is imperative that school personnel not make any attempt at diagnosis when contacting the parent/guardian of a child who does not meet screening criteria.

Follow-up

Follow-up is a critically important component of the screening process. This is the point at which early diagnosis and prompt treatment can remedy the problem *before* it becomes a disability and/or more costly to treat. Key actions and considerations involved in follow-up include:

- obtaining reports from the medical provider or from other related professionals such as audiologists or optometrists regarding diagnosis, treatment, and follow-up care;
- continuing contact with parents/guardians (including telephone calls or home visits) until follow-up is achieved;
- interpreting outcomes to students and parents/guardians;
- communicating, as needed, with educational staff;
- ensuring confidential data handling; and
- attaching follow-up medical reports to the health record.

Evaluation

The school nurse should use evaluative outcome criteria that focus on the results of the program, measure actions (e.g., number of students referred for treatment), and give dates by which actions occur (e.g., number of completed referrals). Data should be tallied by grade and results compared to expected results, based on national or state data. Finally, the completed referrals must be compared to a set goal (e.g., “80% of referrals will be completed”). Through ongoing continuous quality improvement programs, the school nurse should work toward increasing the percentage of completed referrals. (See Chapter 2 for discussion of continuous quality improvement.)

Effective screening programs are likely to identify health problems that otherwise would not be identified until a later date, when treatment is likely to be less effective or more costly. Screening does not substitute for a diagnostic evaluation. *It is extremely important to recognize that it is a waste of time and resources to do screening if appropriate referral and follow-up are not carried out.*

Special Considerations: Homeless children and adolescents present special concerns in the context of screening programs. Frequent moves often make these students unable or unavailable to participate, and when screenings are completed, these students may need special assistance with referrals and follow-up, including help with making appointments and with transportation to

provider's' offices. The district's homeless education liaison, who is the staff person designated to help homeless children and youth, should be consulted in these instances. DOE maintains a list of district-level homeless liaisons at http://www.doe.mass.edu/hssss/program/homeless.asp.

Required Physical Examinations/Population-Based Screenings

What the Law Says

Requirements for physical examinations and for population-based vision, hearing, and postural screenings are codified in M.G.L. c.71, s.57, commonly referred to as the "Physical Examination of School Children" statute. Enacted by the legislature, this statute is actually an education law that mandates population-based screening. Related regulations, in 105 CMR 200.000: Physical Examination of Children (including requirements for annual height and weight measurements), are available online at http://www.mass.gov/dph/fch/schoolhealth/lawsregs.htm.

M.G.L. c.71, s.57 requires the above examinations and screenings for students in *public schools*. It does however apply to *nonpublic schools* as well when "at the individual request of a parent or guardian of a student in a private school which has been approved under section one of chapter seventy-six and which does not discriminate in its entry requirements on the basis of race or color…."

Requirements for lead screening on entry into kindergarten are codified under M.G.L. c.111, s.193 and in DPH's lead poisoning prevention and control regulations (150 CMR 460.040-460.070). Lead screening requirements apply to both public and nonpublic schools.

Waiver Procedure (Applies to Certain Vision, Hearing and Growth Screenings Only)

M.G.L. c.71, s.57 and related regulations 105 CMR 200.910 provide DPH with discretionary power to waive certain requirements for population-based screenings upon written request. DPH has established procedures for reviewing these written requests. DPH considers requests to waive vision, hearing, and growth screenings, but not postural screenings. 105 CMR 200.000, "Physical Examination of School Children," covers waivers of requirements at 200.910 as follows:

> "Except as provided by law, the Massachusetts Department of Public Health shall have the discretionary power to waive any of 105 CMR 200.100 through 200.800 upon written request.
> (A) The request for a waiver must be accompanied by an alternative plan to the regulation that would indicate an improvement of the health of the school child.
> (B) Individual alternative school health programs submitted for approval must not reflect a cut back in the school health budget.
> (C) Waivers may be granted for periods up to one year and may be renewed upon demonstration of improvement in school health programs.
> (D) The Department of Public Health School Health Unit staff will provide consultation and will review the school health programs being granted waivers."

DPH advises public school districts considering a waiver request to begin the process by contacting the School Health Unit. Preliminary support for the waiver request will be based on the school district's alternative plan(s), consistent with the above requirements. DPH will assess the alternative plan and its relevance to the local school health program.

Based on a favorable assessment, a School Health Advisor will then request that a waiver application be completed. The waiver application and related forms may be obtained on the DPH website at http://www.mass.gov/dph/fch/schoolhealth/waiver_app.pdf. The application must be completed by the public school district nurse leader or designated school nurse contact (RN) for

the district. Mail the completed waiver application to: School Health Unit, Massachusetts Department of Public Health, 250 Washington Street, Boston, MA 02108-4619.

The application **must include** the following:

- An alternative plan or program designed to be as effective in protecting and promoting the health of school-age children in the given school district. (This plan must not reflect a reduction in the school health budget or staff.
- A written proposal for one or more of the plans or programs listed under WAIVER PROGRAM ACTIVITIES. (Note: School districts may choose other activities relevant to the health of their student population, provided they are approved by the School Health Unit.)

The school district will be notified of the status of its application. If approved, the waiver is valid for a 1-year (school year) period. The school district will be required to complete the waiver data reporting form at the end of the school year and mail it to the School Health Unit together with the annual postural screening data form.

Tort Claims Act

As a general rule, **public** school employees completing screenings are protected from tort liability by the State Tort Claims Act, M.G.L. c.258, s.2, which provides that public employers "shall be liable for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any public employee while acting within the scope of his office or employment." A public employee will not be held personally liable for such acts, provided the employee provides reasonable cooperation in preparing the defense of the action. A public employee named in such a suit can request that the Attorney General provide representation. "Public employees" are defined as "elected or appointed, officers or employees of any public employer, whether serving full or part-time, temporary or permanent, compensated or uncompensated." A "public employer" includes the Commonwealth, counties, cities, towns, and educational collaboratives or districts. The statute specifically provides that "with respect to public employees of a school committee of a city or town, the public employer . . . shall be deemed to be said respective city or town."

For example, a physical education teacher or school nurse working in a public school system who administers the postural screening exam in accordance with DPH protocols as part of his/her official duties would be protected from personal liability based upon a claim of negligence. The sole exception would be a physical education teacher or school nurse found to be an independent contractor. To determine whether a physical education teacher or a school nurse would be regarded as an independent contractor or public employee, it is necessary to look at such issues as whether the physical education teacher or school nurse receives a regular salary and benefits from the city or town, and whether the physical education teacher or school nurse is subject to direction and control by school officials with respect to such issues as hours, work location and conditions, and job responsibilities. Physical education teachers and school nurses generally would be regarded as municipal employees rather than independent contractors under this test. Additional questions regarding liability or other legal issues should be addressed to the school district's municipal or school counsel.

PHYSICAL EXAMINATIONS

Background/Rationale

A periodic physical examination is critically important for all children and adolescents. Its objectives are to identify and follow up on health conditions that may adversely affect students' well-being and ability to learn. While parents/guardians have primary responsibility for their children's health, the

school is responsible for the care, safety, and well-being of students in the educational setting. Therefore, a student's health history and physical examination results are necessary components of the school health record.

The physical examinations mandated for schoolchildren in Massachusetts have other important functions: They ensure that students are assessed by primary care providers on a regular basis, and they offer excellent opportunities for behavior risk assessments as children enter the preadolescent and adolescent developmental stages.

Specific Requirements

M.G.L. c.71, s.57 and related amendments and regulations (105 CMR 200.000–200.920) require physical examinations of schoolchildren within 6 months before entry into school or during the first year after entry, and at intervals of either 3 or 4 years thereafter, such as during kindergarten, 4th grade, 7th grade, and 10th grade. It is the responsibility of the school committee or the local board of health to designate these intervals. The regulations require physical examinations for:

(1) children referred because of frequent absences due to unexplained illness;
(2) children referred because of known physical defects that require repeated appraisal;
(3) children referred from a teacher-nurse conference because the child is not making expected progress in school or because of signs of illness noted by the teacher or nurse;
(4) children under 16 and over 14 years of age requesting employment certificates; and
(5) children planning to participate in competitive athletics annually, previous to such participation.

Note: Under c.71, s.57, a parent/guardian of a pupil in a private school may also request physical examinations consistent with those required in the public schools.

Standards

Physicians should follow the guidelines of the American Academy of Pediatrics for conducting a comprehensive physical examination.

Personnel/Procedure

The school health program should expect that the physical examination and ongoing health assessments will be performed by the family's own primary care provider. If a child does not have a primary care provider, every effort should be made to link him/her with a primary care provider in the community. *The school committee or board of health is required to provide the services of a school physician to carry out physical examinations, in hardship cases, for children who do not have access to a private primary care provider (M.G.L. c.71, s.53 and s.57).* For school-based physical examinations, each child should be separately and carefully examined by a Massachusetts-registered physician or nurse practitioner. School-based health centers may also be available to conduct examinations. When these physical examinations are conducted in the school, written notification and consent of parents/guardians is necessary. The parent/guardian is welcome to be at the physical examination, and the appraisal should include time for a conference with the parent/guardian or child concerning the child's growth and development and the findings of the health appraisal. (See Chapter 2 for the role template for the school physician/medical consultant.)

Physical examinations completed in school should be done in the presence of a third person (usually the school nurse), in a private setting, and with sufficient time allotted for an appraisal of both physical and behavioral/emotional health. The student should be undressed sufficiently to permit an adequate assessment.

Referral and Follow-up

of a child in a nonpublic school may request the vision screening. (Please also see discussion onwaivers of cert school nurse is responsible for tracking such referrals and collaborating with parents/guardians to ensure that they are completed.

Recordkeeping and Documentation

The results of the primary care provider's examination should be recorded on a health record. A copy of this record, the certificate of immunizations, and the primary care provider's recommendations must be returned to the school. DPH provides a model form, *Massachusetts School Health Record: Health Care Provider's Examination* (MHCPE), which includes information necessary to protect the health and safety of the student in the school setting. See http://www.mass.gov/dph/fch/schoolhealth/health_record.htm. An alternative to the model form is acceptable, provided the content of the MHCPE is included. (Refer to the DPH website for a copy of the Health Care Provider's Examination Form.) The student's certification immunizations must accompany the form. In addition, the following should be attached as appropriate:

- additional detailed information to facilitate the care of the student in the school setting;
- a separate provider's order form for each medication or treatment to be administered in the school; and/or
- if a child has asthma, a Massachusetts Asthma Action Plan (see the Massachusetts Health Promotion Clearinghouse: http://www.maclearinghouse.com/CatalogPageFrameSet.htm)

Assessment findings should be recorded on each student's cumulative school health record, which accompanies the student as he or she is promoted or transferred from one school to another. (See Chapter 2 for further discussion of health records.)

Required School Health Screenings

Vision Screening

Background/Rationale

DPH has long been a pioneer in the area of children's vision screening. In 1940, Albert E. Sloan, M.D., a consultant ophthalmologist with DPH's Division of Child Hygiene, summarized the need for childhood vision screening and recommended a vision protocol. Since the development of the original protocol, advocates, researchers, ophthalmologists, and optometrists have learned even more about the necessity of appropriate eye care for maintaining good vision, the critical relationship between vision quality and learning, and the importance of population-based vision screening. During this time, school nurses have identified countless children with potential vision problems through the school vision screening program and referred them for diagnosis and treatment.

Detecting childhood vision problems early is still a challenge for the health care community. Most eye problems can be corrected if they are detected and treated early. Some problems, if left untreated even for a short period, can result in permanent vision loss. For this reason, it is recommended that children's vision be tested prior to the start of kindergarten. This may be done at preschool, during a well-child visit to the doctor, during a visit to an eye doctor, or at a vision screening conducted by trained personnel, such as those performed by Prevent Blindness America. See http://www.preventblindness.org/children/index.html.

What the Law Says

M.G.L. c.71, s.57 now requires that, in the absence of a religious exemption, the vision of every public school child be screened annually, from kindergarten through grade 12. Parents/guardians of a child in a nonpublic school may request the vision screening. (Please also see discussion on waivers of certain screenings.)

of a child in a nonpublic school may request the vision screening. (Please also see discussioon on waivers of certain screenings.)

In 2004, c.71, s.57 was amended with the following:

> "Upon entering kindergarten or within 30 days of the start of the school year, the parent or guardian of each child shall present to school health personnel certification that the child within the previous 12 months has passed a vision screening conducted by personnel approved by the department of public health and trained in vision screening techniques to be developed by the department of public health in consultation with the department of education. For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, proof of a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation, and evidence of follow-up treatment, if necessary, shall be provided."

Note: Vision screening should be performed approximately every 12 months in the early years. If possible, the vision screening schedule should be adjusted to allow for this. The preschool screening is a separate screening from the kindergarten screening.

Standards

Screening procedures and referral criteria used with both preschool and school-age students have been approved by eye professionals representing Massachusetts ophthalmologists and optometrists.

Procedure

All vision screening in the Commonwealth's schools uses the official Massachusetts Vision Test protocol. Some changes have been made to this protocol in recent years. Some screening procedures, such as the plus lens test, have been eliminated, while others, such as the near vision test, have been added. Preschool vision screening has been added in order to detect amblyopia, a condition that typically develops in children from birth to age 8 or 9 that is highly treatable if detected early.

The Massachusetts Vision Test currently prescribes 3 types of vision screening protocols, based on age. The complete protocol, as well as any subsequent updates, may be found on the DPH School Health Unit website at http://www.mass.gov/dph/fch/schoolhealth/.

- Preschool and Kindergarten: Machines are not used at this age level. The acuity standard for the youngest preschoolers (3 years to 3 years 11 months) is 20/40; for children 4 years and older, it is 20/30. There are 2 components of the preschool vision screening: visual acuity and stereopsis. Visual acuity is assessed with the MassVAT (Visual Acuity Test) flip cards or 10-foot wall chart with HOTV letters or Lea symbols. Ocular alignment and binocularity are assessed with the Random Dot E stereo test. *Particular care must be taken to occlude each eye appropriately during vision testing to prevent peeking.* Children with poor vision in one eye, the ones who it is most important to identify, are also the ones most likely to try to peek. Because it can be difficult for an examiner working alone to monitor peeking in very young children, it is desirable to have 2 people present during vision screenings. It is also important to always show a line of letters (or symbols) when assessing vision in a young child. A child with amblyopia will record a better visual acuity when tested with one letter or symbol at a time, and thus his or her vision problem may be missed.

- Grades 1–3: Vision testing machines or wall charts may be used for these grade levels. Line letters, HOTV, or tumbling E's are all acceptable. Acuity *must* be assessed with a line of letters; showing only one letter at a time results in overestimation of acuity. The

monocular distance acuity standard for children in these grades is 20/30. A child must correctly identify 80% of the letters or symbols on the critical line. The Random Dot E stereo test is used to assess binocular vision. Linear near visual acuity may be assessed with the near slide of the vision machine or a near card. The critical line is 20/30 with both eyes open.

- Grades 4–12: Visual acuity testing protocols for these grades are identical to those for grades 1–3. No assessment of binocularity is required.

Remember: DPH may revise these protocols as new research findings emerge. Any updates will be listed on the School Health Unit website.

Note: If a student wears glasses, he or she must wear glasses when tested. Also, an external examination should be part of all vision screenings. If any of the following are observed, it is reasonable to refer a student for a comprehensive eye exam, even if he or she passed the vision screening:

- redness/discharge;
- abnormal head position;
- squinting;
- tearing, photophobia;
- misaligned eyes;
- nystagmus (rapid involuntary rhythmic eye movement);
- rubbing of eyes; or
- ptosis (droopy eyelid).

Personnel

M.G.L. c.71, s.57, as amended in 2004, requires that vision screening be conducted by "personnel approved by the Department of Public Health and trained in vision screening techniques to be developed by the Department of Public Health in consultation with the Department of Education." The recommendation is that primary care providers or their staff who have received the specialized training conduct vision screening during the health appraisals of preschool children. The statute, as amended, requires presentation to the school district of a notice or evidence that a child has passed a vision screening. The most common method of complying with the statute will be an indication on the Massachusetts Physical Examination Form, which has been modified to allow primary care providers to indicate "certification" of the vision screening.

School nurses and others who have had the required specialized training, approved by DPH in accordance with 105 CMR 200.400, may also perform the vision screening of preschoolers, as well as of the kindergarten through grade 12 populations.

Equipment

There are currently 3 approved vision screening devices available from different manufacturers of vision testing equipment. To ensure valid test results, it is very important that all vision screening equipment be properly maintained. Vision testers should be kept as clean as possible by using the dust cover provided by the manufacturer, and they should be cleaned and checked for problems every 2–3 years. Additional information is available on DPH's School Health Services website, http://www.mass.gov/dph/fch/schoolhealth/index.htm.

Referral and Follow-up

Parents/guardians of all children who do not perform satisfactorily on a vision screening are notified by school health personnel. The school nurse plays a vital role in interpreting the importance of the need for follow-up and in providing ongoing encouragement to complete it, when

indicated. For vision screening referral letters and other documents, see the following DPH website: http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Services+%26+Planning&L4=School+Health&L5=School+Health+Services&sid=Eeohhs2&b=terminalcontent&f=dph_com_health_school_p_health_screening&csid=Eeohhs2.

On average, approximately 7%–8% of students screened nationwide are referred for further evaluation. A referral means only that there is sufficient deviation in the child's visual condition to justify a comprehensive eye examination by a qualified eye specialist. Therefore, good follow-up procedures are vital if all children who are suspected of having visual problems are to be brought to the attention of a competent specialist for diagnosis and therapy. Per statute, parents/guardians of children who do not pass the mandated preschool vision screening are required to show proof of a comprehensive eye exam and follow-up if necessary. A specialist may also recommend appropriate educational adjustments to be initiated by school personnel. These recommendations should be made in concert with the child's primary care provider.

Remember: The law now also requires proof of a comprehensive eye examination, performed by a licensed optometrist or ophthalmologist, for children diagnosed with neurodevelopmental delay. Although the term "neurodevelopmental delay" may be subject to interpretation, it is likely to include children born prior to term, children with low birth weights, and children with neurological disorders as evidenced by cerebral palsy, Down Syndrome, multiple handicaps, or developmental delay.

Recordkeeping and Documentation

All vision screening results — passes as well as referrals — should be recorded on the child's School Health Record. See http://www.mass.gov/dph/fch/schoolhealth/health_record.htm for a copy of the school health record. If the referral confirms a vision problem, the School Health Record Card should also indicate the nature of the abnormality as determined by the specialist, and a complete record of any treatment prescribed.

M.G.L. c.71, s.57 was amended in 1987 to require that any person who conducts an eye exam of a child referred through a school screening program is to report the results to school health personnel. A copy of the report must go to the student's parents/guardians, and they should be encouraged to share a copy of the eye specialist's report with their child's primary care provider.

The report must, at minimum, include the following:

- date of report;
- child's name and address;
- name of child's school;
- type of examination;
- summary of significant findings, including diagnoses, medication, duration of medication's action, prognosis, and whether a return visit is recommended, and if so, when;
- any recommended educational adjustments for the child, such as preferential seating in the classroom, eyeglasses for full- or part-time use in school and/or at home, and the use of low-vision aids; and
- name, address, and signature of the examiner.

Special Considerations

Vision Screening of Newborns: The eyes of newborn infants should be evaluated in the hospital nursery. This examination can help detect several congenital eye problems, some of which can be

very serious. Between 6 and 12 months of age, infants should be checked for good eye health by a doctor or other appropriately trained health care provider, during routine well-baby care or other doctor's office visits.

Screening for Color Blindness: DPH's vision protocol does not include screening for color vision deficiency (color blindness). Color vision deficiency is a term used to describe a number of different problems, ranging from slight difficulty in distinguishing different color shades to complete inability to identify any color. An estimated 8% of males and less than 1% of females have color vision problems. Although most color vision problems are hereditary and already present at birth, certain medications and eye diseases can also affect color vision. Any child having difficulty in school should be checked for vision problems, including color vision deficiency. People with a family history of color vision problems and those who are having problems seeing colors should be tested by a vision specialist.

Hearing Screening

Background/Rationale

The purpose of Massachusetts's hearing screening program is to identify children with an educationally significant hearing impairment who would otherwise not have been identified. Identification aims to ensure timely remediation or treatment in order to eliminate or lessen the negative effects of an undetected hearing problem. Any hearing loss (even a "mild" or a unilateral loss) will influence the child's overall educational process.

Most children with significant hearing loss are identified before school entry; however, many children with mild to moderate hearing loss may go undetected until school enrollment and participation in the school's hearing screening program.

Any hearing loss may negatively affect a child's ability to communicate and achieve. The effects of a hearing loss depend on the nature and the degree of loss, as well as the appropriateness of the interventions. An undetected or unmanaged hearing loss may result in:

- a delay in speech and language skills;
- language deficits, which may lead to learning problems and limited academic achievement;
- difficulties in communication, which may lead to social isolation and poor self-concept and result in emotional/behavioral problems; and
- a negative impact on the child's vocational and educational choices.

What the Law Says

M.G.L. c. 71, s. 57, as amended, requires that, in the absence of an exemption on religious grounds, the hearing of every public school child be screened annually, from kindergarten through grade 12. Parents/guardians of children in nonpublic schools may request the screening. (Please also see discussion on waivers of certain screenings previously in this chapter.)

Regarding preschool hearing screening, regulations developed under the Comprehensive Special Education Law, c.766 p.306, 1(D) specify that, beginning with the third birthday, children with special needs or children suspected to have a hearing problem by their parent/guardian must be given a test for auditory functioning appropriate to the child's age and developmental stage.

Standards for Massachusetts School Hearing Screening

An advisory committee of specialists in otology and audiology assisted DPH in updating standards for screening procedures, appropriate use and care of the audiometer, and guidelines for referrals. A manual developed by the Vision and Hearing Section of the DPH School Health Unit, *Individual Pure Tone Hearing Test Procedures*, is distributed to personnel who attend training sessions given

by DPH staff. Intended for use by staff conducting hearing screenings in the school setting, the manual deals primarily with standards and procedures for *individual* pure tone hearing testing recommended by DPH. (Group testing is never appropriate for hearing screening.) The manual also deals with the proper care of the audiometer and referral guidelines. A copy of the manual should be available in every school system. Exhibit 5-3 contains guidelines for a school hearing screening program, highlighting new guidelines for 2005 and beyond. The exhibit also shows what the guidelines were prior to 2005.

Personnel

School nurses are responsible for coordinating the school hearing screening program. An audiologist may function as a consultant to the program. Professional staff such as nurses, audiologists, and speech-language pathologists are appropriately used to supervise the screening program, perform repeat screenings when necessary, and carry out the necessary referral and follow-up when a child fails the hearing screening. If the school chooses to use lay screeners or volunteers, they should be under the direct supervision of the school nurse.

Preschool hearing screening usually falls within the purview of the child's primary care provider. School districts with a preschool program operating in their buildings may engage the consultation services of a hearing specialist such as an educational audiologist to review the hearing screening protocols or to conduct annual screening for the students that may not have been screened by a primary care provider. School nurses may conduct these screenings, but specialized training is required to perform the tests. Preschool children may present with developmental or behavioral challenges to traditional hearing screening procedures**.** In complex circumstances, the hearing screenings may be conducted by a licensed audiologist or speech-language pathologist.

DPH is mandated to assist school systems in carrying out their responsibilities by developing the requirements of the hearing screening program; providing training sessions for personnel, usually the school nurses, assigned to coordinate or complete hearing screening; and certifying screeners upon completion of the training program. DPH offers training sessions for certification of hearing screeners periodically during the school year throughout the Commonwealth.

Equipment

The audiometer used in school-based hearing screening programs must meet the standards for screening audiometers established by the American National Standards Institute (ANSI). It must have air conduction frequencies of 1000, 2000, and 4000 hertz. Because screening audiometers are quite fragile, proper handling and transport are essential to ensure accurate readings from a properly calibrated machine.

DPH notes that, since all audiometers drift out of calibration with regular use, it is very important that each audiometer receive a full laboratory calibration by an external company at least once a year. The American Speech-Language-Hearing Association (ASHA) and the Occupational Safety and Health Administration (OSHA) recommend calibration as an important component for accurate hearing screening results. As noted above, the manual *Individual Pure Tone Hearing Test Procedures* developed by the Vision and Hearing Section of the DPH School Health Unit includes information on proper care of screening audiometers.

Referral and Follow-up

Appropriate medical and audiological follow-up and referrals are central to an effective system. In general, all children who fail the initial screening must be retested within 1 week before being considered a candidate for a notice to the parent/guardian. A repeat failure of the screening justifies parental notification in writing.

The typical failure rate in a screened population is approximately 2½–3%. If the findings of the hearing screening vary significantly from this (either consistently higher or lower), a review should include, at a minimum, the skill of the tester, the appropriateness of the testing site (i.e., presence of ambient noise), the condition of the audiometer, and an evaluation of the testing procedures.

Screening tests are not diagnostic; they merely identify students who may need further attention by a primary care provider or audiologist.

Recordkeeping and Documentation

All results of the hearing screening program (passes as well as referrals) should be recorded on the child's School Health Record. For a copy of the school health record form, see http://www.mass.gov/dph/fch/schoolhealth/health_record.htm. In the event that parental notification is required, the school health staff should make every attempt to follow up to determine: (1) that the parent/guardian consulted the primary caregiver, (2) whether a resolution of the apparent hearing problem was made, and (3) whether any educational adjustments were made, if recommended.

References and Resources

Consultation and guidance on acceptable protocols are available to school personnel through the DPH School Health Unit. Specific publications dealing with hearing conservation and prevention of hearing loss in the school setting (i.e., from live or recorded music, use of Walkman-type receivers, or loud equipment in some vocational schools) are available upon request.

The Classroom Teacher's Role

Classroom teachers, who observe students daily over an extended period of time, may be in the best position to notice unusual reactions, conditions, or behavior changes that may signal a hearing problem. A referral to the school nurse should be made when any hearing problem is suspected. Hearing problems may be indicated when the student:

- makes frequent or unusual mistakes in following directions;
- has delayed speech and language development;
- appears to have difficulty focusing;
- has difficulty localizing to sound;
- has difficulty understanding speech in a noisy environment;
- does not respond to normal speech;
- favors one ear (indicated by turning one ear to the speaker);
- speaks too loudly or too softly;
- strains to hear the speaker;
- concentrates intensely on the speaker's mouth or face;
- is inattentive in oral activities;
- frequently asks to have words or statements repeated;
- mispronounces common words;
- regresses academically subsequent to a serious illness; or
- is not reaching his or her academic potential.

Special Considerations

Hearing Conservation — Since the promulgation of the Hearing Conservation Amendment (46 Fed. Reg. 4078 [1981]; 48 Fed. Reg. 9776 [1983]), hearing conservation programs (HCPs) have been widely implemented in industry to prevent noise-induced hearing loss among workers exposed to occupational noise. The components of HCPs include sound exposure monitoring to assess the degree of the hazard, engineering and administrative noise controls to reduce the hazard, hearing protectors to reduce the noise entering the wearer's ears, education to motivate personnel to take an active part in protecting their own hearing, and annual audiometric

personnel to take an active part in protecting their own hearing, and annual audiometric evaluations to detect any significant changes in the hearing thresholds of noise-exposed workers.

Audiometric evaluations such as school screenings can play a critical monitoring function in a comprehensive HCP, as susceptible students may develop a noise-induced hearing loss, especially in the Commonwealth's many vocational/technical schools that employ heavy machinery.

CDC's Office of Health and Safety (OHS), aware that excessive noise exposure is a potential cause of hearing loss, is establishing a hearing conservation program that is more conservative than that required by OSHA. School districts should carefully consider the following language taken from OHS:

> "It is the policy of the Centers for Disease Control and Prevention to provide employees with a safe and healthful working environment. This is accomplished by utilizing facilities and equipment that have all feasible safeguards incorporated into their design. When effective engineering controls are not feasible, or when they are being initiated, administrative controls will be used when and where possible followed by the use of personal protective equipment.
>
> The primary goal of the CDC Hearing Conservation Program is to reduce, and eventually eliminate hearing loss due to workplace noise exposures. The program includes the following elements:
>
> 1. Work environments will be surveyed to identify potentially hazardous noise levels and personnel at risk.
> 2. Environments that contain equipment that produces potentially hazardous noise should, wherever it is technologically and economically feasible, be modified to reduce the noise level to acceptable levels.
> 3. Where engineering controls are not feasible, administrative controls and/or the use of hearing protective devices will be employed.
> 4. Periodic hearing testing will be conducted to monitor the effectiveness of the hearing conservation program. Early detection of temporary threshold shifts will allow further protective action to be taken before permanent hearing loss occurs.
> 5. Education is vital to the overall success of a hearing conservation program. An understanding by employees of the permanent nature of noise-induced hearing loss, CDC hearing conservation program, and the employee's responsibilities under the program are all essential for program effectiveness."

Inserting the word "school" for the word "work" and "student" for "personnel" or "employee" in the above 5 elements suggests a potential policy for schools. Although the CDC/OSHA specifications and implementation of an HCP in schools clearly exceed the annual hearing screening defined in Massachusetts state law and regulations, it is recommended that, whenever possible, school districts evaluate the noise and environmental factors that may contribute to hearing loss in students and staff by keeping in mind this CDC policy.

The purpose of any school-based HCP is to prevent hearing loss from noise and environmental factors as well as to identify children with hearing loss and refer them for further evaluation. School districts are required to conduct hearing screening, but screening should be viewed in the broader context of a hearing conservation effort within the school district. The major goal of a school-based HCP is to provide a comprehensive approach that identifies and improves students' health and educational performance.

Growth Screening

Background/Rationale

Growth screening that combines annual height and weight measurements enables school health professionals to:

- monitor students' growth and development patterns;
- detect growth abnormalities that may indicate a serious physical problem;
- identify students who may be at nutritional risk; and
- identify students who are overweight or at risk of becoming overweight.

Poor growth patterns may result from systemic disorders (e.g., malnutrition, intestinal conditions), psychosocial conditions, congenital disorders (e.g., Turner's syndrome, intrauterine growth retardation), or conditions of the endocrine system (e.g., hypothyroidism, growth hormone deficiency). Eating disorders such as anorexia and bulimia can result in both serious long-term health problems and poor school performance. Overweight in children and adolescents is associated with a variety of serious health conditions such as type 2 diabetes and cardiovascular disease. (See Chapter 9 for further discussion of nutritional issues.)

What the Law Says

M.G.L. c.71, s.57, as amended, requires that, in the absence of exemption on religious grounds, school-age children be weighed and measured annually. (Please also see discussion on waivers of certain screenings.)

Procedure for Measuring Body Mass Index (BMI)

BMI provides a guideline based on weight, height, sex, and age to assess children who are underweight, at risk for overweight, or overweight. The Centers for Disease Control and Prevention (CDC) recommends using the BMI charts for children between the ages of 2 and 20, released in 2000, rather than the older weight-for-stature charts. CDC has established the following benchmarks:

Underweight	BMI-for-age < 5th percentile
At risk of overweight	BMI-for-age >/= 85th percentile to < 95th percentile
Overweight	BMI-for-age >/= 95th percentile

BMI for age is plotted on gender-specific charts. See the following charts on the CDC website for boys ages 2–20 (http://www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj41l021.pdf) and for girls ages 2–20 (http://www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj41l022.pdf). These charts are stature-for-age and weight-for-age percentile charts that include a formula for calculating BMI.

Applying appropriate measuring techniques and using well-calibrated equipment is essential. Appropriate technique includes positioning the child correctly on the scale and against the measuring tape when determining height. Repeating measurements 1–3 times can ensure reliability, as can having only one person responsible for taking heights and weights, since measurements taken by different individuals can vary.

To calculate BMI using the English system, use decimal (not fractional) measurements of weight and height in pounds (not ounces) and inches; divide weight by height-squared; and multiply that total by 703. If using the metric system, measure weight and height in kilograms and centimeters respectively; divide weight by height-squared; and multiply the total by 10,000. Handy tables of these BMI calculations are available at http://www.cdc.gov/growthcharts. An interactive BMI

training module is available at:
http://www.cdc.gov/nccdphp/dnpa/growthcharts/training/modules/modules.htm.

Plot the BMI on a growth chart. (Growth charts are available at: http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinical_charts.htm.) BMI measurements between the 25th and 85th percentiles are considered to be within the normal range; BMIs outside this range indicate a need for further assessment. Children and teens with BMI-for-age above the 95th percentile are more likely to have risk factors for cardiovascular disease and to become overweight adults. Further investigation is also warranted if a child's growth pattern makes a major shift, i.e., from the 80th percentile to the 50th percentile.

Privacy should be provided when weighing and measuring children to reduce the potential for embarrassment or ridicule. A quiet, private location also provides better opportunity for identifying the child's health concerns and for a brief one-to-one teaching moment on nutrition, physical activity, or other health issues.

Notification of Parents/Guardians
Consistent with DPH recommendations, parents/guardians should be notified of the date of the screening, the reason, and statutory requirements. Additional educational materials, such as information about use of BMI to evaluate a student's growth pattern, may be included in the letter. For a sample prescreening letter, go to the following DPH website: http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Services+%26+Planning&L4=School+Health&L5=School+Health+Services&sid=Eeohhs2&b=terminalcontent&f=dph_com_health_school_p_health_screening&csid=Eeohhs2.

Personnel
The school nurse is responsible for overseeing this screening but may delegate the task to properly trained unlicensed personnel such as health aides or physical education teachers.

Standards
To be useful, measurements should be both accurate and recorded and plotted on standardized CDC gender-specific growth charts. Height and weight are plotted against age and compared with standardized percentiles, as well as with previous measurements.

Equipment
Equipment should include a beam balance scale with nondetachable weights; a nonstretchable tape attached to a flat vertical surface such as a wall; and a right-angle head board to lower onto the child's head when taking the height measurement.

Referral and Follow-up
The school nurse is in an ideal position to ensure the early identification of children at risk for growth problems by providing appropriate assessments and referrals. Children should be referred for further assessment when:

- weight-for-height or weight-for-age is above the 95th percentile;
- weight-for-height, weight-for-age, or height-for-age is below the 5th percentile;
- BMI-for-age is below the 5th percentile or above the 85th percentile; or
- the child's growth pattern changes dramatically — for example, a child who has been consistently at the 50th percentile drops to the 10th percentile or rises to the 90th.

For a sample letter to parents/guardians regarding their child's BMI, see the following DPH website: http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Services+%26+Planning&L4=School+Health&L5=School+Health+Services&sid=Eeohhs2&b=terminalcontent&f=dph_com_health_school_p_health_screening&csid=Eeohhs2.

Recordkeeping and Documentation

The growth chart should be part of the school health record. In addition, the summary results should be recorded on the student's health record, including any indication of referral and follow-up. See http://www.mass.gov/dph/fch/schoolhealth/health_record.htm for a copy of the school health record.

Postural Screening

Background/Rationale

The purpose of postural screening is threefold: (1) to detect early signs of spinal problems that should have further medical evaluation, (2) to provide regular monitoring, and (3) to reduce the need for surgical remedies. Screening must be done annually in grades 5–9 because of growth spurts and diverse rates of physical maturation.

Postural screening is required by Massachusetts statute. Like other screening programs conducted in the schools, this program is not intended to provide medical diagnosis, but rather to detect possible early signs of spinal problems that should have further medical evaluation.

There are 3 major types of spine curvature: scoliosis, kyphosis, and lordosis.

Scoliosis is a lateral (sideways) curvature of the spine with primary onset at ages 10–15. Signs of scoliosis occur in about 10% of the population, with equal frequency among both genders, although only about 2%–3% develop a condition that requires medical attention; girls are about 8 times more likely than boys to exhibit this magnitude of curvature.

Scoliosis affects an estimated 6 million people in the United States, and there is no cure. Much is unknown about this condition: why people get it, which cases will progress, or how far they will progress. What is known is the impact it can have on those affected. Scoliosis can significantly diminish quality of life, causing pain, limiting activity, reducing respiratory function, and eroding self-esteem. Scoliosis must be identified during the growth spurt to maximize effectiveness of treatment.

Kyphosis is a front-to-back spinal curvature with a protrusion in the midline of the back, sometimes resulting in a deformity described as a humpback or hunchback. This progressive spinal disorder is not as prevalent as scoliosis and can affect either adults or children (males slightly more often than females).

Lordosis, a disorder defined by an excessive inward curve of the spine, may be found in all age groups. It primarily affects the lumbar (lower back) spinal region, but also can occur in the neck (cervical). When found in the lumbar spine, the patient may appear swayback, with prominent buttocks and a generally exaggerated posture. Because the spine's natural curves, which position the head over the pelvis and work as shock absorbers to distribute mechanical stress during movement, are disturbed, a lumbar lordosis can be painful and sometimes can affect movement.

There is no known way to prevent scoliosis, kyphosis, and lordosis, but early detection and prompt treatment are advisable to help prevent these curves from becoming severe problems.

What the Law Says

Since April 1980, M.G.L. c.71, s.57 has required all public school systems in the Commonwealth to provide postural screening to all students in grades 5–9. These requirements may not be waived except on religious grounds. This statute assigns DPH as the administrative authority, after consultation with DOE and the medical profession, to determine implementation requirements.

Regulations issued by DPH relevant to the physical examination of schoolchildren are 105 CMR 200.000 through 200.920. Postural screening protocols developed by DPH in accordance with the above requirements are consistent with the "Procedures for Health Appraisals" section in regulations 105 CMR 200.600 and 200.700.

DPH strongly recommends that public school systems closely follow the guidelines developed in accordance with these statutes and regulations when implementing the postural screening program. If a parent/guardian refuses postural screening by the school, written documentation provided by the family physician must be submitted to the school nurse, including the date of screening, results, and physician's name.

Procedure

The screening program has 2 components: (1) an initial educational session (by the school nurse or other trained health care professional) for each class of students to be screened, and (2) the screening itself.

The initial classroom contact should include the specifics of screening: information on when, where, and how the screening will be done; what the screener looks for; special clothes to be worn during the screening; and a short discussion of postural problems. This speaker should seek to convey a positive attitude about the program and its preventive nature, emphasizing the student's own self-interest in having a screening. (Note: Avoid using the terms "scoliosis," "kyphosis," or "lordosis" when referring to the program; "postural screening" is sufficient.)

A schedule for screening should be prepared and coordinated in advance with classroom teachers. Girls and boys are screened separately, by an adult screener of the same gender whenever possible. Because the student's back should be bare for optimal viewing of the spine, girls are asked to wear a halter top and shorts or a bathing suit. (Extra tops should be made available). If possible, the screening area should be located in a place that will accommodate a steady flow of traffic, with separate doors for entrance and exit. Student privacy must be respected at all times. There should be enough space to allow the screener to move freely around the student for front, back, and side views. One minute or less per student is generally the time required for screening. (This varies with experience, with novice screeners taking 2–3 minutes per student.)

Screening Positions and Referral Criteria

For detailed information, please read DPH's postural screening training manual at http://www.mass.gov/dph/fch/schoolhealth/psmanual04.pdf. See Exhibit 5-4 for a description of screening positions.

Practical suggestions for completing the screening include:

- Place a piece of tape on the floor to indicate where the student should stand.
- To save time, have some students get dressed while others are being screened. (Be sure to maintain privacy and confidentiality, however.)
- Record each student's name on the Postural Screening Worksheet, including those who

are not being screened. If for any reason a student is not screened, note the reason next to the student's name. (Some schools record this information with handheld computers, downloading students' names from an administrative database.)
- Record all positive findings on the Postural Screening Worksheet.
- Arrange another time to screen students who missed the original screening session.

Personnel

The school nurse coordinates all the activities related to the screening program — materials, equipment, and space; training and cooperation of other staff; parent/guardian notification; student screening; use of instructional materials; access to materials for interested community members; and recordkeeping.

Individuals conducting the screening should receive training offered through DPH and use materials contained in DPH's manual to assist in implementing a postural screening program. According to the Massachusetts guidelines described in the legal section above and further defined in DPH's postural screening manual, postural screening should be conducted by physical education teachers, school nurses, and/or school physicians. Use of any other personnel to conduct postural screening is not recommended, although health educators and classroom teachers can provide instructional backup.

DPH's protocol recommends that physical education teachers conduct the initial screen and that the school nurse rescreen all children with positive findings. DPH also recommends that school nurses and school physicians inform physician colleagues in the community that the school is completing a postural screening program and prepare them to receive referrals. The school physician may also participate in rescreening before referrals are made.

Notification of Parents/Guardians

Consistent with DPH recommendations, parents/guardians should be notified of the date of the screening, the reason, statutory requirements, and proper clothing. Additional educational materials may also be included in this letter. (DPH's postural screening program manual provides a sample letter to parents/guardians.)

Equipment

A scoliometer (inclinometer) is not included in DPH protocols. If a scoliometer is used, all screeners are required to have proper training in its use, and policies must be in place regarding referral criteria. Note: Screening with a scoliometer cannot replace screening for kyphosis and lordosis.

Referral and Follow-up

Children with positive findings should be scheduled for a rescreening by the school nurse. Typically, 1 in 10 students is targeted for referral after rescreening. These students' parents/guardians should be contacted by phone and by a follow-up letter, which parents/guardians can pass on to the child's physician. The follow-up letter may also be sent directly to the physician at the parents' request, if they give the name and address of the child's primary care provider. (Note: Regulations require school districts to refer parents/guardians of children with positive findings to a primary care provider for follow-up.) DPH's postural screening program manual provides a sample letter to parents.

Referral and follow-up are vital to the success of any screening program. Primary care providers in the community should be informed about the school's postural screening program. Developing collaborative relationships with these providers will facilitate the referral and follow-up process.

Recordkeeping and Documentation
DPH's postural screening worksheet should be used to document positions in which the student is viewed by the screener, any positive findings, and follow-up activities. DPH also provides a postural screening summary report for reporting the number of students screened, number in treatment, number referred for rescreening, results of physicians' examinations, and comments. All school districts must submit this report annually to DPH's School Health Unit.

Lead Blood Screening

Background/Rationale
The prevalence of toxic lead in the environment, particularly in older housing, has been a continuing concern of health officials nationwide. In Massachusetts, hundreds of children are poisoned each year by ingestion of lead paint, and approximately 2,500 children have blood lead levels above 10 micrograms per deciliter (mcg/dL) (MACLPPP Screening and Incidence Statistics, 2004), which CDC defines as a "level of concern" for lead in a child's body.

Lead can damage the brain, kidneys, and nervous systems of young children. Very high levels can cause retardation, convulsions, and coma. Several studies associate elevated lead levels during toddler age to lower performance in high school, increased absenteeism, lower vocabulary and grammatical reasoning scores on standardized tests, and poorer hand-eye coordination (Bellinger & Dietrich, 1994; Needleman et al., 1990). Furthermore, recent studies indicate that even levels of lead that were once thought harmless can affect development, interfere with a child's ability to achieve in school, and cause learning and behavioral problems (Canfield et al., 2003).

A blood test is the only way to know if a child has lead poisoning. Massachusetts regulations require annual testing of children under 4 for lead poisoning, with additional testing at age 4 for children living in high-risk communities. (High-risk communities are updated annually; contact Childhood Lead Poisoning Prevention Program at 800-532-9571 or http://www.mass.gov/dph/clppp for updates.)

Sources of Lead: The most common source of lead poisoning is lead-based paint, which contributes to other sources of lead poisoning such as lead-contaminated household dust and soil. Children between the ages of 9 months and 6 years living in houses built before 1978 (the year the Department of Commerce recalled residential lead paint) are most at risk; approximately 45% of older Massachusetts homes and public buildings still contain layers of lead-based paint, which can create hazardous lead dust when old paint peels and cracks or when buildings are renovated. Airborne lead from auto exhaust and from stationary sources such as smelters and refineries can also increase the lead content of dust and soil. Adults working in lead-related jobs, hobbies, or crafts can bring home lead dust on their clothes, hands, and hair. Lead is most highly concentrated in house dust and in soil within 3 feet of a building and in areas close to busy streets, parking lots, and driveways. Additional secondary sources of elevated lead levels include drinking water and canned foods containing lead.

Children become poisoned when they eat or suck on lead-painted surfaces or items coated with lead dust. Typical sources include railings, window wells and sills, door thresholds, toys, furniture, and jewelry. Children playing outdoors can also become poisoned by ingesting contaminated dirt. Frequent handwashing, especially before meals or snacks, can help to reduce risk. Eating foods high in calcium, iron, and vitamin C can also help prevent lead absorption.

Who Is at Risk
Children aged 6 months to 6 years who (1) live in, or frequently visit, housing built before 1978 that is dilapidated or undergoing renovation, (2) have siblings or housemates who are lead-poisoned,

(3) have family members who engage in lead-related hobbies or occupations, or (4) live near industries likely to result in atmospheric lead release are considered at high risk for exposure.

What the Law Says

M.G.L. c.111, s.193 and DPH's lead poisoning prevention and control regulations (150 CMR 460.050–460.070) require universal, periodic blood lead screening for preschool children, once between the ages of 9 months and 12 months, and again at ages 2 and 3. The health care provider must also determine whether a child is at high risk for lead poisoning and, if so, schedule an additional screening at age 4. Lead poisoning screening is a condition for entry into kindergarten. Regulations of the Office of Child Care Services require child care centers to obtain documentation, for each child, of compliance with DPH's mandatory screening schedule.

Consistent with the Massachusetts Lead Law, DPH's Childhood Lead Poisoning Prevention Program provides a full range of prevention services to Massachusetts children, their families, and others with an interest in the prevention of childhood lead poisoning. For more information, call 800-532-9571 or see http://www.mass.gov/dph/clppp.

The Massachusetts Lead Law (M.G.L. c.111, s.189A-199B) also requires property owners to remove or cover lead paint hazards in homes built before 1978 that house children under 6. To determine lead hazards, the owner must hire a licensed lead inspector. Lead paint hazards include loose lead paint, lead paint below the 5-foot level on accessible mouthable surfaces, and lead paint on moveable parts of windows or window parts that are rubbed by moveable parts. Only a licensed deleader may do high-risk deleading work, such as removing lead paint or repairing chipping and peeling lead paint. However, the owner or someone who works for the owner can do certain other deleading work after receiving special training.

A lead inspector who detects lead violations issues an order to the property owner, who must correct the violations within timeframes specified in DPH's regulations or face legal action by the state lead poisoning prevention program or the local board of health. It is the property owner's responsibility to pay for testing and fixing of lead hazards; financial assistance is available through the *MassHousing Get the Lead Out* Program at 617-854-1000, as well as through state tax credits and local resources. Families renting homes containing lead hazards are protected from eviction, retaliatory rent increases, and discriminatory rental practices.

Procedure

Blood is drawn from the child's finger (capillary sample) or arm (venous sample). Lead levels above 10 mcg/dL measured from a capillary sample should be confirmed by a venous blood sample within 3 months. Because blood lead levels tend to be higher in the summer months, children should be screened for lead poisoning between May and October.

Personnel

Primary care providers are responsible for ensuring that testing is available to all children in their care. This applies to physicians practicing at community health centers and hospitals as well as private physicians.

Referral, Medical Treatment, and Follow-up

Chelation therapy, which enables the body to release lead stored in the blood and soft tissue and excrete it through urine, can help children with elevated blood lead levels. Chelating agents are administered via pills or a 5-day series of injections. Children with very high lead levels may require more than one course of treatment.

By reducing blood lead levels, chelating agents can limit future damage to the central nervous system. However, no evidence exists that chelating agents can reverse damage caused before the child is treated. Children diagnosed and treated for lead poisoning should continue to be tested frequently to determine whether additional treatment is necessary.

Recordkeeping and Documentation

Blood lead documentation should be carefully completed with the correct spelling of the child's name, correct birth date, and a confirmed address, including floor or apartment number, where the child is living when the blood is drawn. Accurate addresses allow CLPPP to quickly target high-risk properties that may have poisoned a child. Results of lead screenings should be included on the health care provider's examination form provided by the primary care provider and assessments should be kept in the child's school health record. For a copy of the school health record form, see http://www.mass.gov/dph/fch/schoolhealth/health_record.htm.

Other Screenings and Evaluations (Recommended but Not Required)

Dental Screening

Background/Rationale

Dental screening is designed to detect early dental or oral health problems in children. As an opportunity for individual dental health education, it helps to build a positive attitude toward dental health in children who have not received prior dental care. It also provides baseline information for subsequent evaluation and referrals. Although dental screening can detect cavities or oral health problems, it does not replace a complete examination in a dentist's office. (See Chapter 15 for a discussion of prevention and remediation of oral health problems.)

What the Law Says

Although Massachusetts does not specifically mandate dental examinations, DPH strongly recommends screening children before they enter school, and again in the 3rd and 7th grades. Dental screening may be linked to other medical requirements for children entering school, such as vision and auditory screening and immunizations. Screening is especially important for certain populations such as the homeless, whose transience often precludes preventive care, and children with special needs, whose conditions may complicate dental hygiene. (See Chapter 15 for additional information.)

Protocols

DPH's Office of Oral Health (OOH) recommends using the Basic Screening Survey (BSS) to screen schoolchildren for dental disease and for access to preventive dental sealants. All children participating in a dental screening *should have parental consent prior to being screened.* In 1999, the Association of State and Territorial Dental Directors, in collaboration with the Ohio Department of Health and CDC, established guidelines for the collection of oral health data in schoolchildren. The data collected serve 2 purposes: 1) to identify and refer children with specific oral health problems, and 2) to monitor schoolchildren's oral health status.

BSS utilizes a direct-observation dental screening methodology by trained personnel. Using disposable mirrors and tongue blades and a good overhead light, the dental screener looks in the child's mouth and records: 1) history of disease (Y/N); 2) untreated disease (Y/N); 3) presence of at least 1 dental sealant on a permanent molar (Y/N); and 4) treatment urgency (0 = no problem; 1 = suspected problem; 2 = urgent need). However, BSS does not include counting of teeth, cavities, or fillings. A parent/guardian questionnaire is also recommended to assess access to dental treatment services.

The dental screening provides an excellent opportunity to educate schoolchildren about the importance of oral health. Partnering with a local dentist or dental hygienist is a good way to introduce oral health to children in a school-based setting; however, when dental providers are not available, school nurses and other health personnel may be trained in the use of BSS. Training kits including a manual and video are available for purchase. See http://www.astdd.org.

Recordkeeping and Documentation
OOH provides data-collection tools for recordkeeping and documentation, as well as BSS technical assistance and training. All schools are asked to submit a final data-collection form upon completion of the school-based screening. The submitted data contains only aggregate data for surveillance purposes.

Referral and Follow-up
DPH recommends notifying parents/guardians of children's oral health status upon completion of the dental screening. Any child with suspected cavities or urgent needs should see their family dentist for dental treatment.

For some school populations, follow-up by the school nurse is extremely important in overcoming barriers to obtaining dental care. For example, homeless students may need transportation or telephone access. The district's homeless education liaison is designated to provide such help to homeless children. For families that do not have a dentist or cannot afford regular dental care, the school nurse should contact the local dental society or OOH (617-624-6074) for assistance.

The Teacher's Role
Teachers play an important role in promoting oral health and participation in school-based dental screenings. When teachers advocate for oral health and for screening participation, generally more children participate. Teachers may also reinforce the importance of daily toothbrushing, a healthy diet, and other good oral hygiene practices. And because teachers see students daily, they may be aware of behaviors such as finger sucking/nailbiting that may cause dental or speech problems.

The school nurse should inform teachers of any problems affecting students. For example, children with oral infections or missing teeth may need more time to eat lunch. (See also chapters 3 and 15 for guidelines for health education.)

Blood Pressure Assessment

Background/Rationale
Because elevated blood pressure is a risk factor for the development of premature cardiovascular disease, blood pressure assessment in children and adolescents (with subsequent referral and follow-up) could extend the years of healthy life for many Americans.

What the Law Says
Massachusetts does not mandate blood pressure screening.

Recommendations
The American Heart Association and the American Academy of Pediatrics recommend annual blood pressure measurements for children age 3 and older. Trained health personnel should follow standards for procedures, standards, equipment, referral, and follow-up. Blood pressure measurement should be included in the physical examination as part of the continuing care of the child, not as an isolated screening procedure.

Health recommendations for preventing high blood pressure in children and adolescents include regular physical activity; a diet rich in fresh fruits, fresh vegetables, fiber, and lowfat dairy; limited sodium intake; maintaining a healthy weight; and avoiding smoking.

Cholesterol Screening

Background/Rationale
Evidence exists that atherosclerosis begins in childhood and that this process is associated with elevated levels of blood cholesterol. Prevention or slowing of the atherosclerotic process in childhood and adolescence could extend the years of healthy life for many people. Cholesterol screening can detect elevated blood cholesterol levels and other risk factors for coronary heart disease. Like all screening programs, preliminary cholesterol screening is designed to indicate students who may require further evaluation; it does not diagnose disease.

What the Law Says
Massachusetts does not require cholesterol screening of school-age children.

Recommendations
The National Cholesterol Education Program (NCEP) Report of Expert Panel on Blood Cholesterol Levels in Children and Adolescents recommends selectively screening children and adolescents who have a family history of premature cardiovascular disease (before age 55) or at least 1 parent with high blood cholesterol (greater than 240 mg/dL), as well as those whose parental or grandparental history is unobtainable.

This screening should occur within the context of regular health care. Cholesterol screening usually does not take place in schools; it must be done by facilities that are approved by DPH. Examples of groups or facilities that may receive such approval are the Visiting Nurses Association (VNA), home health agencies, hospitals, and clinical laboratories.

Because lack of information about health status and family history can make it difficult to determine whether students fall into any of the above high-risk categories, it is also important to encourage the populationwide changes in nutrient intake and eating patterns that will lower the average levels of blood cholesterol among all American children and adolescents. (See chapters 3 and 9 for more information on nutrition.)

Skin Cancer Screening and Prevention

Background/Rationale
Skin cancer is the most rapidly increasing form of cancer in the Commonwealth. Teaching children sun-safe habits can reduce the risk that they will get skin cancer as adults. Although it is not required, some schools have begun to collaborate with local dermatologists to screen for atypical moles and other signs of sun damage during postural screening. This is a unique opportunity to teach students about sun safety and about skin cancer and its symptoms. Some school nurses are also collaborating with local dermatologists, the American Cancer Society, and/or the Melanoma Foundation of New England to use facial dermatological scan machines at health fairs and in health rooms to provide students with immediate feedback as to facial sun damage already present and the importance of protecting skin through the use of sunscreen.

Prevention Education and Resources
Recognizing the role of schools in skin cancer prevention, CDC has developed *Guidelines for School Programs to Prevent Skin Cancer Among Young People,* available at: http://www.cdc.gov/HealthyYouth/skincancer/publications.htm. The guidelines emphasize

measures schools can take to prevent ultraviolet (UV) exposure, including providing shade for outdoor activities and teaching parents/guardians and students about the importance of sunscreen and protective clothing, and about the long-term effects of sunburn.

Another valuable resource for school policymakers is *Fit, Healthy, and Ready to Learn: A School Health Policy Guide,* a guidebook developed with funding from CDC's Division of Adolescent and School Health. Published in 2002 by the National Association of State Boards of Education (NASBE), *Fit, Healthy, and Ready to Learn* provides information on how to integrate sun safety into a coordinated school health program. CDC also recommends Project S.A.F.E.T.Y. (Sun Awareness For Educating Today's Youth), a science-based skin cancer awareness and prevention curriculum developed by the University of Texas M. D. Anderson Cancer Center. Self-contained sets of materials for the elementary, middle, and high school levels are available at http://www.mdanderson.org/departments/projectsafety/. See the Resources section at the end of this chapter for more materials and websites dedicated to skin cancer screening and prevention.

Policy Implications for Schools

Schools can take a leadership role in skin cancer prevention through development of policies that include (1) use of sunscreen for outdoor activities and field trips, (2) provision of shade for outdoor activities, and (3) prevention education.

Community Support

Skin cancer prevention is a community responsibility. Parks and recreation facilities should be encouraged to develop sun-safe policies. Youth sports activities such as Little League, soccer, and football offer excellent opportunities to teach sun safety. Health professionals in the community, including pediatricians, primary care providers, nurses, pharmacists, and dermatologists, can also support school and community programs through presentations, professional training, demonstrations, and classroom visits, and they may serve as advocates for skin cancer prevention policies, environmental changes, and programs. During consultations with children and parents, these health professionals can also assess sun-exposure patterns, reinforce sun-protective behaviors, and provide counseling to people with sunburn.

Tanning Booths/Beds/Lamps

Tanning lamps emit UVA and often UVB rays, both of which can cause skin damage and increase skin cancer risk. A good time to implement skin cancer prevention programs — which include mention of the dangers of tanning lamps — is prior to spring proms.

What the Law Says

M.G.L. c.111, s.211 states: "No person fourteen years of age to seventeen years of age, inclusive, shall use a tanning device without the prior written consent of a parent or legal guardian who shall indicate therein that such parent or guardian has read and understood the warnings required under the provisions of section two hundred and nine. No person under fourteen years of age shall use a tanning device unless accompanied by a parent or legal guardian."

SUMMARY

School health service programs, and the health assessment and screenings they offer, provide an important safety net for all schoolchildren. By offering “walk-in” services on a daily basis, school nurses provide easy access to health assessments and appropriate referrals to other components of the health care delivery system.

Massachusetts legislation requires specific health assessments at important intervals in children’s growth and development. These mandated physical examinations provide opportunities for assessment of children by primary care providers. Mandated vision and hearing screening programs provide early detection of health conditions that may affect learning. As schools increasingly assume responsibility for monitoring students’ body mass index (BMI), they will play a crucial role in addressing the epidemic of childhood obesity. Oral health assessments and services are also becoming a component of the comprehensive, coordinated health program, making schools partners with local oral-health resources in preventing and treating many health problems. As school health programs continue to develop their infrastructures, they will provide additional opportunities to address and identify other emerging health conditions (e.g., cholesterol screening, skin cancer prevention and screening).

RESOURCES

Blood Pressure Assessment

Massachusetts Department of Public Health
Health Promotion and Chronic Disease Prevention Unit
250 Washington Street
Boston, MA 02108
Phone: 617-727-0944
Website: http://www.mass.gov/dph/fch/dchp.htm
The Massachusetts Division of Health Promotion and Disease Prevention develops programs to encourage healthy behaviors in individuals. These programs focus on the areas of nutrition, physical activity, disease prevention, genetics, healthy aging, and gender-specific health.

Cholesterol Screening

National Cholesterol Education Program (NCEP)
NHLBI Health Information Network
P.O. Box 30105
Bethesda, MD 20824-0105
Phone: 301-592-8573
Fax: 240-629-3246
Website: http://www.nhlbi.nih.gov/about/ncep/
NCEP was established by the National Heart, Lung, and Blood Institute (NHLBI) in 1985 to raise awareness about high cholesterol, educate people about prevention methods, and communicate the benefits of lowering cholesterol levels.

Dental Screening

Massachusetts Department of Public Health
Office of Oral Health (OOH)
250 Washington Street
Boston, MA 02108
Phone: 617-624-5943
Fax: 617-624-6062
Website: http://www.mass.gov/dph/fch/ooh.htm
OOH provides dental certificates to school personnel free of charge.

Massachusetts Dental Society
2 Willow Street, #200
Southborough, MA 01745-1027
Phone: 508-480-9797 or 800-342-8747
Fax: 508-480-0002
Website: http://www.massdental.org
The Massachusetts Dental Society is a professional organization with the goal of promoting the benefits of good oral health through education, advocacy, and promotional efforts. The public section of the website serves as a resource of information about orofacial health, filing complaints, dental careers, and locating dentists.

Hearing Screening

Massachusetts Department of Public Health
School Health Services
250 Washington Street
Boston, MA 02108
Phone: 617-624-6060

Website: http://www.mass.gov/dph/fch/schoolhealth/index.htm
Local school nurses can request training sessions and registration for certification from DPH.

American Speech-Language-Hearing Association (ASHA)
10801 Rockville Pike
Rockville, MD 20852
Phone: 800-498-2071
TTY: 301-897-5700
Fax: 301-571-0457
Website: http://www.asha.org
ASHA is a professional association for speech-language pathologists, audiologists, and speech, language, and hearing scientists in the United States and internationally. ASHA aims to promote the interests of these professionals and to advocate for people with communication disabilities.

Height and Weight Screening

Massachusetts Department of Public Health (MDPH)
Office of Nutrition
250 Washington Street
Boston, MA 02108
Phone: 617-624-6100
Fax: 617-624-6179
Website: http://www.mass.gov/dph/fch/nd.htm
A division of MDPH's Bureau of Family and Community Health (BFCH), the Nutrition Division encompasses a number of programs and campaigns in the state. The Women, Infant, and Children (WIC) Nutrition Program provides health education, healthy food, and related services for qualifying families. The Growth and Nutrition Program supports children with growth deficiencies known as "Failure to Thrive" (FTT) by combating undernourishment through a multidimensional team approach. The Office of Nutrition also has information about breastfeeding, the importance of folic acid, and the Food Stamp Outreach Program.

Lead Blood Screening

Massachusetts Department of Public Health
Childhood Lead Poisoning Prevention Program (CLPPP)
250 Washington Street
Boston, MA 02108
Phone: 617-624-5757 or 800-532-9571
Fax: 781-774-6700
Website: www.mass.gov/dph/clppp/clppp.htm
CLPPP was established for the prevention, screening, diagnosis, and treatment of lead poisoning, including the elimination of sources of poisoning, through research and through educational, epidemiologic, and clinical activities.

National Lead Information Center (NLIC)
8601 Georgia Avenue, Suite 503
Silver Spring, MD 20910
Phone: 800-424-LEAD (800-424-5323)
TTD: 800-526-5456
Fax: 585-232-3111
Website: http://www.epa.gov/lead/pubs/nlic.htm
Through its website, NLIC dispenses information about lead hazards and their prevention, basic facts about lead (in English and Spanish), information about lead in the news, resources for professionals having contact with lead, and further resources about lead-related regulations.

Postural Screening

Massachusetts Department of Public Health
School Health Services
250 Washington Street
Boston, MA 02108
Phone: 617-624-6060
Website: http://www.mass.gov/dph/fch/schoolhealth/index.htm
Contact DPH to request training and approval of postural screeners. DPH also owns copies of the National Scoliosis Foundation video *Growing Straighter and Stronger* for lending to schools on a first-come, first-served basis, although DPH encourages individual school systems to purchase their own copies from the National Scoliosis Foundation.

National Scoliosis Foundation (NSF)
72 Mount Auburn Street
Watertown, MA 02172
Phone: 800-NSF-MYBACK (673-6922)
E-mail: NSF@scoliosis.org
Website: http://www.scoliosis.org/
NSF is a patient-led nonprofit organization providing support for those suffering from spinal deformities such as scoliosis. The foundation provides support through early screening efforts, information about treatment methods, and generally promoting public awareness about spinal deformities.

Scoliosis Research Society (SRS)
555 East Wells Street, Suite 1100
Milwaukee, WI 53202-3823
Phone: 414-289-9107
Fax: 414-276-3349
E-mail: info@srs.org
Website: http://www.srs.org
SRS is a professional organization of physicians and health personnel with two primary goals: one, to provide continuing education for health care professionals, and two, to support and fund research on spinal deformities.

Preschool Assessment

Developmental Medicine Center (DMC)
Children's Hospital Boston
300 Longwood Avenue, Fegan 10
Boston, MA 02115
Phone: 617-355-6501
Website: http://www.childrenshospital.org/clinicalservices/Site1921/mainpageS1921P0.html
DMC provides comprehensive neurodevelopmental assessments for children 0–3 years old. Typical referrals to the DMC infant teams include children with developmental concerns such as language and communication delays, motor issues, behavioral problems, and PDD/autism.

School Health Screening (General)

Massachusetts Department of Public Health
School Health Services
250 Washington Street
Boston, MA 02108
Phone: 617-624-6060
Website: http://www.mass.gov/dph/fch/schoolhealth/screening.htm
One of the many services provided by the Massachusetts Department of Public Health School Health Services is School Health Screening. The Screening website provides information on how to conduct various

types of screenings, how to request a waiver, and what the Massachusetts laws concerning the physical examination of school children are.

National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)
Centers for Disease Control and Prevention (CDC)
4770 Buford Highway, NE, MS K-40
Atlanta, GA 30341-3717
Phone: 770-488-5403
Fax: 770-488-5971
Website: http://www.cdc.gov/nccdphp/index.htm
The CDC's Chronic Disease Prevention Center presents an overview of chronic disease in the United States, addresses the costs of chronic disease and the cost-effectiveness of prevention, discusses the burden of chronic disease on minority populations and women, and provides links to other relevant information.

Skin Cancer Screening and Prevention

Massachusetts Health Promotion Clearinghouse
Website: http://www.maclearinghouse.com.
Funded by the Massachusetts Department of Public Health, the Massachusetts Health Promotion Clearinghouse website provides free resources on a range of health topics including skin cancer prevention: http://www.maclearinghouse.com/CatalogPageFrameSet.htm.

Melanoma Education Foundation
P.O. Box 2023
Peabody, MA 01960
Phone: 978-535-3080
Fax: 978-535-5602
E-mail: skincheck@comcast.net
Website: http://www.skincheck.com
The Melanoma Education Foundation is a non-profit organization established to increase awareness of melanoma by conducting high school and middle school workshops, providing information about self-detection, and organizing talks and screening for area businesses and organizations.

Melanoma Foundation of New England (formerly Massachusetts Melanoma Foundation)
66 Commonwealth Avenue, 1st Floor
Concord, MA 01742
Phone: 617-232-1424
E-mail: info@massmelanoma.org
Website: http://www.massmelanoma.org
Established in 1999, the Melanoma Foundation of New England is working to eliminate melanoma and non-melanoma skin cancers. The Foundation meets this aim by fundraising for childhood education, public awareness, medical research, and support groups for melanoma patients.

National Association of State Boards of Education (NASBE)
277 South Washington Street, Suite 100
Alexandria, VA 22314
Phone 703-684-4000
Fax: 703-836-2313
Website: http://www.nasbe.org/HealthySchools/sun_safety.html#top
NASBE has issued a list of sample policies intended to prevent skin cancer and to promote sun safety in school children. These include: sun safety education, addressing sun safety in outdoor activities, developing a sun safety policy for school staff, and providing families and the community with information about sun safety and the causes of skin cancer.

National Safety Council (NCS)
1025 Connecticut Avenue NW, Suite 1200

Washington, DC 20036
Phone: 202-293-2270
Fax: 202-293-0032
Website: http://www.nsc.org/ehc/sunsafe.htm
NCS is addressing the health issues related to sun safety by providing various fact sheets on their website. These include: Health Effects of UV Radiation; Melanoma/Skin Cancer Detection; Risks from Overexposure to UV Radiation; Preventing Harmful Effects of the Sun; What is the UV Index?; Sun Safety Activity Guide; Kid's Sun Fun; and a list of website links.

Project S.A.F.E.T.Y.
University of Texas M. D. Anderson Cancer Center
1515 Holcombe Blvd., Unit 240
Houston, TX 77045
Phone: 713-745-1205
Fax: 713-792-0800
E-mail: mahearn@mdanderson.org
Website: http://www.mdanderson.org/projectsafety
Project S.A.F.E.T.Y. (Sun Awareness for Educating Today's Youth) is a skin cancer awareness curriculum developed by science and health educators in concert with The University of Texas M. D. Anderson Cancer Center. The program, featuring topics such as ozone depletion, ultraviolet rays and the skin cell cycle, is intended to be incorporated into youth science and health curricula. The program's website provides ordering and technical information as well as skin cancer facts and links to other useful resources.

SHADE Foundation of America
Virginia G. Piper Cancer Center
10510 N. 92nd Street, Suite 100
Scottsdale, AZ 85258
Phone: 480-614-2278 or 866-41-SHADE
Website: http://www.shadefoundation.org/
The SHADE Foundation of America was founded by Shonda Schilling in 2002 after she overcame a battle with melanoma. The foundation's main goals are bringing awareness and education of skin cancer to children through their Sunwise education, SHADE cover grants (for prevention), screening programs, and promotion of sun knowledge in the community and schools. The website is an extensive resource for skin cancer prevention information, medical resources, sun safety events, and even links to sun protective shopping.

Skin Cancer Primary Prevention and Education Initiative
Centers for Disease Control and Prevention
Division of Cancer Prevention and Control
National Center for Chronic Disease Prevention and Health Promotion
4770 Buford Highway, NE, MS K-64
Atlanta, GA 30341-3717
Phone: 888-842-6355
Fax: 770-488-4760
E-mail: cancerinfo@cdc.gov
Websites: http://www.cdc.gov/cancer/skin/
CDC provides leadership for nationwide efforts to reduce illness and death caused by skin cancer. The CDC Skin Cancer webpage includes manuals and brochures for schools about the topic. Their Skin Cancer Primary Prevention and Education Initiative recently published a fact sheet that contains the latest statistics about skin cancer: http://www.cdc.gov/cancer/skin/pdf/0607_skin_fs.pdf.

U.S. Environmental Protection Agency (EPA)
SunWise Program
1200 Pennsylvania Avenue NW (6205J)
Washington, DC 20460
Phone: 202-343-9591
Fax: 202-343-2338

Website: http://www.epa.gov/sunwise/schools.html
This program aims to teach the public how to protect themselves from overexposure to the sun through classroom-based, school-based, and community-based components. Its *SunWise ToolKit,* available at http://www.epa.gov/sunwise/tools.html, contains crosscurricular classroom lessons for grades K-8 that combine education about sun protection and the environment. As part of its SunWise program, EPA, in partnership with the National Weather Service (NWS) and with guidance from the World Health Organization, has developed a new version of the UV Index called the Global Solar UV Index. Available at http://www.epa.gov/sunwise/uvindex.html, the new index includes UV forecasts for 58 U.S. cities from NWS and allows users to check the UV outlook for their area by ZIP code.

Vision Screening

Massachusetts Department of Public Health
School Health Services
250 Washington Street
Boston, MA 02108
Phone: 617-624-6060
Website: http://www.mass.gov/dph/fch/schoolhealth/index.htm
Local school or health administrators should contact this office to request training sessions and registration for certification.

National Eye Institute (NEI)
2020 Vision Place
Bethesda, MD 20892-3655
Phone: 301-496-5248
Fax: 301-402-1065
Website: http://www.nei.nih.gov
NEI was established in 1968 as one of the National Institutes of Health (NIH) in order to protect the vision of Americans. NEI supports research about eye diseases and other vision disorders and develops professional and educational programs intended to prevent blindness, reduce visual impairment, and increase awareness of services available for people with impacted vision.

Prevent Blindness America (formerly National Society to Prevent Blindness)
500 East Remington Road
Schaumburg, IL 60173
Phone: 800-331-2020 or 847-843-2020
Fax: 847-843-8458
E-mail: info@preventblindness.org
Website: http://www.preventblindness.org
Prevent Blindness attempts to translate medical and technological advances in the field of eye care into practical and obtainable services for the public. It sponsors vision screening and educational projects to detect vision problems in young children and adults. Information and advisory services related to current treatments, available facilities, research findings, and medical knowledge in the fields of eye care, eye disease, eye health, and eye safety are available upon request. Prevent Blindness's program of professional education provides health professionals and health service groups with eye-care resource materials and educational programs related to services in the community.

Publications include:
- pamphlets on eye diseases, young eyes, adult eyes, eye safety, vision screening, and glaucoma education and detection;
- teaching materials, including curriculum aids, and pamphlets designed for professionals; and
- educational videos on adult and children's vision problems and on eye safety.

Prevent Blindness Massachusetts (PBM)
100 Cummings Center, Suite 330C
Beverly, MA 01915
Phone: 978-524-9500

Fax: 978-922-2300
E-mail: preventblind@aol.com
Website: http://www.pbmass.org/
PBM is a local nonprofit volunteer-driven organization dedicated to saving sight through public education, community-based vision screening programs, and research.

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Note: Articles with PMID number have been indexed by PubMed for MEDLINE.

EXHIBITS

Exhibit 5-1

Sample Student Health Encounter Form

Name:_____ D.O.B.:_____ Date:_____
School:_____ Room #_____

PROVIDER ( ) Nurse ( ) Aide ( ) School Staff Signature _____

Complaint: _____
_____
_____

Observation: _____
_____

Presenting Problem
( ) cold ( ) stomach ache ( ) headache ( ) asthma ( ) allergy ( ) nosebleed
( ) sore throat ( ) pink eye ( ) cramps ( ) insect bites ( ) rash ( ) diarrhea ( ) other

( ) injury at school ( ) laceration ( ) splinter ( ) puncture ( ) bruise ( ) abrasion
( ) possible fracture ( ) sprain ( ) burn ( ) other

( ) injury not at school

( ) dental ( ) toothache ( ) other
( ) school physical ( ) hearing ( ) vision ( ) scoliosis screening
( ) emotional problem ( ) violence to other
( ) possible abuse ( ) possible neglect
( ) immunization
temperature: _____ B.P.: _____ height: _____ weight: _____

Nursing Assessment: _____
_____
_____

Treatment/action taken
( ) counseling ( ) cleaned ( ) Band-aids ( ) ice ( ) rest
( ) 51-A ( ) accident report ( ) lice checks/follow-up
( ) medication ( ) team mtg.

( ) transport EW
( ) conference ( ) teacher ( ) parent ( ) principal
( ) parent notified: letter_____ telephone_____

M.D._____ Person_____ ( ) dismissal

Referral
( ) Neighborhood Health Center ( ) Private Medical Doctor/Facility
( ) Outpatient Department ( ) Social Services
( ) Emergency Department ( ) Dental Services
( ) Mental Health ( ) Other

Exhibit 5-2 Overview of Basic Required School Health Services

1. Appointment of one or more school physicians and registered nurses (M.G.L. c.71, s. 53). See Chapter 2 of the *Comprehensive School Health Manual* for sample job descriptions (should include job responsibilities as outlined in this document) and MDOE licensure regulations 603 CMR.7.11.
2. Maintenance of school health records (M.G.L. c. 71, s.34D and M.G.L.c.71, s37L and MDOE regulations 603.CMR.23.000 including mandated immunization records per M.G.L.c.71, s.55).
2.1 Records updated, available and shared (consistent with regulations under the Family Educational Rights and Privacy Act (FERPA) to ensure continuity of care.
2.2 Management information systems including responsibilities for computerization, technology assistance and sharing demographic data.
3. Mandated immunization review and communicable disease control, including prevention, case finding, and follow-up (M.G.L.c.71, s55) For resources and references: for list of required immunizations: http://www.mass.gov/dph/cdc/epii/imm/imm.htm#school; for school health immunization record: http://mass.gov/dph/fch/schoolhealth/health_record.htm; and for translation of foreign immunization records: http://www.cdc.gov/epiinfo/translations.htm.
4. Medication administration, storage, and access to prescription and prn (as needed) medications per MDPH regulations (M.G.L. c. 71, s.54B and M.G.L.c.94 and MDPH regulations105 CMR 210.00: *The Administration of Prescription Medications in Public and Private Schools).*
4.1 Medication administration, storage, and access to medications for the treatment of life-threatening allergies (LTA), i.e., epinephrine (MDPH regulations105 CMR 210.100: *The Administration of Epinephrine)* and MDOE guidelines found at: http://doe.mass.edu/cnp/news02/allergy.pdf.
4.2 Properly trained staff to administer epinephrine by auto-injector for individuals with life-threatening allergies. Registration with the MDPH for training unlicensed personnel is required; see: http://mass.gov/dph/fch/schoolhealth/medadmin.htm.
4.3 Physician protocols available for school nurse administration of epinephrine for anaphylaxis due to undiagnosed life-threatening allergies.
4.4 Supply of epinephrine available for above protocols.
5. Mandated physical examinations and screenings, unless written documentation provided by the student's primary care provider (M.G.L. c.71, s.57); for sample record form: http://mass.gov/dph/fch/schoolhealth/health_record.htm. Program waivers for certain grades available per MDPH regulations 105.CMR 200.910 (see: http://mass.gov/dph/fch/schoolhealth/screening.htm).
5.1 Physical examinations upon original entry and every three to four years thereafter. (MDPH regulations 105.CMR 200.100).
5.2 Lead screening program (M.G.L. c.112, s.12BB and MDPH regulations 460.050 (2)).
5.3 Vision and hearing screenings for all grades, including preschool vision screening, unless waived under MDPH regulations (105 CMR 200.910).
5.4 Postural screenings (grades 5 through 9).
5.5 Growth screenings for all grades unless waived under MDPH regulations (105 CMR 200.910).
6. Responsibility of both agencies for emergency care planning and provision including individual and group emergencies. (See Chapters 2 and 4 of the revised *Comprehensive School Health Manual).*
6.1 Provision of sufficient number of properly trained staff in urgent care, CPR/ AED and the Heimlich procedure especially for students with special health care needs.
6.2 Emergency preparedness with linkages for local, state and federal emergency management systems.
7. Case finding, referral, and follow-up with written Individual Health Care Plans (IHCP). (See Chapter 2 of the *Comprehensive School Health Manual).*
8. Health education and counseling. (See Chapter 3 of the *Comprehensive School Health Manual).*
9. Supervision of educational collaborative nursing staff.
10. Appropriate school health facilities, supplies and equipment to address the diverse and complex health service needs of the student population to be served. (See Chapters 2 and 4 of the *Comprehensive School Health Manual).*
11. Other school health services.

Exhibit 5-3 Guidelines for a School Hearing Screening Program

SCHOOL-BASED HEARING SCREENING PROGRAM	SYSTEM PRIOR TO 2005	SYSTEM BEGINNING JANUARY 2005
Hearing screening program manager is the school nurse leader and/or school nurse	The school nurse leader or a school nurse may supervise and train others and/or perform the individual pure tone screening test/retests to comply with M.G.L. c.71, s.57 and/or chapter 766 special education requirements.	Same as current mode. However, school nurses should review screening with a focus on a comprehensive "hearing conservation program" recommended in consultation with an educational audiologist or speech pathologist.
Children screened	Recommend screening children in pre-K when on site in school district. M.G.L. c.71, s.57 requires screening of all children in grades K-12, unless the school district receives a waiver from DPH for certain grades. The screening time is conducted at the discretion of the local school district. As a result, the screening occurs at different times/months throughout the school year.	Screen children in pre-K when on site in school district in consultation with an educational audiologist or other hearing professional. Screening of preschool-age children is a specialty area that involves behavioral audiometry, requiring additional training. Preschool hearing screening is mandatory (nonwaivable) for children entering school. M.G.L. c.71, s.57 requires screening of all children in grades K-12, unless the school district receives a waiver from DPH for certain grades or the child's parent/guardian seeks a religious exemption. Consistent with M.G.L. c.71, s.57, DPH is permitted, in consultation with medical professionals and Massachusetts DOE, to revise the guidelines. Recommend screening in the fall months (September, October, November).
Signal type	Group pure tone test or individual pure tone test.	Individual pure tone test only.
Pure tone screening frequency	500, 1000, 2000, and 4000Hz.	1000, 2000, and 4000Hz; eliminate 500Hz due to inability to monitor for an accurate ambient noise level at this frequency. Screening at 500Hz requires 41.5dB SPL when measured using a sound level meter with an octave-band filter centered on this screening frequency.

SCHOOL-BASED HEARING SCREENING PROGRAM	SYSTEM PRIOR TO 2005	SYSTEM BEGINNING JANUARY 2005
Pure tone screening levels	Protocol requires 20dB at 1000 Hz and 2000Hz with a 5dB variance allowable at 500 Hz and 4000Hz.	Screening level at 20dB only. Use this standard across both ears for the recommended frequencies of 1000, 2000, and 4000Hz.
Acoustic immittance screening of middle ear function and/or tympanometry **Note:** Although technological improvements have made equipment less complex, the procedures require intensive training.	Although some school nurses (RN) perform these procedures because the equipment is easy to use, these procedures are not part of the current population-based hearing screening program, and they should only be conducted under the direct supervision and technical assistance of an educational audiologist.	These procedures are not part of the population-based hearing screening program and are not recommended except under the direction of an educational audiologist.
Referral letter and follow-up	Referral letter developed by school district with DPH template.	Referral letter developed by school district with DPH.
Plotting of an audiogram	School nurses (BSN) have been constructing audiograms for children who do not pass the screening.	Eliminate the plotting of an audiogram.
Test administration: **Pass the child when……..**	child identifies 20dB at 1000, 2000Hz, and 20 or 25dB at 500, 4000Hz.	child identifies 20dB at 1000, 2000, or 4000Hz.
Schedule and perform a rescreening when……	child is unable to identify the 20dB level for 1000, 2000Hz, or a 20/25dB level for 500, 4000Hz.	child is unable to identify 20dB at 1000, 2000, or 4000Hz.
Rescreening (readministration of test)*:* **Do not pass the child if ….** (This second test on the same child is the rescreen and should be conducted no later than 2 weeks after original test.)	he/she is unable to identify the 20dB level for 1000, 2000Hz, or a 20/25dB level for 500, 4000Hz. Repeating the criteria confirms the need for a referral if the child does not pass.	he/she is unable to identify 20dB at 1000, 2000, or 4000Hz. Repeating the criteria confirms the need for a referral if the child does not pass.

Exhibit 5-4 Postural Screening Positions

Position I

Student stands facing the examiner. He/she should stand erect but relaxed, feet close together with weight evenly distributed, knees straight, arms at side, eyes straight ahead.

Observe the following:

A. Is one shoulder higher than the other?
B. Is the waistline the same on both sides, or is there a larger space between the arm and flank on one side?
C. Are hips level and symmetrical, or is one side high or more prominent?

REFER IF ANY 2 OUT OF 3 PRESENT

A. Shoulder - Is one shoulder higher than the other?
B. Waist - Is the waistline the same on both sides, or is there a larger space between the arm and flank on one side?
C. Hip - Are the hips level and symmetrical, or is one side higher and more prominent?

Position II

In order to view the entire back, student's back is toward the examiner. Long hair should either be pinned up or be evenly separated and brought forward in front of each shoulder.

Observe the following:

A. Does the head lean to one side?
B. Is one shoulder higher than the other?
C. Is one shoulder blade more prominent than the other?
D. Is there a spinal curvature?
E. Is the waistline the same on both sides, or is the arm-to-body space uneven?

REFER IF ANY 3 OUT OF 5 PRESENT

A. Head - Does the head line up over the crease in the buttocks, or does it lean to one side?
B. Shoulder - Is one shoulder higher than the other?
C. Scapula - Is the wing on one shoulder blade higher or more prominent than the other?
D. Spine - Does there appear to be a curve when you observe the spine?
E. Waist - Is the waistline the same on both sides, or is there a larger space between the arm and flank on one side?

Position III

Student stands erect with his side toward examiner.

Observe the following:

A. **Roundback** - Is there an accentuated roundness in the upper back?
B. **Sway Back** - Is there an accentuated arching in the lower back?

REFER IF EITHER PRESENT

Position IV
Student bends forward until back is parallel to the floor. Feet are together, knees are straight, palms of the hands are together, and head is down. Examine from the front and back view.

Observe the following:
Is there a rib hump on one side?

REFER IF PRESENT

Chest Cage Hump: Are both sides of the back symmetrical, or is the chest cage prominent or bulging on one side?

REFER IF PRESENT

Position V
Student bends forward in position IV. View from the side.

Observe the following: Is there an exaggerated midline hump?

REFER IF PRESENT

Spine Hump: Is there an accentuated midline hump?

REFER IF PRESENT

Position IV
Student bends forward until back is parallel to the floor. Feet are together, knees are straight, palms of the hands are together, and head is down. Examine from the front and back view.

Observe the following:
Is there a rib hump on one side?

REFER IF PRESENT

Chest Cage Hump: Are both sides of the back symmetrical, or is the chest cage prominent or bulging on one side?

REFER IF PRESENT

Position V
Student bends forward in position IV. View from the side.

Observe the following: Is there an exaggerated midline hump?

REFER IF PRESENT

Spine Hump: Is there an accentuated midline hump?

REFER IF PRESENT