

# School Health Screening Handbook

*Provided by:*



*In collaboration with:*



MDPH School Health Services

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# Important Notes

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## About this Handbook

The materials in this handbook summarize the key information school nurses need to plan and conduct mandated health screenings of school-aged children in Massachusetts. It is intended to be used as a quick reference *only*. Massachusetts school nurses are responsible for knowing the full statutes, regulations, and guidelines for all health screenings.

## Sample Documents and Additional Resources

There is a section dedicated to school health screenings on the [SHIELD Health Screenings webpage](#). Links to sample screening letters and documents, regulatory guidance, and additional resources can be found there.

## Screening, Brief Intervention, and Referral to Treatment (SBIRT)

SBIRT is a separate training and is not included in this manual.

# Laws & Regulations

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[MGL Ch71, s57](#) and related regulations (105 CMR 200.000) require physical examinations of schoolchildren within 12 months before entry into school or within 30 days after school entry, at intervals of either three or four years thereafter, and on an annual basis prior to a student's participation in competitive athletics. 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.

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 (MGL Ch71, s53 and s57).

MDPH is the administrative authority to determine screening implementation requirements. MDPH has the discretionary power to waive certain requirements for population-based screenings upon written request by school districts. There is a screening program waiver process for vision, hearing, and growth screenings, valid for one year after an application is approved.

Per MGL Ch71, s57, in the absence of a religious exemption, all public school children must be screened according to the schedule outlined in the statutes. Parents/guardians of children in non-public schools may also request these screenings.

Screenings must be conducted by MDPH-approved personnel. School nurses and others who have had the required specialized training approved by MDPH may also perform the screenings.

[105 CMR 200.000](#) provides regulatory guidance on conducting health screenings including physical exams, vision and hearing screening, and height and weight measurements. These regulations define when each type of screening must be done, who may perform screenings, screening exemptions, and describe referral and record keeping requirements. Note that these regulations may change from time to time to reflect best practices or revisions in the law.

The [School Health Manual](#) is not a regulation, but the screening information outlined in Chapter 5 should be used as a resource and followed as MDPH guidance.

# Screening Guidelines by Grade

	Vision			Hearing	Ht, Wt, BMI	Postural
	Distance Acuity	Near Acuity	Stereopsis	Pure Tones		
	Monocular R & L	Binocular	Binocular			
K*	X	N/A	X	X		
1st	X	X	X	X	X	
2nd	X	X	X	X		
3rd	X	X	X	X		
4th	X	X			X	
5th	X	X				X
6th**	6, 7, or 8	6, 7, or 8		6, 7, or 8		X
7th	6, 7, or 8	6, 7, or 8		6, 7, or 8	X	X
8th	6, 7, or 8	6, 7, or 8		6, 7, or 8		X
9th**	9, 10, 11 or 12	9, 10, 11 or 12		9, 10, 11 or 12		X
10th	9, 10, 11 or 12	9, 10, 11 or 12		9, 10, 11 or 12	X	
11th	9, 10, 11 or 12	9, 10, 11 or 12		9, 10, 11 or 12		
12th	9, 10, 11 or 12	9, 10, 11 or 12		9, 10, 11 or 12		

\* K students must also be screened if they enter school without certification that they have passed a vision screening within the previous 12 months.

\*\* School nurses must conduct vision and hearing screenings in at least one grade from 6<sup>th</sup> to 8<sup>th</sup>, and in at least one grade from 9<sup>th</sup> to 12<sup>th</sup>.

# Screening Checklist

Date Completed:

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## 1. Inventory Equipment and Supplies

### BMI

- ☐ CDC BMI calculator bookmarked on my computer, or the calculator in my electronic health record system  
List which option:

- ☐ Stadiometer that can measure to the nearest 1/8 inch or centimeter  
☐ If wall-mounted, stadiometer mounted at proper height

- ☐ Scale that can be zeroed  
Date scale was last calibrated (at least annually):

### Hearing

- ☐ Correctly functioning audiometer(s)  
☐ Number of machines:  
☐ Type, model, and date last calibrated for each machine:

### Postural

- ☐ Tape mark on level floor  
☐ Changing area or halter tops available  
☐ Screening area with a separate entrance and exit, and enough space for screener to move freely around student for front, back, and side views

### Vision

- ☐ Distance Acuity (PreK and K)  
Type:  
☐ Distance Acuity  
Type:  
☐ Near Acuity (Note: not done in PreK or K)  
Type:

☐ Stereopsis (PreK – Grade 3)

Type:

☐ Vision Machine (if available; wall charts are sufficient)

Type:

Slides available:

☐ Functioning machine (confirm it turns on, and BOTH bulbs are working and of equal and sufficient brightness)

☐ SPOT machine (ages <6 only) loan scheduled with Regional School Nurse Consultant

## 2. Recruit and Train a Screening Team

☐ Screening team scheduled for each type of screening

Names and dates they will be working:

☐ Training planned

Describe:

## 3. Scheduling

☐ Clinic dates\*, times, permissions for space, and plan for communication/notification to teachers, administration, SPED, and parents/guardians established

Screening date(s) and location(s):

☐ Class schedule reviewed, teachers identified conflicts, and screening schedule developed

☐ Screening space(s) identified

☐ Spaces are properly sized, lit, and offer privacy

☐ Postural screening in-class training scheduled

Date(s):

☐ Administration informed of and approved screening schedule (location, schedule, etc.)

☐ Screening schedule shared with teachers (and revised if needed)

\* Note: A best practice is to plan fall screening dates the prior spring.

#### 4. Communications

- ☐ Parents/guardians notified of the screenings (see the [SHIELD Health Screenings webpage](#) for sample letters and educational materials)  
Date(s) and type(s) of communication:
- ☐ Educational materials (particularly on promoting healthy weight and active living, and on postural screening) included in parent/guardian communications

#### 5. Prepare for Screening Day

- ☐ Postural screening in-class training completed
- ☐ Protocols for all screenings (in this handbook) reviewed
- ☐ Blank referral letters for all screening types copied and ready to complete
- ☐ Screening lists prepared
- ☐ Screening room(s) availability confirmed
- ☐ Schedule confirmed with teachers (with last minute adjustments, as needed)
- ☐ Signage posted, as needed
- ☐ Screening spaces set up:
  - ☐ Equipment (and confirmed all equipment is functioning)
  - ☐ "Cheat sheets" for vision and hearing machines
  - ☐ Floors marked
  - ☐ Privacy screens (when needed)
  - ☐ Spaces for students to queue with activities provided (i.e., books)
- ☐ Screening team has been assigned to stations and briefed on the plan for the day.



## 6. Conduct Screenings and Prepare for Re-Screenings

- ☐ Refer to screening protocols
- ☐ Review data collection sheets to identify which students will need to be screened (i.e., absent or missing), rescreened, and referred

### Re-Screening Students

- ☐ Re-screening date(s) and space(s) confirmed  
Date(s) and location(s):
- ☐ Screening team confirmed
- ☐ List of students to be re-screened or who missed the first screening prepared
- ☐ Teachers notified about re-screening dates and list of students to be seen
- ☐ Screening spaces set up

## 7. Documentation, Referrals, and Reporting

### Post-Screening Documentation

- ☐ Screening data documented in student's paper or electronic health record
- ☐ Teachers notified about required/recommended classroom accommodations

### Referral Completion

- ☐ Referral letters sent to parents or legal guardians and documented in the student's record  
(see the [SHIELD Health Screenings webpage](#) for sample letters and educational materials)
- ☐ Follow up on incomplete referrals (dates entered into calendar to do follow ups)
  - ☐ Second referral notice sent to parents (as needed)
  - ☐ Parents contacted directly (when needed)
  - ☐ Referral outcomes recorded in student records

## Reporting

- ☐ BMI results prepared to submit to MDPH
- ☐ All screening data prepared to submit to MDPH (CSHS grant recipients only)

## 8. Post-Screening Planning

- ☐ Appointments made to recalibrate machines for next year
  - ☐ Hearing (date and vendor):
  - ☐ Scales (date and vendor):
- ☐ Plans made to repair or replace equipment, if needed:  
Click or tap here to enter text.

## Reminders for Next School Year

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# Special Considerations

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## Students with Disabilities

While it is your responsibility to ensure all students are screened, you will be unable to successfully screen some students with disabilities. For these students, be sure you have physician documentation on file that shows these children have been evaluated within the required screening period. If you do not have such documentation on file, send home a referral and ensure that the evaluation is completed.

Some students with disabilities may be able to participate successfully in the screenings with assistance from a teaching assistant or special education teacher. However, care should be taken to ensure teachers are not providing students with answers (i.e., guiding their hand to an answer). In other cases, students with disabilities may not be able to be successfully screened, but they should still be included in the screening process with their class. Inclusion is important, and some students may be able to learn skills, like how to use headphones.

For all students with disabilities, collaborate with the special education team to determine how each student will participate in the screening process. Regardless of the level of participation, students you are unable to screen with confidence must be referred unless you have current documentation on file indicating that a physician evaluation has been completed for the applicable screening period.

Additionally, the state also requires proof of a comprehensive eye examination, performed by a licensed optometrist or ophthalmologist, for children diagnosed with neurodevelopmental delay within 12 months prior to entering Kindergarten. 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, hearing impairment, speech/language delay, ADHD, or developmental delay.

## Homeless Students

Homeless students present special concerns in the context of screening programs. Frequent moves often make these students unable or unavailable to participate in screenings, and, in the event screenings are completed, these students may need special assistance with referrals and follow-up, including help with making appointments and with transportation to providers’ 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. The Department of Education (DOE) maintains a list of district-level homeless liaisons, which can be found on their [website](#).

## **Assistance with Glasses**

For families with economic challenges, glasses and eye exams may be available from resources such as the Lions Club, the National Association of School Nurses, MassHealth, and others. The [National Center for Children's Vision and Eye Health](#) and [Children's Vision Massachusetts](#) have tremendous collections of resources for nurses, educators, and families.

# Documentation and Reporting

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## BMI

The student's growth chart, including screening results, referrals, and follow-ups, should be part of their school health record.

Report aggregate data at the end of the school year to MDPH.

To ensure data quality and reliability, guidelines for checking for quality issues with data before reporting are available:

For Grade 1:

- if more than 1% of recorded heights are below 40 inches or over 55 inches
- if more than 1% of recorded weights are below 37 pounds or over 110 pounds

For Grade 4:

- if more than 1% of recorded heights are below 48 inches or over 63 inches
- if more than 1% of recorded weights are below 51 pounds or over 180 pounds

For Grade 7:

- if more than 1% of recorded heights are below 54 inches or over 71 inches
- if more than 1% of recorded weights are below 70 pounds or over 260 pounds

For Grade 10:

- if more than 1% of recorded heights are below 57 inches or over 74 inches
- if more than 1% of recorded weights are below 74 pounds or over 275 pounds

Report aggregate data to MDPH for Comprehensive School Health Services (CSHS) grant recipients.

## Hearing

All hearing screening results (passes and referrals) should be recorded on the student's school health record.

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 care provider
- (2) whether a resolution of the apparent hearing problem was made, and
- (3) whether any educational adjustments were made

Report aggregate data to MDPH for CSHS grant recipients.

## Vision

All vision screening results (passes, referrals, and referral results) should be recorded on the student's school health record. A link to the Massachusetts School Health Record Form is provided in SHIELD's [Health Screenings webpage](#)

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. MGL Ch71, s57 was amended in 1987 and now requires any person who conducts an eye exam of a student referred through a school screening program 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
- student's name and address
- name of student's school
- type of examination
- summary of significant findings, including diagnoses, medication, duration of medication's action, prognosis, whether a return visit is recommended (and if so, when)
- any recommended educational adjustments (i.e., preferential seating in the classroom, eyeglasses for full- or part-time use in school and/or home, use of low-vision aids)
- name, address, and signature of the examiner

Report aggregate data to MDPH for CSHS grant recipients.

## Postural

MDPH'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.

Note that in the MDPH Postural Screening Program Training Material (Revised 1996), Section 4.5: Record Keeping and Final Report states that districts must submit a summary statistical postural screening report form annually by July 15. These reports are no longer required.

Report aggregate data to MDPH for CSHS grant recipients.

# BMI Screening

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## BMI Screening Equipment and Tools

When measuring weight, use a properly calibrated balance-beam or strain-gauge floor scale (digital or mechanical) that:

- Registers weight in 0.1 kilogram or 1/4 pound increments
- Has a stable platform
- Can be zeroed out between students
- Can be calibrated



When measuring height, use a stadiometer that:

- Registers height to 0.1 centimeter or 1/8 inch
- Has a stable base
- Has a horizontal headpiece at least 3 inches wide that can be brought into contact with the most superior part of the head, typically the crown (NOTE: movable headpieces attached to balance-beam scales are not recommended for use)



To ensure an accurate BMI calculation:

- If using inches for height, use pounds for weight
- If using centimeters for height, use kilograms for weight

## Maintenance and Calibration of Equipment

Scales should be calibrated on a routine basis.

- Re-calibrate if the scale has been moved to a different surface
- Portable digital scales that are frequently moved should be calibrated monthly
- Scales that are not moved or used excessively should be calibrated annually by contacting the local department of weights and measures

Check the equipment regularly (i.e., the stability of the stadiometer base) to ensure accurate measurements.

# BMI Screening Protocols

## Screening Tips

- Be careful of word choice. Students may be sensitive about their height or weight. Avoid language like “Let’s see how big you are,” and labels such as obese or too thin.
- Avoid common mistakes:
  - Make sure measurements are taken with student’s shoes off
  - Be consistent with measurements (use inches *or* centimeters, don’t mix the two)
  - Measure carefully and correctly when installing wall stadiometers
  - Ensure scales are calibrated
- To improve accuracy, MDPH recommends that at least two staff conduct the BMI screening: one to measure the child and one to record the data. This greatly reduces recording errors.

## Protocols for Measuring Weight

To accurately measure students’ weight, the following procedures should be followed:

- Ensure the scale is on a firm surface, preferably on an uncarpeted floor.
- Set the scale to a zero reading.
- Have student remove their shoes, accessories, and heavy outer clothing (i.e., sweater, jacket, vest, belt).
- Have student empty their pockets of heavy objects (i.e., cell phones, electronics).
- Have student step onto the scale platform with both feet, facing away from the scale.
- Ask student to remain still.
- Read weight to the nearest 1/4 pound or 0.1 kilogram.
- Record weight immediately on the data form before the student gets off the scale.
- If using a balance-beam scale, return weights to zero position.

Assessing the weight of non-ambulatory students with special health care needs requires special consideration as children may not be able to stand up or lie flat. Alternate methods are available for measuring children requiring special accommodations. More detailed information on measuring non-ambulatory students can be found at the end of this section.

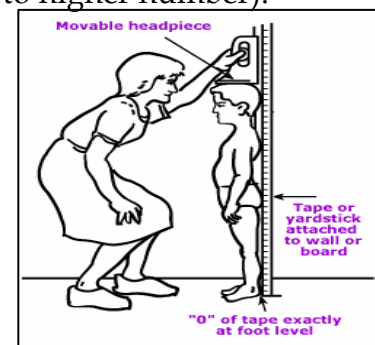
## Protocols for Measuring Height

To accurately measure students’ height, the following procedures should be followed:

- Have student remove their shoes.



- Have student remove hat and/or hair ornaments, and undo buns and braids to the greatest extent possible (rather than guessing, note on their chart if you're unable to obtain an exact measurement).
- Have student step onto the base, with their back against the stadiometer rule.
- Student should stand with legs together (in contact with each other at some point).
- Check student's posture – head in appropriate position, knees not bent, arms at their sides, and shoulders relaxed.
- Make sure the student's body is in a straight line (mid-axillary line parallel to the stadiometer).
- Ensure some point of the back of the student's body is in contact with the stadiometer.
- Lower headpiece snugly to the crown of the student's head with sufficient pressure to flatten hair.
- Read height at eye level in an upward direction (from lower to higher number).
- Record height to the nearest 0.1 centimeter or 1/8 inch onto the data form.
- Repeat the process, having the student line up again, and record the measurement again.
- If the second measurement does not agree with the first measurement within 0.5 centimeter or 1/4 inch, repeat the process a third time.



Assessing the height of non-ambulatory students with special health care needs requires special consideration as children may not be able to stand up or lie flat. Alternate methods are available for measuring children requiring special accommodations. More detailed information on measuring non-ambulatory students can be found in the next section.

## Protocols for Measuring Non-Ambulatory Students

Assessing growth status of students with genetic or other medical conditions requires special consideration. In the event that it is necessary to collect height and weight information in the school setting, be sure that the screening is conducted by a health care professional (i.e., school nurse, occupational therapist, physical therapist). In addition, be sure parents or legal guardians are also informed in advance of the screening.

In general, the purpose of measuring students who may have atypical growth patterns should be for monitoring the progress of that individual student over time, not used to compare that student to others, even those who may have a similar condition. Remember that BMI is used to indicate measures of body fatness. For some conditions that involve muscle deterioration and/or abnormal bone growth, the standard BMI reference percentile curves would not be an appropriate comparison point.

## Assessing Weight of Non-Ambulatory Students

Possible options for assessing weight for students who cannot stand include:

- Using a bucket seat scale if student is within size and weight limits for the equipment
- Using a chair scale
- Using a bed scale
- Using a platform scale that can accommodate a wheelchair (subtract the weight of the wheelchair)
- A caregiver holding the student on the scale (subtract the caregiver's weight)

In any of these cases, make note of the procedure used to obtain weight, as there is a higher potential for error.

## Assessing Stature/Length of Non-Ambulatory Students

For students who are unable to stand, but are generally typical in body development and growth, their recumbent length can be taken as follows:

- Two people are needed
- One person (parent/caretaker) holds student's crown of head against the headboard
- Check that the student's head position is in Frankfort plane
- Student's trunk and pelvis should be aligned straight along measuring board
- Second person straightens the student's legs and holds their ankles together with toes pointed directly upwards
- Move the footboard firmly against the soles of both of the student's feet
- Record measurement to the nearest  $\frac{1}{8}$  inch or 0.1 centimeter
- Repeat measurement until two of them agree within  $\frac{1}{4}$  inch or 0.5 centimeter

For students with typical development, but who are unable to stand, arm span can be measured. When accurately measured, the arm span to height ratio is about 1:1 with typical development.

- This method is appropriate for students older than age 5, with involvement of the lower body only (i.e., some students with myelomeningocele or lower body paralysis)
- Arm span measuring requires two people
- The student should extend both arms perpendicularly to the body while the measuring rod (i.e., anthropometer) is held across the back, extended from the tip of the



middle finger of the right hand to the tip of  
the middle finger of the left hand

- Repeat measurement
- Measurement can be plotted on the CDC charts for stature-for-age or length-for-age

For students who are unable to stand and/or have severe contractures, their sitting height can be measured as follows:

- Use a stadiometer and surface for sitting (typically 50cm x 40cm x 30cm) that can be rotated depending on the size of the student
- Have the student sit on the base as erectly as possible with buttocks (and back and shoulder blades if possible) in contact with the stadiometer board
- Student should let their legs hang freely, with hands on their thighs and knees pointed straight ahead
- Student's head should be positioned in Frankfort plane
- Repeat measurement until two of them agree within 1/4 inch or 0.5 centimeter
- After taking the measurement, subtract the height of the sitting surface to estimate the student's sitting height
- Measurements may be plotted to establish the student's individual growth pattern over time

Growth of students for whom stature measurements are impossible to take can be monitored by using segmental lengths (i.e., upper arm length, lower leg length).

Measuring upper arm length is recommended for students with spina bifida who are bedridden or wheelchair bound, or for other students who are unable to stand or stretch out on a length board. When measuring upper arm length:

- Keep the student's upper arm straight and positioned alongside the body
- Have student bend their elbow so their lower arm is at a 90-degree angle to their upper arm
- Place a flexible metal or sturdy plastic tape measure with the tip at the end point of the shoulder bone, and bring the tape straight down along the upper arm to the tip of the elbow
- Record measurement to the nearest 1/8 inch or 0.1 centimeter
- Repeat measurement until two of them agree within 1/4 inch or 0.5 centimeter

Students with cerebral palsy or other conditions that cause or result in contractures can have their lower leg length measured.

- Use either a steel or plastic tape measure or an anthropometer
- Lower leg measurements are difficult to take
- Lower leg length measurements should only be used for students aged 6-18 years old
- Measurements may be plotted on the CDC charts for stature-for-age or length-for-age to establish the student's individual growth pattern over time

## **BMI Screening Referral and Follow-Up**

### **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 95<sup>th</sup> percentile
- weight-for-height, weight-for-age, or height-for-age is below the 5<sup>th</sup> percentile
- BMI-for-age is below the 5<sup>th</sup> percentile or above the 85<sup>th</sup> percentile
- the student's growth pattern changes dramatically (i.e., student who has been consistently at the 50<sup>th</sup> percentile drops to the 10<sup>th</sup> or rises to the 90<sup>th</sup>)

For BMI screening results that are significantly out of range or of particular concern, it may be appropriate for the school nurse to contact the student's parents or legal guardians and encourage follow-up with the child's primary care provider. It is important to note that BMI does not differentiate between fat tissue and lean tissue (for example, an athlete who has more muscle may have a higher-than-expected BMI for his/her height, weight). Any concerns should be discussed by the parents/legal guardians with their child's primary care provider.

# Hearing Screening

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## Hearing Screening Equipment and Tools

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 Hz.

### Maintenance and Calibration of Equipment

Screening audiometers are quite fragile, so proper handling and transport are essential to ensure accurate readings from a properly calibrated machine. MDPH 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.

## Hearing Screening Protocols

### Screening Tips

- Audiometers are sensitive machines that need to be calibrated annually.
- Colds and ear infections may interfere with hearing, so try to complete your hearing screenings by early November before cold and flu season begins.
- Create as quiet a space for hearing screenings as possible. Background noise and distractions may lead to a high rate of students who need to be rescreened.
- Clean the headset according to the manufacturer's guideline.
- A note on lice: Follow your school nurse headlice procedures and district headlice protocol.

### Protocols for Measuring Hearing using Pure Tone Audiometer

#### Signals:

The signal type to be used is the individual pure tone test only. Pure tone testing frequencies are 1000, 2000, and 4000 Hz and the pure tone screening level is 20dB across all three frequencies.

## **Test administration**

A passing screen is when the child identifies 20dB at 1000, 2000, and 4000 Hz. If a child does not pass at these levels, schedule a rescreening within one week and no later than two weeks after the original test.

To accurately measure students' hearing, the following procedures should be followed:

- Plug in and turn on audiometer 10 minutes before beginning the screening.
- Seat student at a 90-degree angle from the screener and audiometer.
- Put headphones on student with the RED earpiece on the RIGHT ear.
- Adjust headband.
- Instruct student to raise their hand when he/she hears the sound/beep/tone, and to put that hand down when that noise stops.
- Beginning with the RIGHT ear:
  - 1,000 Hz at 50 dB
  - 1,000 Hz at 30 dB
  - 1,000 Hz at 20 dB
  - 2,000 Hz at 20 dB
  - 4,000 Hz at 20 dB
- Switch to LEFT ear:
  - 4,000 Hz at 20 dB
  - 2,000 Hz at 20 dB
  - 1,000 Hz at 20 dB
- NOTE:
  - If at any frequency (Hz) level, the student does not hear the sound, increase the decibel level (loudness) by 10 and repeat the process until he/she hears the tone.
  - Document that finding (i.e., 2,000 Hz at 40 dB)
  - Any finding that does not reach the objective of 20 dB suggests the need to retest at a later date or make a referral.

## **Hearing Screening Referral and Follow-Up**

### **Referral and Follow-up**

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.

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 1-2 weeks before being considered a candidate for a notice to the parent/guardian. A repeat failure of the screening justifies parental notification in writing. Children should be referred for further assessment when they are unable to identify 20dB at 1000, 2000, or 4000 Hz upon rescreening. 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.

# Postural Screening

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## Postural Screening Equipment and Tools

No equipment is needed for the postural screening.

Parents/guardians should be notified prior to the screening, consistent with MDPH recommendations. This notification should include the date of the screening, the reason for it, statutory requirements, and proper clothing recommendations. Additional educational materials, such as the postural screening brochure, may also be included (see the [SHIELD Health Screenings webpage](#) for sample letters and educational materials).

## Postural Screening Protocols

### Screening Tips

- Take care to ensure student privacy during the screening process, being sensitive to body image and gender identity
- Have a second staff member present
- Remind students to remove their shoes
- Send a reminder notice home a few days before the screening recommending girls wear halter or bathing suit tops and that boys will need to remove their shirt

### Family and Student Education:

Prior to conducting postural screening, parents/guardians and students should be provided with educational materials. Use your district's typical system for communicating with parents to inform them about the screening.

Schedule an in-class student education session shortly before the screening is to be done. This session should be taught by someone who has medical knowledge and should include the following information:

1. When, where, and how the screening will be done
2. What you will be looking for
3. Special clothes that need to be worn
4. Short discussion of postural problems (i.e., Scoliosis, Kyphosis, Lordosis)
5. A question and answer period

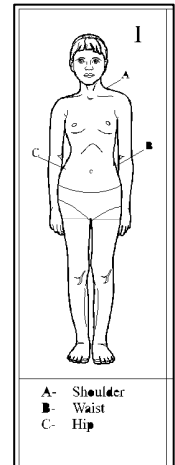


The National Scoliosis Foundation has an educational video that can be shown to students. Educational resources, including a link to the video, FAQ on the postural screening, a parent letter, and an informational brochure, can be found on the [SHIELD Health Screenings webpage](#).

## Protocols for Measuring Posture

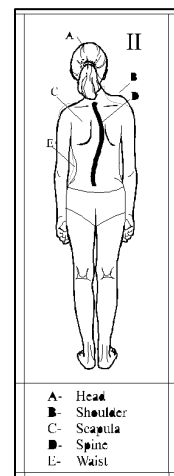
### Position 1:

- Student faces screener, standing erect but relaxed with feet close together, weight evenly distributed, knees straight, arms at sides, and eyes straight ahead
- Observe:
  - Is one shoulder higher than the other?
  - Is the waistline the same on both sides, or is there a larger space between the arm and flank on one side?
  - Are hips level and symmetrical, or is one side higher or more prominent?
- Make a referral if any 2 of the 3 listed above are present



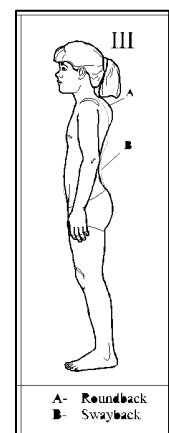
### Position 2:

- Student faces away from screener, with long hair either pinned up or brought in front of shoulders so screener can observe the student's entire back
- Observe:
  - Does the student's head lean to one side?
  - Is one shoulder higher than the other?
  - Is one shoulder blade more prominent than the other?
  - Is there a spinal curvature?
  - Is the waistline the same on both sides, or is the arm-to-body space uneven?
- Make a referral if any 3 of the 5 listed above are present



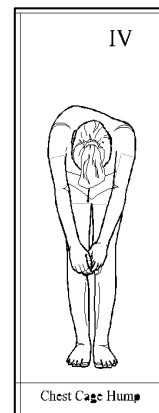
### Position 3:

- Student stands erect with his/her side facing screener
- Observe:
  - Is there an accentuated roundness in the upper back?
  - Is there an accentuated arching in the lower back?
- Make a referral if either of the 2 listed above is present



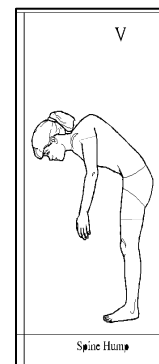
#### Position 4:

- Student bends forward until back is parallel to the floor
- Student should have feet together, knees straight, palms of hands together, and head down
- Examine from the front and back view
- Observe:
  - Is there a rib hump on one side?
- Make a referral if rib hump on one side is present



#### Position 5:

- Student bends forward from Position 4 and stops just before back is parallel to the floor
- Examine from the side
- Observe:
  - Is there an exaggerated midline hump?
- Make a referral if exaggerated midline hump is present



## Protocols for Filling Out the Postural Screening Worksheet

It is important that the screener include as much information as possible about his/her findings for easy reference in the rescreening.

Using MDPH's postural screening worksheet can assist you in the screening process. The pictures on the worksheet represent the positions in which the student is viewed by the screener. The front, back, and side views each have several areas of focus. Each area has a letter designation. Use these letters to represent positive findings. Indicate whether positive findings are on the student's left or right side (not the screener's left/right). Positive findings in Position 4 and 5 can be indicated by a checkmark. A link to this worksheet is available in the [SHIELD Health Screenings webpage](#)

## Postural Screening Referral and Follow-Up

### Referral and Follow-up

Students who were absent the day of the screening should be screened at another time. Any student who was excluded from screening for any other reason should have that reason documented.

If there was no positive finding in a student's initial screening, his/her parents/guardians do not need to be contacted.

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. A separate session should be scheduled to rescreen all students who had a positive finding. It is recommended that the student's original worksheet be used during their rescreening.

- If positive findings are not confirmed, parents/guardians do not need to be contacted
- If a positive finding is confirmed, the following steps for a referral should be taken:
  - Contact family via phone (if unavailable by phone, send letter) to explain that a medical follow up is being recommended as a precaution.
  - Send follow up letter to parents
  - Obtain the student's physician from the family
  - Send letter to physician

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.

The school nurse should maintain a record of referred students whose physicians reported nothing wrong, but about whom there is a continued concern on the part of the screener. These students ought to be rescreened in 3 to 6 months. If the screener's concerns persist, the family should be contacted and encouraged to get a second physician's opinion.

The school nurse and physical education teacher should both be informed about students whose physicians have prescribed a brace. The school nurse may need to supervise skin care. In most cases, students who wear braces will still be encouraged to participate in a wide range of physical education activities.

# Vision Screening

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## Vision Screening Equipment and Tools

**Ocular Alignment and Stereopsis Assessment (Grades Pre-K-3):** Random Dot E (RDE) Stereotest

**Distance visual acuity (Pre-K – K):** MassVAT (Visual Acuity Test) flip cards with HOTV letters or Lea symbols; OR ten-foot wall chart with HOTV letters or LEA symbols

**Distance visual acuity (Grades 1-12):** Ten-foot wall chart with line letters, HOTV, or tumbling E for grades 1-3 and line letters for grades 4-12 (numbers, tumbling E or HOTV may be used for children who are unsure of letters); OR a testing machine with distance slide

**Near visual acuity (Grades 1-12):** Near card with line letters, numbers, tumbling E or HOTV; OR a testing machine with near slide

Although Massachusetts guidelines do not specify the type of chart with line letters that should be used, ongoing research indicates charts using Sloan Letters or LEA NUMBERS® as optotypes are preferred for school-aged children<sup>1</sup>. While they are still in widespread use, many flaws have been identified with the Snellen eye chart. If your school has been using the Snellen eye chart, consider switching to Sloan Letters.<sup>2</sup>

As research on vision screening practices continues it is important to stay up to date with current recommendations. The National Center for Children’s Vision and Eye Health’s Prevent Blindness provides a wealth of vision screening resources, including a list of evidence-based vision screening tools and procedures. A link is provided in the [SHIELD Health Screenings webpage](#). During your tools inventory, determine if your vision screening equipment meets state and national guidelines, and, if not, implement a plan to replace them.

Note that instrument-based vision screening is approved *only* for 3-5 years olds. According to the American Academy of Pediatrics (AAP)’s Instrument-Based Pediatric Vision Screening Policy Statement (2012), instrument-based screening devices are recommended as an alternative to visual acuity screening with vision charts for the 3-5 year old age group. Regardless of the type of photoscreening or autorefraction system used (for example, the Spot Vision Screener), screeners should know how to use and apply the technology properly and understand the limitations of the instrument and test in relation to the children’s age. If your school acquires one of these devices, staff should be knowledgeable and trained in the use of the technology and ensure privacy with any transfer of electronic data into a student health record. School nurses

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<sup>1</sup> Prevent Blindness. (2015) Position Statement on School-Aged Vision Screening and Eye Health Programs,

<sup>2</sup> National Association of School Nurses. (2016) Principals for Practice: Vision Screening and Follow-Up, p. 5.

interested in this technology should contact their Regional School Nurse Consultant for guidance.

## **Maintenance and Calibration of Equipment**

Clean machines according to manufacturer instructions. Ensure you have extra light bulbs on hand. Keep protective cover on equipment when not in use. Ensure correct slides are in place.

No calibration is needed.

# **Vision Screening Protocols**

## **Screening Tips**

- Ensure good lighting for accurate screening results.
- Be sure to measure distances accurately. If a screening location cannot accommodate the required distances, find a different area to conduct screenings.
- Apply Prevent Blindness' *ABCs of Observation of Possible Vision Problems*, and, even if the child passes the vision screening, refer if your nursing assessment suggests a potential vision problem
- Don't point to letters on the screening charts.
- Do a skills assessment with your screening team to ensure accurate application of screening procedures. Check early and regularly with screening team to be sure no issues arise.
- Create a quality screening program by applying a systematic approach as listed in the *12 Components of a Strong Vision Health System of Care* designed by the National Center for Children's Vision and Eye Health.

NOTE: The protocols listed below were written in 2005, updated in 2016, and are currently under review. Before conducting your screenings, check the [SHIELD Health Screenings webpage](#) to determine if there are any updates to these protocols.

## MA Vision Screening Protocol

### Preschool and Kindergarten: Evaluate Linear Distance Visual Acuity & Stereopsis

Function to be Evaluated	Specific Test	Recommended Testing Procedure	Passing Criterion
Linear Distance Visual Acuity	<p>Massachusetts Visual Acuity Test (MassVAT) flip cards with HOTV letters or Lea symbols</p> <p>or</p> <p>Wall chart with HOTV or Lea symbols</p>	<p>Perform at a distance of 10 feet</p> <p>Pretest (performed binocularly): Test student's ability to perform the test by having them identify or match all 4 letters/symbols when presented up close</p> <p>Test (performed monocularly): Test student's ability to identify or match optotypes on the critical line</p> <p>Critical line: 20/40 at 36-47 months; 20/30 at 48 months</p>	<p>Student must correctly identify or match 4 out of 5 letters/symbols on the critical line</p> <p>Be careful to watch for peeking</p>
Ocular Alignment & Stereopsis	Random Dot E	<p>Perform at a distance of 4 feet</p> <p>Conduct pretest and test binocularly with polarized glasses on</p> <p>Pretest: Test student's ability to perform the test by having them identify the location of the 3-dimensional E correctly on 4 out of 5 presentations</p> <p>Test: Test student's ability to identify the location of the stereo E using 5 presentations, varying the location in a random manner</p>	Student must correctly locate the stereo E on 4 out of 5 presentations

## MA Vision Screening Protocol

**Grades 1-3: Evaluate Linear Distance/Near Visual Acuity & Stereopsis**

**Grade 4-12: Evaluate Linear Distance/Near Visual Acuity**

Function to be Evaluated	Specific Test	Recommended Testing Procedure	Passing Criterion
Linear Distance Visual Acuity	<p>Grades 1-3: Line letters, HOTV, or tumbling Es</p> <p>Grades 4-12: Line letters (NOTE: numbers, tumbling Es, or HOTV may be used if student is unsure of letters)</p>	<p>Perform at a distance of 10-20 feet, or use testing machine with distance slide</p> <p>Perform test monocularly</p> <p>Test student's ability to identify optotypes on the critical line</p> <p>Critical line: 20/30 monocular visual acuity</p>	<p>Student must correctly identify 80% of the letters/ symbols on the critical line</p> <p>Letters/symbols must not be presented one at a time</p> <p>Be careful to watch for peeking</p>
Linear Near Visual Acuity	Grades 1-12: Line letters, HOTV, tumbling Es, or numbers	<p>Perform at a distance of 14 inches, or use testing machine with near slide</p> <p>Test is performed with both eyes open</p> <p>Critical line: 20/30 binocular visual acuity</p>	Student must correctly identify 80% of the letters/symbols on the critical line of the near card or the near slide
Ocular Alignment & Stereopsis	Grades 1-3: Random Dot E	<p>Perform at a distance of 4 feet</p> <p>Conduct pretest and test binocularly with polarized glasses on</p> <p>Pretest: Test student's ability to perform the test by having them identify the location of the 3-dimensional E correctly on 4 out of 5 presentations</p> <p>Test: Test student's ability to identify the location of the stereo E using 5 presentations, varying the location in a random manner</p>	<p>Grades 1-3: Student must correctly locate stereo E on 4 out of 5 presentations</p> <p>Grades 4-12: Binocular balance testing does not need to be done</p>

# Vision Screening Referral and Follow-Up

## Referral and Follow-up

MGL Ch71, s57 states 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.”

105 CMR 200.400 – PE schoolchildren:

“(E) For any student who does not pass a vision or hearing screening, a written plan shall be developed by the school nurse, in consultation to the extent possible with a student’s parent or legal guardian, for appropriate follow up of the student. With the consent of the parent or legal guardian, the student’s primary care provider shall be furnished with a copy of the record of screening tests performed in the school.”

Any child who does not meet the passing criteria shown in the charts above must be referred.

**Timely referral and follow-up of children who have failed their vision screening is of utmost importance. Permanent vision loss can occur if a referral is not completely quickly.**

Additionally, the school nurse must ensure that any student diagnosed with neurodevelopmental delay has documentation of an annual eye examination in their school health record. If this documentation is not available, or the child has not been seen by a provider, the student should be referred for evaluation.

As noted in the Documentation and Reporting section above, MGL Ch71, s57 requires any person who conducts an eye exam of a student referred through a school screening program 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. School nurses may need to pursue obtaining these important documents.



Finally, note that some students may pass their vision screening, but the school nurse, teachers, and/or support staff (e.g., special education teacher, reading specialist) may notice symptoms that suggest a potential vision disorder. For example, a child may have regular headaches, squint in class, or have difficulty with reading. These children should also be referred for evaluation regardless of their vision screening results.