

## Fine/Gross Motor Screening

### Authorization

**Code of Virginia, Section 22.1-214, Board to Prepare Special Education Program for Children with Disabilities.**

Excerpt: See Appendix A for *Code of Virginia*, § 22.1-214.

**Regulations.** Virginia Department of Education (Effective January 1994). *Regulations Governing Special Education Programs for Children with Disabilities in Virginia*. Richmond, Va.: Author.

Excerpt: Part III: Responsibilities of LEAS and State Agencies.

§3.2 Identification, Evaluation, and Eligibility.

C. Screening.

2. *The screening process for all children enrolled in the school division is as follows:*

a. *All children within 60 administrative working days of initial enrollment in a public school, shall be screened in the following areas to determine if formal assessment is indicated:*

(1) *Speech, voice, and language; and*

(2) *Vision and hearing.*

b. *All children (through grade three), within 60 administrative working days of initial enrollment in public schools, shall be screened for fine and gross motor functions to determine if formal assessment is indicated.*

c. *Specific measures or instruments will be employed which use:*

(1) *Both observational and performance techniques; and*

(2) *Techniques which guarantee non-discrimination.*

### Recommendation

**Purpose.** Basic gross and fine motor screening is crucial in determining if the student is developing within the “normal range.” The five areas that need to be screened to ensure

normal development include balance, bilateral coordination, upper extremity coordination, visual motor control, and upper extremity speed and dexterity. Fine and gross motor skills are essential building blocks to educational success.

The screening also allows the parents and administrators to be notified when any student shows signs of a significant impairment that should be followed up by a physician. It also gives information to teachers and parents regarding delays in development of gross and fine motor skills of the child.

## Procedure

**Materials.** The following materials are used for the K-3 screening:

- ◆ Playground ball (8 1/2 inches).
- ◆ Playground ball (4 to 5 inches).
- ◆ Piece of paper with a circle.
- ◆ Piece of paper with a curved path that is 3/4-inch wide.
- ◆ Pegboard.
- ◆ Ten small pegs.
- ◆ Stopwatch.

**Criteria.** The criteria for failing the fine and gross motor screening is that the student must fail two out of the three gross motor sections and both of the fine motor skills. The evaluation sheet should have two sections: one for comments and one for pass/fail. The student is allowed two attempts to pass each skill.

**Five Screening Areas.** The five areas that need to be screened to ensure normal development include:

- ◆ Balance.
- ◆ Bilateral coordination.
- ◆ Upper extremity coordination.
- ◆ Visual motor control.
- ◆ Upper extremity speed and dexterity.

### Gross Motor Skills.

#### 1. Balance

- ◆ Kindergarten: To pass, the child must be able to hold the right foot off the ground for 5 seconds, place it down, and hold the left foot off the ground for 5 seconds.
- ◆ Grades 1 and 2: To pass, the child must hold the right foot off the ground for 10 seconds, place it down, and hold the left foot off the ground for 10 seconds.
- ◆ Grade 3: To pass, the child must hold the right foot off the ground for 12 seconds, place it down, and hold the left foot off the ground for 12 seconds.

## 2. Bilateral Coordination

- ◆ Kindergarten, Grades 1 and 2: To pass, the student must be able to jump in the air and clap their hands while airborne five times consecutively.
- ◆ Grade 3: To pass, the child must be able to jump in the air and touch both heels with both hands during two out of three trials.

(Examiners should note if the child is unable to perform the claps and jumps in an integrated fashion and if there are any overflow reactions in facial features)

## 3. Upper Extremity Coordination

- ◆ Kindergarten and Grade 1: To pass, the child must toss an 8 1/2-inch playground ball in the air and catch it five consecutive times. The ball must leave the hands and may be trapped in the body.
- ◆ Grades 2 and 3: To pass, the child must toss a 4- to 5-inch ball into the air and catch it with hands, five times consecutively, with their hands only.

(Examiners should note if the ball does not go above the child's head, if the child stays stationary to catch the ball, and/or if the ball is tossed straight in the air.)

## Fine Motor Skills.

### 1. Visual Motor Skills

- ◆ Kindergarten: To pass, the child must copy a circle and make predominantly circular lines. (See Figure 1 at the end of this section.)
- ◆ Grades 1, 2, and 3: To pass, the child must draw a line within a curved path without making more than two deviations from the curved line. (See Figure 2 at the end of this section.)

(Examiners should note if the child is unable to grasp a pencil properly, does not rotate the paper, and/or if the pencil stays on the paper while the child is duplicating the circle or the path.)

### 2. Upper Extremity Speed and Dexterity

- ◆ Kindergarten: To pass, the child must place five pegs, using one hand, into a pegboard within 30 seconds.
- ◆ Grades 1 and 2: To pass, the child must place five pegs, using one hand, into a pegboard within 20 seconds.
- ◆ Grade 3: To pass, the child must place five pegs, using one hand, into a pegboard within 15 seconds.

(Examiners should note if the child picks/does not pick up the pegs one at a time, drops the pegs, does not stabilize the pegboard with one hand, and/or does not use the proper pincer grasp on the pegs.)

**Referral and Follow-Up Process.** Examiners should document the results of the child’s testing, make referrals when the child is unable to meet the screening guidelines, and place all test results in the child’s school record. If the student fails the screening, referral is made to the Child Study Committee for recommendations for further evaluation. It is important to document the fact that a student has difficulty in a particular area of the screening or fails the screening. The administration needs to be involved with the parents/guardians in helping the student.

**Summary of Fine/Gross Motor Screening**

<b>Gross Motor Functions:</b>		
<b>Skill</b>	<b>Grade</b>	<b>Screening Test</b>
Balance	K	Balance on each foot for 5 seconds.
Bilateral Coordination	1-3	Balance on each foot for 10 seconds.
Fine Motor Functions	K-3	Jumping up and down on two feet and landing on both feet while clapping hands.
Upper Extremity Coordination	K-3	Toss and catch ball or bounce and catch, five times.
<b>Fine Motor Functions:</b>		
<b>Skill</b>	<b>Grade</b>	<b>Screening Test</b>
Visual Motor Control	K	Copy a circle. (See Figure 1 on following page.)
	1-3	Draw a line within a curved path. (See Figure 2 on following page.)
Upper Extremity Speed & Coordination	K-3	Sort cubes or pegs; or, string beads.

**Documentation**

**Recording Recommendation.** A record of the fine and gross motor screenings of each student can be kept by recording the results on the following form:

- ◆ Cumulative Health Record (Form LF.009).

**Copy of Form.** See Appendix D for a copy of the following form:

- ◆ Cumulative Health Record (Form LF.009).

Figure 1.

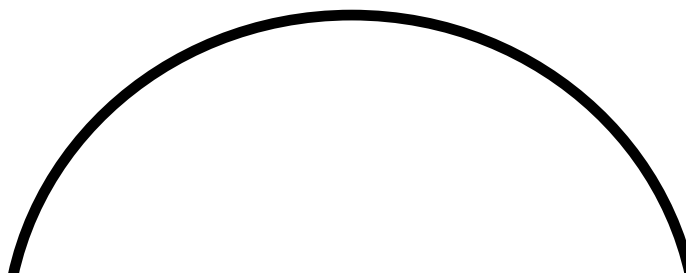


Figure 2.



# Hearing Screening

## Authorization

**Code of Virginia, Section 22.1-273, Sight and Hearing of Pupil to be Tested.** The *Code of Virginia* requires that within the time periods and at the grades provided in regulations promulgated by the Board of Education, the principal of each such school shall cause the sight and hearing of the relevant pupils in the school to be tested, unless such students are pupils admitted for the first time to a public kindergarten or elementary school who have been so tested as part of the comprehensive physical examination required by § 22.1-270 or the parents or guardians of such students object on religious grounds and the students show no obvious evidence of any defect or disease of the eyes or ears.

Excerpt: See Appendix A for *Code of Virginia*, § 22.1-273.

## **Code of Virginia, Section 22.1-214, Board to Prepare Special Education Program for Children with Disabilities.**

Excerpt:

*The Board of Education shall prepare and supervise the implementation by each school of a program of special education designed to educate and train children with disabilities between the ages defined in § 22.2-213 and may prepare and place in operation such program for individuals of other ages...The program shall require (i) that the hearing of each disabled child be tested prior to placement in a special education program and (ii) that a complete audiological assessment, including tests which will assess inner and middle ear functioning, be performed on each child who is hearing impaired or who fails the test required in clause(i).*

**Regulations.** Virginia Department of Education (Effective January 1994). *Regulations Governing Special Education Programs for Children with Disabilities in Virginia*. Richmond, Va.: Author.

Excerpt: Part III: Responsibilities of LEAS and State Agencies.

### §3.2 Identification, Evaluation, and Eligibility.

#### C. Screening.

2. *The screening process for all children enrolled in the school division is as follows:*
  - a. *All children within 60 administrative working days of initial enrollment in a public school, shall be screened in the*

*following areas to determine if formal assessment is indicated:*

- (1) Speech, voice, and language; and*
  - (2) Vision and hearing.*
- b. All children (through grade three), within 60 administrative working days of initial enrollment in public schools, shall be screened for fine and gross motor functions to determine if formal assessment is indicated.*
- c. Specific measures or instruments will be employed which use:*
- (1) Both observational and performance techniques; and*
  - (2) Techniques which guarantee non-discrimination.*

#### E. Evaluation

- 5. The LEA shall establish procedures to ensure*
- a. That each child is assessed by a qualified professional in all areas related to the suspected disability, including, where appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, and motor abilities. This may include educational, medical, sociocultural, psychological, or developmental assessments. Reports from assessments must be provided in writing. However, the hearing of each child with a disability shall be tested during the eligibility process prior to be placement in a special education program. A complete audiological assessment, including tests which will assess inner and middle ear functioning, must be performed on each child who fails two hearing screening tests. The second hearing screening test shall be completed not less than 15 nor more than 45 calendar days after administration of the first screening test.*

**SUPTS. MEMO.** SUPTS. MEMO. No. 159, August 19, 1987, Subject: Procedure for Implementing School Law 22.1-273. (See Appendix A for copy of SUPTS. MEMO.)

Excerpt:

*Because all children are required to have a physical examination when they first enter school, it was determined that this requirement would provide adequate screening for kindergarten students. Therefore, the only health screening required to be done for pupils will be for sight and hearing defects in grades 3, 7, and 10.*

**SUPTS. MEMO.** SUPTS. MEMO. No. 168, September 2, 1987, Subject: Procedure for Implementing School Law 22.1-273. (See Appendix A for copy of SUPTS. MEMO.)

Excerpt:

*Existing Board of Education regulations as specified in Regulations Governing Special Education Programs in Handicapped Children and Youth in Virginia, September 1984 stipulate that:*

*All children, within 60 administrative working days of initial enrollment in a public school, shall be screened in the following areas to determine if formal assessment is indicated: (a) speech, voice, and language; (b) fine and gross motor functions; and (c) vision and hearing.*

*Additional screening for vision and hearing should now occur in grades 3, 7, and 10.*

**Summary.** *In Virginia, hearing screening is required as follows:*

- ◆ *Component of the School Entrance Health Form: Part II – Comprehensive Physical Examination Report. (See Code of Virginia, § 22.1-270.)*
- ◆ *Grades 3, 7, and 10—unless tested as part of the School Entrance Health Form: Part II – Comprehensive Physical Examination Report. (See Code of Virginia, § 22.1-273.)*
- ◆ *All children within 60 administrative working days of initial enrollment in a public school (see Regulations Governing Special Education Programs for Children with Disabilities in Virginia, effective January 1994).*
- ◆ *The hearing of each child with a disability shall be tested during the eligibility process prior to be placement in a special education program (see Regulations Governing Special Education Programs for Children with Disabilities in Virginia, effective January 1994).*

## Overview

The purpose of a school hearing screening program is to identify students with a hearing loss that may impact their intellectual, emotional, social, speech, and/or language development. The subtlety of a hearing loss may lead to a child's hearing loss being overlooked. The school's hearing screening program can play an important role in ensuring no student has a hearing loss that goes undetected and unmanaged, resulting in further developmental or academic delays. Even mild hearing losses may be educationally and medically significant. An undetected 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, resulting in emotional or behavioral problems.
- ◆ A negative impact on the child's vocational and educational choices.
- ◆ Behavioral problems.

Most children with significant hearing loss are identified prior to school entry. Research indicates that the critical period for screening is birth to 3 years, as auditory stimuli during this period appear to be critical to development of speech and language skills. However, conductive hearing loss in pre-school and school-age children related to otitis media (middle ear infection) that although, if treated, is temporary in nature, can cause hearing loss. Due to this possibility and the incidence of childhood hearing loss that has not been detected, hearing screening in the school setting can prevent the negative impact any hearing loss might have on a child's ability to communicate effectively and achieve academically. Hearing screenings at older age levels are important to identify noise-induced hearing loss.

**Note.** The incidence of significant permanent (sensorineural) hearing loss in newborns is approximately 6 in 100 live births. With the implementation of universal newborn hearing screening in the state of Virginia, the majority of newborns with significant congenital hearing loss should be identified within the first month of life and entered into the state's follow-up program.

**American Academy of Pediatrics, American-Speech-Language Hearing Association and Bright Futures Recommendations.** The American Academy of Pediatrics (AAP) recommends objective hearing testing at ages 3, 4, 5, 10, 12, 15, and 18.<sup>78</sup> *Bright Futures*<sup>79</sup> concurs with these recommendations up to age 12 and recommends that adolescents exposed to loud noises, with recurrent ear infections, or who report problems should receive objective testing. The American Speech-Language-Hearing Association (ASHA) has recommended annual pure-tone audiometry testing for all children at high risk for hearing impairment.<sup>80</sup>

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<sup>78</sup> American Academy of Pediatrics Committee on Practice and Ambulatory Medicine. (1995). Recommendations for Preventive Pediatric Health Care. *Pediatrics*, 96, pp. 373-374.

<sup>79</sup> Green, M. (1994). *Bright Futures Guidelines for Health Supervision of Infants, Children, and Adolescents*. Arlington, Va.: National Center for Education in Maternal and Child Health.

<sup>80</sup> American Speech-Language-Hearing Association. (1985). Guidelines for Identification Audiometry. *ASHA*, 27, pp. 49-52.

**History.** A family and medical history of every child to be screened should be assessed for risk factors for hearing impairment. Whenever possible, parents should be asked about the auditory responsiveness and speech and language development of their child. Parental reports of impairment should be seriously evaluated. If this is not possible, when the results of the hearing screening indicate a problem or potential problem, the past medical history recorded on the school entrance physical examination should be evaluated for changes over time.

## Recommendation

**Procedure and Personnel.** Each school division may set a policy, assigning the personnel responsible for completion of hearing screening. Speech-language pathologists and audiologists are qualified to conduct hearing screening programs. Certification programs for hearing screening are available for other personnel. Non-certified personnel responsible for the screening program should receive instruction in the proper techniques to be used. Training should be conducted by a currently licensed audiologist. Personnel conducting the screening should give an explanation of the test procedure to the class as a group, and individually as needed, prior to the testing to assure that students understand the purpose and process. Individual screening is required as group screening is not valid.

Care should be taken to choose a site for the testing that is in the quietest part of a building. Environmental noise levels should be low enough to allow a person with normal hearing to easily hear the pure tone frequencies through the ear phones. A soundproof room is preferable, if available.

**Guidelines for Pure Tone Screening.** The pure tone audiometer is used in school-based screening programs and must meet the standards for screening audiometers established by the American National Standards Institute (ANSI). It should have the air conduction frequencies of 500, 1000, 2000, and 4000 Hertz. Proper handling of these machines is required, with at least yearly calibration, in order to ensure accurate readings. The following are general steps for using a pure tone audiometer for testing hearing.

1. The examiner should turn on the machine and listen to screening tones to assure that audiometer is properly functioning, making sure to listen to both right and left earphones. (The recommendation is that the individual responsible for the audiometer should listen to it each day to detect gross abnormalities.) If screening is being done throughout the day, leave the audiometer on to avoid having to wait for the machine to warm up.
2. Have the student sit down positioned so he/she cannot see the examiner operate the audiometer.
3. Give clear, concise instructions. For example, “You are going to wear earphones.” “You will hear beeps. They will be quiet (soft) so you will have to listen carefully.”

- Please indicate when you hear the beep by immediately raising your hand.” “Please put your hand down when you no longer hear the beep. You will hear a louder sound first to let you hear clearly what you are listening for, then the sounds will be softer for testing.”
4. Have the student remove glasses and large earrings. Be sure student is not chewing food, candy, or gum.
  5. Place earphones on each ear (red earphone over student’s right ear; blue earphone over student’s left ear). Be sure that the earphones fit snugly and that nothing interferes with the passage of sound (remove hair from between earphone and ear).
  6. Set the Hearing Threshold Level at 20 dBHL and the frequency at 1000 Hz. Note: If the location is too noisy to use 20 dBHL, a new location must be secured. Screening should never be conducted at intensities greater than 25 dBHL.
  7. Present the tone 1000 Hz for one to two seconds. Right ear first. The tone may be presented twice to make sure the child hears the tone and understands what is supposed to be heard.
  8. Proceed to 2000 Hz, 4000 Hz, then 1000 Hz, and on to 500 Hz.
  9. Repeat the procedure in the left ear. Vary the length, tone, and pauses to prevent establishing a rhythm.
  10. If the student fails to hear any tone, it may be repeated at the same level.
  11. If the student fails to respond in either ear to two or more frequencies, a re-test should be scheduled within a two-week period. Referral should be made if the second screening results are not improved. If the screening is part of the special education eligibility process, the school should be responsible for obtaining an audiological evaluation.
  12. Record all results on the student’s permanent cumulative health record.
  13. Record screening results, per state and local policy, on student’s permanent record.
  14. At the end of the school year record hearing screening results on the School Summary of Screening of Vision and Hearing: Report to Principal (LF.011) and Summary of Screening of Vision and Hearing: School Division Report (LF.010).

**Guidelines for Tympanometry Screening.** A comprehensive hearing screening program includes tympanometry screening in addition to pure tone screening. Tympanometry screening should not replace pure tone screening. Tympanometry screening is recommended for all students kindergarten through third grade and all preschool-aged students in the early childhood special education programs or 4-year old programs.

The tympanometry equipment should comply with ANSI standards and provide information on tympanogram peak (Peak Y amplitude), width (Peak Y gradient), and volume of the external auditory canal (physical volume).

The probe tip should be cleaned with a fresh alcohol swab before each use. A tip should be selected that is large enough to create a seal in the external canal without having to be inserted too deeply.

Students with flat tympanograms, low static compliance (Peak Y), or abnormally wide tympanogram should be rescreened in 4 to 6 weeks.

**Referral and Follow-Up Process.** Parents of all students who do not perform satisfactorily on a hearing screening and subsequent re-test (within two weeks) are notified by school health personnel. A repeat failure of the screening indicates that there is sufficient deviation from the norm in the results of the screening test to justify parental notification. Parents should be advised to have the child evaluated by an audiologist or by their health care provider. If the screening is part of the special education eligibility process, the school should be responsible for obtaining an audiological evaluation.

Every attempt should be made by school health personnel to work with parents. Parents should be encouraged to follow up with their health care provider and get feedback on any changes that the health care provider feels need to be made in order that school personnel can make the appropriate educational adjustments.

If a student has been identified as having a hearing disability, speech-language pathologists, audiologists, and school nurses should work closely with classroom teachers to ensure any necessary adjustments are made in the classroom so that the student is provided with an optimum learning experience.

## Documentation

**Recording Requirement.** Every principal must keep a record of the testing of the hearing of the relevant students and must notify the parent or guardian, in writing, of any defect of hearing or disease of the ears found. (See *Code of Virginia* § 22.1-273.)

**Proof of Testing the Hearing of Pupils.** A record of the testing of the hearing of each student can be kept by recording the results on the following form:

- ◆ Cumulative Health Record (Form LF.009).

**Reporting Requirement.** Copies of the hearing testing report are to be preserved for use by the Superintendent of Public Instruction, as the Superintendent may require. The following form can be used to preserve summaries of hearing screenings for each school. (See *Code of Virginia* § 22.1-273.)

- ◆ Summary of Vision and Hearing: Report to the Principal (Form LF.011, 3/95). This form is used to record a summary of the hearing screening results for each school, by required grade level. The completed form is sent to the LEA superintendent designee.
- ◆ Summary of Screening of Vision and Hearing: School Division Report (LF.010, 3/95). This form is used to record a summary of hearing screening results for each school division, by required grade level. It is a compliance of each school's LF.011.

Note. Students screened as part of a referral for special education must be referred back to the director of special education for an audiological evaluation.

**Copy of Forms.** See Appendix D for a copy of the following forms.

- ◆ Summary of Vision and Hearing: Report to the Principal (Form LF.011, 3/95).
- ◆ Summary of Screening of Vision and Hearing: School Division Report (LF.010, 3/95).
- ◆ Cumulative Health Record (Form LF.009).

## Resources

American Academy of Otolaryngology. (1996). *Revised Referral Guideline Kit*. Alexandria, Virginia: American Academy of Otolaryngology, Head and Neck Surgery, Inc.

American Nurses Association. (1994). *Clinicians Handbook of Preventive Services*. Waldorf, Md.: Author.

American Speech-Language-Hearing Association. (1997). *Guidelines for Audiologic Screening*. Rockville, Md.: Author.

Massachusetts Department of Public Health. (1995). *Comprehensive School Health Manual*. Boston, Mass.: Author.

National Association of School Nurses. (1998). *The Ear & Hearing: A Guide for School Nurses*. Scarborough, Me.: Author.

U.S. Preventive Services Task Force. (1996). *Guide to Clinical Preventive Services, 2nd Ed.* Report of the U.S. Preventive Services Task Force. Baltimore, Md.: Williams & Wilkins.

# Height and Weight Screening

## Authorization

**No Specific Mandate.** There is no specific mandate for annual height and weight screenings in Virginia. However, height and weight measurements are a component of a complete physical examination and both are included in the comprehensive physical examination required for school entry into kindergarten or elementary school and the yearly physical examination for participation in competitive sports in the high school. (See previous subsections on School Entrance Physical Examination Requirements and Athletic Pre-Participation Physical Examination Requirements.)

## Overview

Annual height and weight measurements provide a simple, effective method of identifying significant childhood health problems. Poor growth patterns can result from systemic disorders (e.g., malnutrition, intestinal conditions), psychosocial conditions (e.g., eating disorders), congenital disorders (e.g., Turner’s Syndrome, intrauterine growth retardation), or conditions of the endocrine system (e.g., hypothyroidism, growth hormone deficiency).

In addition, yearly height and weight measurements can be used as an educational tool for parents, students, and school personnel by:

- ◆ Creating an awareness of the relationship between good nutrition and growth, and good health practices and growth.
- ◆ Stimulating interest in self responsibility for an individual’s growth and development.

Major professional authorities—including the American Academy of Family Physicians (AAFP), the U.S. Preventive Service Task Force, and the American Academy of Pediatrics (AAP)—recommend yearly screenings of height and weight. The American Medical Association (AMA) recommends screening adolescents annually for eating disorders and obesity by measuring height and weight and by asking about body image and dieting patterns.

The range of normal height and weight varies for each child, but general growth remains relatively constant. After rapid growth in the first two years of life, growth generally slows down to 2 to 2 1/2 inches per year until puberty (approximately 11 to 13 years). Growth dramatically increases during puberty and lasts about two years until sexual development is achieved. At this point, the child’s growth is nearly completed. Growth patterns should follow the normal growth curves of children the same age and sex and fall between the 5th and 95th percentile curves on a standardized growth chart.

## Recommendation

**Procedure and Personnel.** Each school division should set a policy, assigning the personnel responsible for completion of annual height and weight screening. Classroom teachers, physical education teachers, school nurses, or parent volunteers given the responsibility for height and weight screening should receive instruction in proper techniques to be used. Applying appropriate measuring techniques and using well-calibrated equipment is essential. In addition, for accuracy, it may be necessary to take measurements more than once, particularly with young or uncooperative students. Furthermore, it is a good idea for one person to be responsible for taking heights and weights as measurements taken by different individuals may vary.

Growth must be charted on a standardized graph to have meaning to health care providers. Measurements should be interpreted within the context of the individual student's family and growth history.

Although most height and weight screenings are done in large groups, it is important to provide privacy during the actual measurements. This will eliminate the potential for embarrassment and teasing. The individual doing the screening may also try to use this time as an opportunity to gain insight into a particular student's health concerns, acquire information about the student's nutritional and exercise habits, and address particular concerns that student might have.

**Equipment.** Equipment should include a beam balance scale with non-detachable weights and a wall-mounted stadiometer or metal ruler (which is preferable to a non-stretchable tape measure) attached to a vertical, flat surface, such as a wall. A right-angle head board is also needed for lowering onto the student's head when taking the measurement.

**Referral and Follow-Up Process.** The school nurse is in an ideal position to ensure the early identification of students at risk for growth problems by providing appropriate assessments and referrals. The following conditions warrant a referral by the school nurse for follow-up care:

- ◆ Weight for height or for age is more than the 95th percentile.
- ◆ Weight for height, weight for age, or height for age is less than the 5th percentile.
- ◆ Student's growth pattern changes dramatically; for example, a student who has been consistently at the 50th percentile drops to the 10th percentile or rises to the 90th percentile.

## Documentation

The growth chart should become part of the student's permanent health record. Any indications for referral and follow-up care should be documented in the student's health record.

# Scoliosis Screening

## Authorization

**No Specific Legal Mandate.** There is no specific legal mandate to provide scoliosis screening. Scoliosis screening should be included in the physical examination as part of the continuing care of the child, not as an isolated screening procedure.

**SUPTS. MEMO.** SUPTS. MEMO. No. 159, August 18, 1987, Subject: Procedures for Implementing School Law 22.1.1-273: Attachment. (See Appendix A for SUPTS. MEMO.)

Excerpt:

*Practices That Are Encouraged:*

*That teachers at all grade levels be observant of speech defects, postural deviations, hearing impairments, dental defects, visual problems and significant deviations in height and weight. If observed, they should be recorded on the health record and reported to the school nurse for follow-up.*

*That scoliosis screening be done for all students in grades 5 through 9.*

## Overview

Scoliosis, a lateral spinal curve of 11 degrees or greater, can have adverse effects including the progressive development of poor range of motion, back pain, distortion of the position of the ribs, impaired function of the heart and lungs, unpleasant cosmetic deformities, and social and psychological problems, including poor self-image and social isolation. Early detection can prevent scoliosis from progressing and can identify those in need of treatment.

Screening for scoliosis in grades 5 through 9 (ages 10 to 15) has been recommended because the prevalence of scoliosis begins to increase at about age 10 to 11 with the pre-adolescent growth spurt and a lateral spinal curve of 11 degrees or greater is present in about 2 to 3 percent of adolescents at the end of their growth period. Progressive curves occur three or four times more frequently in girls than in boys. Scoliosis tends to run in families, and if scoliosis is diagnosed, other siblings should be evaluated.

Several professional organizations recommend screening for scoliosis. The Scoliosis Research Society recommends annual screening of all children ages 10 to 14. The American Academy of Orthopedic Surgeons recommends screening girls at ages 11 to 13 and screening boys once at age 13 or 14 years of age. The American Academy of Pediatrics has recommended scoliosis screening, with the forward bending test, at routine health supervision visits at ages 10, 12, 14, and 16 years (this recommendation is under



review), and the *Bright Futures* guidelines recommend noting the presence of scoliosis during the physical examination of adolescents and children greater than 8 years old.

## Recommendation

**Procedure and Personnel.** If the school division provides scoliosis screening, school nurses should have the responsibility for organizing and implementing the scoliosis screening program collaboratively with physical education teachers. If the school nurse is unavailable, screening can be done by other licensed health professionals (e.g., physicians, nurses, or physical therapists) who have been trained in scoliosis screening technique. All school personnel participating in scoliosis screening should participate in a training session prior to screening.

The school division should send a letter to parents that explains the screening and ask for permission from the parents for the child to participate in the screening. (See sample letter of explanation/permission to parents related to scoliosis in Appendix E.)

The screening program has two components: (1) an initial educational session held by the screener and (2) the screening itself. The educational session should include information on what scoliosis is, how it is detected, why it is important to screen, what the screening procedure will entail, and what will be done for those with positive findings. It is advisable to suggest to students that they wear their gym uniforms for the screening.

Students should be advised that each screening takes from one to three minutes, depending on the examiner. The schedule for screening should be prepared in advance and coordinated with the various teachers.

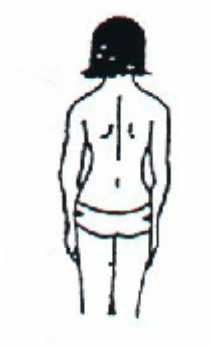
Girls and boys are screened separately. An adult screener of the same gender as the student is preferable whenever possible. The optimal view of the spine occurs when the back is bare. Therefore, girls are asked to wear halter tops or a bra and boys will be asked to take off their shirts. Shoes must also be removed.

Every child should be screened in each of the following positions:<sup>81</sup>

1. Back View: (The screener should be seated 5 to 8 feet from the tape mark on the floor.) The student should stand erect with back to the screener, toes placed on the tape, feet together knees straight and weight evenly distributed on both feet. Arms should be at the sides and relaxed. Students should be encouraged to avoid slouching or standing at “attention.”

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<sup>81</sup> Comprehensive Health and Pupil Services. (1998). *Scoliosis Screening*. Albany, N.Y.: State Education Department, State of New York.



## NORMAL

- ◆ Head centered over mid-buttocks.
- ◆ Shoulders level.
- ◆ Shoulder blades level with equal prominence.
- ◆ Hips level and symmetrical; equal distance between arms and body.



## POSSIBLE SCOLIOSIS

- ◆ Head alignment to one side of mid-buttocks and one shoulder higher.
- ◆ One shoulder blade higher with possible prominence.
- ◆ One hip more prominent than the other or waist crease deeper on one side than the other and unequal distance between arms and body.

2. Forward Bend Test: The student should stand facing away from the screener. The student should bend forward at the waist 90 degrees, feet 4 inches apart, knees straight, and toes even. Palms of the hands are held together or facing each other and arms hang down, and are relaxed. The head is down.



## NORMAL

- ◆ Both sides of upper and lower back symmetrical.
- ◆ Hips level and symmetrical.



#### POSSIBLE SCOLIOSIS

- ◆ One side of rib cage and/or the lower back showing uneven symmetry.
- ◆ Curve in the alignment of the spinous processes.
- ◆ If prominence is noted, scoliometer measurement should be taken.

3. Right Lateral View: (The screener remains seated.) The student continues to stand erect but is directed to stand first with right side toward the screener.

#### NORMAL



- ◆ Smooth symmetrical even arc of the back.



#### POSSIBLE KYPHOSIS (Round Back)

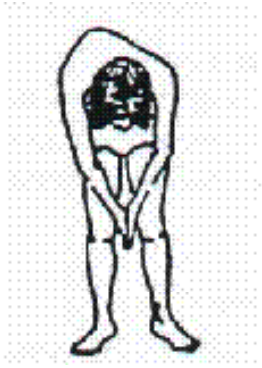
- ◆ Lack of smooth arc with prominence of shoulders and round back.
- ◆ Accentuated prominence of the spine (angular kyphosis of spine).
- ◆ Grossly accentuated swayback (when in upright position).

4. Frontal View: Have the student turn and face the screener and repeat the Forward Bend Test.

#### NORMAL



- ◆ Even and symmetrical on both sides of the upper and lower back.



## POSSIBLE SCOLIOSIS

- ◆ Unequal symmetry of the upper back, lower back, or both.
- ◆ If prominence is noted, scoliometer measurement should be taken.

5. Left Lateral View: Have the student turn and stand with his/her left side toward the screener and repeat lateral view test.

The data and results of the screening should be recorded as normal or using terms that describe any detected discrepancy (e.g., right shoulder higher than left; left arm-to-body distance greater than right) on the student's health record.

**Guidelines for Use of Scoliometer.** The following are general steps for testing for scoliosis using a scoliometer.

1. Ask student to bend forward slowly, stopping when the shoulders are level with the hips. View the student from the back. For best view, the screener's eyes should be at the same level as the back. Note any rib elevation and/or symmetry in the flank (low back) area.
2. Before measuring with the scoliometer, adjust the height of the person's bending position to the level where the deformity of the spine is most pronounced. This position will vary from one person to another depending upon the location of the curvature. For example, a curve low in the lumbar spine will require that the person bend further forward than one which is present in the thoracic or upper spine.
3. Lay the scoliometer across the deformity at right angles to the body, with the "0" mark over the top of the spinous process. Let the scoliometer rest gently on the skin, do not push down. Read the number of degrees of rotation.

NOTE: If there is asymmetry in both the upper and lower back, two scoliometer readings will be necessary. The curves will almost always go in opposite directions, with the one in the thoracic spine usually to the right and the other in the lumbar spine usually to the left.

4. The screening examination is considered positive if the reading on the scoliometer is 7 degrees or more at any level of the spine. Lesser degrees of rotation may or may not indicate a mild degree of scoliosis. In such cases re-screening is recommended within three to six months.

**Referral and Follow-Up Process.** All children with positive findings should be scheduled for re-screening. In order to avoid the possibility of unnecessary referral, all students with positive findings for any part of the screening should be re-screened at a separate session by someone other than the original screener. In addition, a scoliometer reading should be obtained and recorded.

If a positive finding is confirmed by another person who does the re-screening, the family should be contacted and advised that the student be examined by their health care provider. Emphasize that this is not an emergency. (Please see Appendix E for a sample referral letter.) The school health professional responsible for notifying the parents should explain the significance of the screening without causing undue anxiety and apprehension.

Every attempt should be made by school health personnel to work with parents. Parents should be encouraged to schedule a follow-up evaluation with their health care provider and obtain feedback on any changes that the health care provider recommends, in order that school personnel can make the appropriate educational adjustments.

If a student has been identified as having scoliosis, school nurses should work closely with classroom teachers to ensure any necessary adjustments are made in the classroom to provide the child with an optimum learning experience.

## Documentation

**Recording Recommendation.** A record of the scoliosis screening of each student can be kept by recording the results on the following form:

- ◆ Cumulative Health Record (Form LF.009).

**Reporting Recommendation.** If copies of the scoliosis screening results are to be preserved for local administrative purposes, the following form can be used to preserve summaries of scoliosis screenings for each school division.

- ◆ Scoliosis Report, Virginia Department of Education (form does not have an identification number or date).

**Copy of Forms.** See Appendix D for a copy of the following forms:

- ◆ Scoliosis Report, Virginia Department of Education.
- ◆ Cumulative Health Record (Form LF.009).

## Speech and Language Screening

### Authorization

**Code of Virginia, Section 22.1-214, Board to Prepare Special Education Program for Children with Disabilities.**

Excerpt:

*The Board of Education shall prepare and supervise the implementation by each school of a program of special education designed to educate and train children with disabilities between the ages defined in § 22.2-213 and may prepare and place in operation such program for individuals of other ages...The program shall require (i) that the hearing of each disabled child be tested prior to placement in a special education program and (ii) that a complete audiological assessment, including tests which will assess inner and middle ear functioning, be performed on each child who is hearing impaired or who fails the test required in clause(i).*

**Regulations.** Virginia Department of Education (Effective January 1994). *Regulations Governing Special Education Programs for Children with Disabilities in Virginia.* Richmond, Va.: Author.

Excerpt: Part III: Responsibilities of LEAS and State Agencies.

§3.2 Identification, Evaluation, and Eligibility.

#### C. Screening

2. *The screening process for all children enrolled in the school division is as follows:*

a. *All children within 60 administrative working days of initial enrollment in a public school, shall be screened in the following areas to determine if formal assessment is indicated:*

*(1) Speech, voice, and language; and*

*(2) Vision and hearing.*

b. *All children (through grade three), within 60 administrative working days of initial enrollment in public schools, shall be screened for fine and gross motor functions to determine if formal assessment is indicated.*

- c. *Specific measures or instruments will be employed which use:*
- (1) *Both observational and performance techniques; and*
  - (2) *Techniques which guarantee non-discrimination.*

## Overview

The purpose of screening in the area of speech and language is to identify students who may have a speech-language deficit. As a result of the screening, students may be referred for a special education eligibility assessment or the speech-language pathologist may consult with the teacher or parents regarding the student's speech-language skills.

## Recommendation

**Personnel and Procedure.** The local education agency (LEA) may determine who is responsible for the speech-language screenings. Recommended practice would indicate that screening of early childhood and elementary students should be done by a speech-language pathologist or under that person's supervision and that the screening of middle and high school students be done by the speech-language pathologist, teacher, guidance counselor, or school nurse. If the LEA designates someone other than the speech pathologist to implement speech-language screening at the middle or high school level, in-service training by the speech-language pathologist should be conducted.

**Pathology.** Speech/language pathology includes:<sup>82</sup>

1. Identification of children with speech or language disorders.
2. Diagnosis and appraisal of specific speech or language disorders.
3. Referral for medical or other professional attention necessary for the habilitation of speech or language disorders.
4. Provisions of speech and language services for the habilitation or prevention of communicative disorders.
5. Counseling and guidance of parents, children, and teachers regarding speech and language disorders.

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<sup>82</sup> Virginia Department of Education. (1994). *Regulations Governing Special Education Programs for Children with Disabilities in Va.* Richmond, Va.: Author.

**Referral and Follow-Up Process.** Documentation of testing of children unable to successfully complete the speech and language screenings according to the established criteria should be forwarded to the director of special education or the director's designee.

**Screening Instruments.** There are a number of commercially available screening instruments. Sample informal screening tools are included on the following pages. Regardless of the instruments used, local norms should be established to determine the validity of the screening instrument for that population. Please contact the speech-language pathologist(s) serving the LEA for further information on screening instruments.

**Recording Recommendation.** A record of the speech and language screenings of each student can be kept by recording the results on the following form:

- ◆ Cumulative Health Record (Form LF.009).

**Copy of Form.** See Appendix D for a copy of the following form:

- ◆ Cumulative Health Record (Form LF.009).

### **Sample Forms.**

The sample speech-language screening forms noted below are provided on the following pages.

- ◆ Speech-Language Kindergarten Screening.
- ◆ Speech-Language Screening: Grades 1 – 5.
- ◆ Speech-Language Screening Checklist: Grades 6 – 12.



[SAMPLE]  
**SPEECH-LANGUAGE KINDERGARTEN SCREENING**

Date: \_\_\_\_\_

NAME: \_\_\_\_\_ TEACHER: \_\_\_\_\_ SCHOOL: \_\_\_\_\_

I. ARTICULATION: Say the following words asking the student to imitate them. Write exactly what the student says.

MOM _____	DAD _____	VALUES _____	ZOOS _____
POP _____	TOOT _____	LITTLE _____	SIS _____
WON _____	GAG _____	JUDGE _____	RARE _____
BIB _____	COKE _____	SHUSH _____	THIRTEEN _____
NINE _____	FIFE _____	CHURCH _____	SPRING _____

## II. LANGUAGE

A. Body Parts (Criterion: 5/6)

Show me your:

Head \_\_\_ Arm \_\_\_ Knee \_\_\_ Hand \_\_\_ Shoulder \_\_\_ Neck \_\_\_

B. Opposites (Criterion: 2/3)

Brother is a boy, sister is a \_\_\_\_\_. A turtle is slow, a rabbit is \_\_\_\_\_.  
 The sun shine shines during the day, the moon shines at \_\_\_\_\_.

C. Distinguishes Prepositions (Criterion 3/4)

Put the block: on the chair \_\_\_\_\_ under the chair \_\_\_\_\_  
 in front of the chair \_\_\_\_\_ beside the chair \_\_\_\_\_

D. Verbal Expression and Reasoning (Criterion 3/3)

What do you do when you are tired? \_\_\_\_\_

What do you do when you are hungry? \_\_\_\_\_

What do you do when you are cold? \_\_\_\_\_

E. Function (Criterion 4/5)

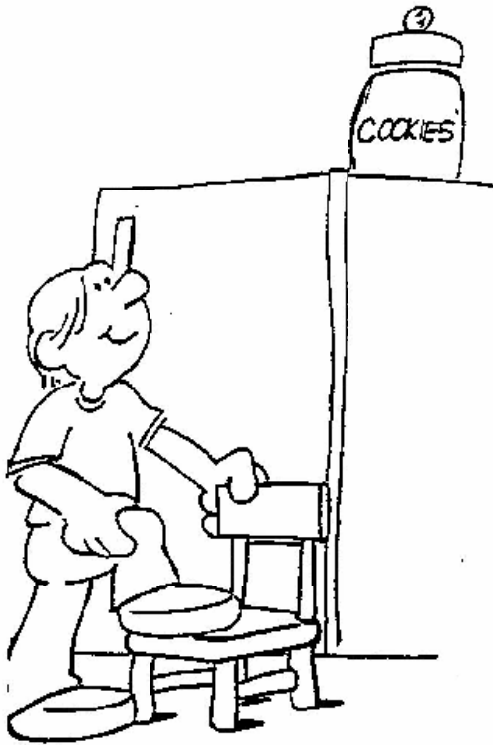
What do you do with: a cup \_\_\_\_\_ scissors \_\_\_\_\_ a brush \_\_\_\_\_  
 a shovel \_\_\_\_\_ a pencil \_\_\_\_\_

F. Observations

 Voice Quality --- Comments: \_\_\_\_\_ Stuttering --- Comments: \_\_\_\_\_ Intelligibility --- Comments: \_\_\_\_\_

RETURN THIS SCREENING FORM TO: \_\_\_\_\_

## GRADES 1-2



Do you see the cookies right here? (Point to the cookies.) Well, this boy did, too. So he got a chair and put it next to the refrigerator. Then he climbed on the chair, watching those cookies all the time. OOPS! The chair turned over and the boy started to fall.

[SAMPLE]

**SPEECH-LANGUAGE SCREENING**

Grades 1-5

NAME \_\_\_\_\_ AGE \_\_\_\_ GRADE \_\_\_\_\_ DATE \_\_\_\_\_

SCHOOL \_\_\_\_\_ TEACHER \_\_\_\_\_ EXAMINER \_\_\_\_\_

ARTICULATION

Ask the child to repeat the following sentences. Circle the words that the child mispronounced.

1. Today Pete's job was to bake a cake for Kurt.
2. Suzie repaired five television sets.
3. Push the garage door closed.
4. George is watching the magic show.
5. We will ride with Lucy to the yellow house.
6. Nancy found some hangers in my brown bag.

LANGUAGE

For grades 1-5: Engage the student in a conversation and note his use of language, articulation, fluency and voice. Things that you can ask to elicit speech are:

“Why did your family move to \_\_\_\_\_?”

“How is your other school like (different from) this new school?”

“Tell me about your family, hobbies.”

LIKENESSES AND DIFFERENCES

For grades 3-5:

For each pair, tell one way they are alike and tell one way they are different:

watch --- clock (L)

bus ----- train (D)

RETURN THIS SCREENING FORM TO: \_\_\_\_\_

[SAMPLE]

**SPEECH-LANGUAGE SCREENING CHECKLIST**

Grades 6 - 12

Student's Name \_\_\_\_\_ Date \_\_\_\_\_

DOB \_\_\_ / \_\_\_ / \_\_\_ Age \_\_\_\_ School \_\_\_\_\_

Student's Counselor \_\_\_\_\_ ID# \_\_\_\_\_

Homeroom Teacher \_\_\_\_\_ Date Entered School \_\_\_\_\_

This checklist is to be completed for every student who is new to this school by the student's Language Arts teacher.

This student has been ridiculed by his/her peers for (specify): \_\_\_\_\_

*F=Frequently O=Occasionally N=Not at all N=Not Observed*

F O N N.O.

This student avoids talking in class. \_\_\_\_\_

This student appears frustrated when trying to talk. \_\_\_\_\_

This student avoids talking to peers/adults. \_\_\_\_\_

This student seems concerned about his/her speech. \_\_\_\_\_

This student withdraws from group activities. \_\_\_\_\_

I feel uncomfortable when trying to communicate with this student. \_\_\_\_\_

Academic

This student is experiencing difficulties with:

Listening skills \_\_\_\_\_

Concept work \_\_\_\_\_

Following directions \_\_\_\_\_

Oral reading \_\_\_\_\_

Reading comprehension \_\_\_\_\_

Other (Specify) \_\_\_\_\_

OBSERVATIONS

Voice Quality ---Comments: \_\_\_\_\_

Stuttering---Comments: \_\_\_\_\_

Intelligibility---Comments: \_\_\_\_\_

Articulation---Comments: \_\_\_\_\_

RETURN THIS SCREENING FORM TO: \_\_\_\_\_

# Vision Screening

## Authorization

**Code of Virginia, Section 22.1-273, Sight and Hearing of Pupil to be Tested.** The *Code of Virginia* requires that within the time periods and at the grades provided in regulations promulgated by the Board of Education, the principal of each such school shall cause the sight and hearing of the relevant pupils in the school to be tested, unless such students are pupils admitted for the first time to a public kindergarten or elementary school who have been so tested as part of the comprehensive physical examination required by § 22.1-270 or the parents or guardians of such students object on religious grounds and the students show no obvious evidence of any defect or disease of the eyes or ears.

Excerpt: See Appendix A for *Code of Virginia*, § 22.1-273.

## **Code of Virginia, Section 22.1-214, Board to Prepare Special Education Program for Children with Disabilities.**

Excerpt:

*The Board of Education shall prepare and supervise the implementation by each school of a program of special education designed to educate and train children with disabilities between the ages defined in § 22.2-213 and may prepare and place in operation such program for individuals of other ages...The program shall require (i) that the hearing of each disabled child be tested prior to placement in a special education program and (ii) that a complete audiological assessment, including tests which will assess inner and middle ear functioning, be performed on each child who is hearing impaired or who fails the test required in clause(i).*

**Regulations.** Virginia Department of Education (Effective January 1994). *Regulations Governing Special Education Programs for Children with Disabilities in Virginia*. Richmond, Va.: Author.

Excerpt: Part III: Responsibilities of LEAS and State Agencies.

### §3.2 Identification, Evaluation, and Eligibility.

#### C. Screening.

2. *The screening process for all children enrolled in the school division is as follows:*
  - a. *All children within 60 administrative working days of initial enrollment in a public school, shall be screened in the*

*following areas to determine if formal assessment is indicated:*

- (1) Speech, voice, and language; and*
  - (2) Vision and hearing.*
- b. All children (through grade three), within 60 administrative working days of initial enrollment in public schools, shall be screened for fine and gross motor functions to determine if formal assessment is indicated.*
- c. Specific measures or instruments will be employed which use:*
- (1) Both observational and performance techniques; and*
  - (2) Techniques which guarantee non-discrimination.*

**SUPTS. MEMO.** SUPTS. MEMO. No. 159, August 19, 1987, Subject: Procedure for Implementing School Law 22.1-273. (See Appendix A for copy of SUPTS. MEMO.)

Excerpt:

*Because all children are required to have a physical examination when they first enter school, it was determined that this requirement would provide adequate screening for kindergarten students. Therefore, the only health screening required to be done for pupils will be for sight and hearing defects in grades 3, 7, and 10.*

**SUPTS. MEMO.** SUPTS. MEMO. No. 168, September 2, 1987, Subject: Procedure for Implementing School Law 22.1-273. (See Appendix A for copy of SUPTS. MEMO.)

Excerpt:

*Existing Board of Education regulations as specified in Regulations Governing Special Education Programs in Handicapped Children and Youth in Virginia, September 1984 stipulate that:*

*All children, within 60 administrative working days of initial enrollment in a public school, shall be screened in the following areas to determine if formal assessment is indicated: (a) speech, voice, and language; (b) fine and gross motor functions; and (c) vision and hearing.*

*Additional screening for vision and hearing should now occur in grades 3, 7, and 10.*

**Note:** Individual school divisions with the available resources may choose to expand the vision screening program based on the current research that suggests that all children,

beginning in the newborn period, benefit from age appropriate vision screening. Early identification of conditions that interfere with vision is important, because visual stimuli are critical to the development of normal vision.

**Summary.** *In Virginia, vision screening is required as follows:*

- ◆ *Component of the School Entrance Health Form: Part II – Comprehensive Physical Examination Report. (See Code of Virginia, § 22.1-270.)*
- ◆ *Grades 3, 7, and 10—unless tested as part of the School Entrance Health Form: Part II – Comprehensive Physical Examination Report. (See Code of Virginia, § 22.1-273.)*
- ◆ *All children within 60 administrative working days of initial enrollment in a public school (See Regulations Governing Special Education Programs for Children with Disabilities in Virginia, effective January 1994).*

## Overview

Vision screening and eye examination are essential for detecting visual impairment. Conditions that lead to visual abnormalities may lead to inadequate school performance and prevent students from obtaining maximum benefits from their educational experience. Undetected impairments of the visual process can lead to permanent loss of vision in the affected eye, loss of depth perception, decreased integration of visual and motor skills, potential decrease in learning ability, and problems in school adjustment.

Vision screening should be carried out as part of the regular plan for continuing care beginning at the age of 3. Vision screening guidelines have been endorsed by the American Academy of Pediatrics (AAP), the American Association for Pediatric Ophthalmology and Strabismus (AAPOS), and the American Academy of Ophthalmology (AAO) for use by all pediatric vision screening professionals (including physicians, nurses, educational institutions, and public health departments) to standardize the process of vision screening and to detect children with vision impairments who might be overlooked.

The school screening programs generally focus on visual acuity and color discrimination. However, all children should receive a complete eye examination, including testing for ocular alignment, by their health care provider or an eye specialist. Ocular alignment in the preschool and early school-age child is of considerable importance. The development of ocular muscle imbalance may occur at any age in children and may represent not only simple strabismus (i.e., deviation of the eye in or out) but also serious orbital, intraocular, and intracranial diseases.

Finally, history of vision or eye problems, family history of vision or eye problems, and parental concerns about a child's visual functioning are all important to the complete assessment of a child's vision. Every attempt should be made to examine the child's previous medical record prior to evaluation. If this is not possible, when results of the

eye screening indicate a problem or potential problem the past medical history recorded on the Health Information Form (Part I of MCH 213 form) should be examined for changes over time.

## Recommendation

**Procedure and Personnel.** Each school division may set a policy, assigning the personnel responsible for completion of vision screening. Classroom teachers, physical education teachers, school nurses, or parent volunteers given the responsibility for vision screening should receive instruction in the proper techniques to be used. In addition, personnel should understand that vision screening is designed *only* to identify students who may need further attention. It is not for the purpose of diagnosis. No attempt should be made by screening personnel when contacting the parents of a child who does not meet the screening criteria to provide a diagnosis. Personnel conducting the screening should give an explanation of the test procedure to the class as a group, and individually as needed, prior to the testing to assure that students understand the purpose and the process. Confidentiality needs to be maintained; therefore, students should be screened in a private setting.

**Testing Procedures for Assessing Visual Acuity.** Several eye charts are available for testing visual acuity in children. In order of decreasing cognitive difficulty, these are: Snellen Letters, Snellen Numbers, Tumbling E, HOTV, Allen Figures, and LH (Leah Hyvarinen) Test. (Note: The Titmus tester may be used in place of charts. The MTI Photo Screener may be used in the identification of serious eye disorders and with small children who are difficult to screen.) The test with the highest level of difficulty that the child is capable of performing should be used. In general, the Snellen Eye Chart or Tumbling E will be appropriate for school vision screening.

**Guidelines for Use of Eye Chart.** Visual acuity may be tested at 10, 15, or 20 feet (using the appropriate chart). For young children, a distance of 10 feet may result in better compliance due to closer interaction with the examiner. Care should be taken to select for testing a room that is without distractions and that has diffuse lighting and is without glare, to make sure the child stands at the appropriate distance from the chart (the distance may be marked off with a piece of masking tape or paper feet placed at the measured distance) and that the child does not “peek” with the eye that is covered and not being tested.

Directions for use of an eye chart vary based on the chart being used. The tester should carefully review screening procedures for the specific chart that is used. The following are general steps for using an eye chart for testing visual acuity.

1. Each eye is tested separately. Tell the student to keep both eyes open during testing. Test the right eye first by covering the left eye with an occluder, a card, or paper cup. Note: A child who has corrective eyeglasses should be screened wearing the glasses. However,



eyeglasses prescribed for use while reading should not be worn when distance acuity is being tested.

2. Instruct the student to read the letter to which you point. (Pointing should be done below the symbol or letter.) Note: With younger children, start with a large line to assure that the student understands the directions.
3. If a student fails the practice line, move up the chart to the next larger line. If the student fails this line, continue up the chart until a line is found that the student can pass. Then move down the chart again until the student fails to read a line. After the student has correctly identified two symbols on the 10/25 line, move to the critical line (10/20 or 20/40 equivalent). To pass a line, a student must identify at least four of the six symbols on the line correctly. Repeat the above procedure covering the right eye.
4. Record results. If a visual acuity of 20/40 or less is established for either eye, arrange a second screening within two weeks to one month. Referral should be made if the second screening results are not improved. In addition, record the name of the test administered.
5. Record screening results, per state and local policy, on student's permanent health record.
6. At the end of the school year record vision screening results on the School Summary of Screening of Vision and Hearing: Report to Principal (LF.011) and Summary of Screening of Vision and Hearing: School Division Report (LF.010).

**Note to Examiners.** Vision results are written and spoken of as one number over another (e.g., 20/20). The figures refer to the distance at which a standard object can be recognized. The top number refers to the number of feet from the eye chart, and the lower number refers to the line of the chart the person is able to read. A person who is nearsighted (myopia) may only be able to recognize at 20 feet an object that a person with perfect vision (20/20) can recognize at 100 feet. In this case, the results would be recorded as 20/100.

**Testing Procedures for Assessing Color Discrimination.** Ideally, screening for color deficiency is recommended in the second semester of the first grade because of educational or vocational implications. There is no treatment. The Ishihara Test is the recommended test and comes with instructions with which the examiner should be familiar before beginning the testing. A room with adequate lighting should always be used.

**Children's Vision Screening Training.** *Prevent Blindness Virginia<sup>®</sup> provides training by certified instructors on the nation's first nationally certified Children's Vision Screening Program. At the time of development of this manual, Prevent Blindness' Children's Vision Screening Training is endorsed by Virginia Society of Ophthalmology, Medical Society of Virginia, and Virginia Optometric Association.*

*The screening test includes the following components:*

- ◆ *Observation: Screener checks the youngster's eyes for signs of problems (e.g., watering eyes and swollen or crusted lids, child's behavior, constant rubbing of the eyes or tilting the head).*

- ◆ *Distance Acuity: Screener checks the child's distance acuity, choosing from recommended charts, to measure a child's ability to see detail from a distance.*
- ◆ *Stereopsis: For children through age nine or third grade, the screener checks if the child's eyes appear to be working together. The screener puts a pair of "special" sunglasses on the child and asks the child to point to which card has a picture. Children whose eyes are not working together do not see a picture. These youngsters run a high risk for having "lazy eye" or amblyopia," which can cause permanent loss of sight in the affected eye. The disorder is treatable when detected early.*

*Prevent Blindness Virginia<sup>®</sup> is an affiliate of Prevent Blindness America,<sup>®</sup> the nation's leading volunteer eye health and safety organization dedicated to fighting blindness and saving sight.*

*For further information on the Prevent Blindness' Children's Vision Screening Training program, vision, and eye health and safety, please contact:*

*Prevent Blindness Virginia<sup>®</sup>  
9840-R Midlothian Turnpike  
Richmond, VA 23235  
Telephone: (888) 790-2020, Virginia toll free; (804) 330-3195, Richmond Area  
Web site: <http://www.pbv.org/>*

**Referral and Follow-Up Process.** Parents of all students who do not perform satisfactorily on a vision screening and subsequent re-test (within two weeks to one month) should be notified by school health personnel. On average, approximately 7 to 8 percent 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 more complete examination by a qualified eye specialist.

Every attempt should be made by school health personnel to work with parents, encouraging follow-up care with their health care provider and getting feedback on any changes that the health care provider recommends, in order that school personnel can make the appropriate educational adjustments.

If a student has been identified as having a visual impairment, school nurses should work closely with classroom teachers to insure any necessary adjustments are made in the classroom so that the student is provided with an optimum learning experience.

## Documentation

**Recording Requirement.** Every principal must keep a record of the testing of the sight of the relevant students and must notify the parent or guardian, in writing, of any defect of vision or disease of the eyes found. (See *Code of Virginia*, § 22.1-273.)

**Proof of Testing the Sight of Pupils.** A record of the testing of the sight of each student can be kept by recording the results on the following form:

- ◆ Cumulative Health Record (Form LF.009).

**Reporting Requirement.** Copies of the sight testing report are to be preserved for use by the Superintendent of Public Instruction, as the Superintendent may require. The following form can be used to preserve the reports as below. (See *Code of Virginia* § 22.1-273.)

- ◆ Summary of Vision and Hearing: Report to the Principal (Form LF.011, 3/95). This form is used to record a summary of the vision screening results for each school, by required grade level. The completed form is sent to the LEA superintendent designee.
- ◆ Summary of Screening of Vision and Hearing: School Division Report (LF.010, 3/95). This form is used to record a summary of vision screening results for each school division, by required grade level. It is a compilation of each school's LF.011.

**Copy of Forms.** See Appendix D for a copy of the following forms:

- ◆ Summary of Vision and Hearing: Report to the Principal (Form LF.011, 3/95).
- ◆ Summary of Screening of Vision and Hearing: School Division Report (LF.010, 3/95).
- ◆ Cumulative Health Record (Form LF.009).

## Resources

AAP Policy Statement: Proposed Vision Screening Guidelines. (1995). *AAP News*, 11 (1).

American Academy of Pediatrics (1996). Eye Examination and Vision Screening in Infants, Children, and Young Adults. Policy Statement (RE9625). *Pediatrics*, 98 (1), pp. 153-157.

American Nurses Association (1994). *Clinician's Handbook of Preventive Services*. Waldorf, Md.: American Nursing Publishing.

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Massachusetts Department of Public Health. (1995). *Comprehensive School Health Manual*. Boston, Mass.: Author.

Merenstein G.B. (1997). *Handbook of Pediatrics 18th Ed.* (pp. 452-453). Stanford, Conn.: Appleton & Lange.

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