Tennessee School Health Screenings Guidelines

TENNESSEE DEPARTMENT OF EDUCATION

TENNESSEE COORDINATED SCHOOL HEALTH

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School Health Screening Guidelines Revision Committee

March 2008

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It is my hope that school health staff utilize this updated *Tennessee School Health Screenings Guidelines* as a tool to successfully screen students for a variety of health concerns. With the expansion of Coordinated School Health to all school systems in Tennessee, all students in grades PreK, K, 2, 4, 6, 8, will receive vision and hearing screening. Those same grades except for PreK will be screened for blood pressure and height/weight. One grade of high school will also be screened for blood pressure and height/weight. Oral Health screenings for students are encouraged but not mandated as is scoliosis screening for 6th graders.

Why screen students for these types of health concerns? Everyone knows that healthy children learn better. For example, if a child cannot hear very well it would be very hard for him/her to concentrate on school work. Likewise, if a student cannot see the board then it will be difficult for him/her to comprehend a classroom lesson. When a health concern is identified early through a regular school health screening, steps can be taken to access needed health care so that health and academic issues do not develop into serious problems.

Take your time and read through the entire manual. You will find helpful sample forms in the Appendices and various resources listed to support your school health screening efforts.

You never know when you might discover a child with hypertension, scoliosis or dental disease whose life will be forever altered because a caring school health professional took the time to ask questions and screen for these types of conditions.

Be well.

Sincerely,

Connie Givens

Connie Givens, Director
Office of Coordinated School Health
Tennessee Department of Education

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GENERAL SCREENING GUIDELINES

WHO CAN CONDUCT SCREENINGS?

Historically, school nurses have been in charge of facilitating and/or conducting school health screenings. In order to complement and expand health care services capacity in school systems it is important to develop community partnerships. Potential partners include employees of local universities, health departments, community hospitals, and non-profit organizations.

Prior to screening, students should be given an explanation of the screening procedures which will take place. This explanation will help to reduce stress and fears of the procedures. Class time before and after the screening could be utilized to teach students about health.

An orientation must be provided to all staff and volunteers that include a review of the general screening guidelines prior to conducting any school health screenings. If trained properly, student nurses, community-based nurses, HOSA students, health science instructors, clinical instructors, school nurses and other community-based volunteers such as members of a local Lions Club can conduct school health screenings. Several sample parent/guardian screening notification forms are available in Appendix B. Also, a couple of sample screening results forms for school records are available in Appendix C. All school personnel should follow local school system protocol regarding the use of background checks needed for all non-school volunteers. Be sure that all volunteers understand that they will not have access to student identifying information that was collected during a school health screening.

PARENT/GUARDIAN NOTIFICATION

Parents/Guardians that do not want their children screened for any health concerns have the right not to have their child screened.

Every student will be screened, unless parents/guardians refuse by signing and returning a form that will be sent home. This is called presumed or passive parental consent (i.e. parent must sign form to decline permission to screen). Several parent/guardian permission examples can be found in Appendix A.

CONFIDENTIALITY

Protecting the confidentiality of student health information is mandatory. All school systems should develop a school district policy regarding student health information confidentiality. A confidentiality agreement form must be signed by anyone outside of the school system who performs school health screenings. Two sample confidentiality forms are provided in Appendix D. Data provided to an external evaluator should not contain any student names.

Questions may be asked about who has access to the STAR STUDENT HEALTH screening/health records. A school official may be asked to sign or disclose the purpose

of their request for the health records of a student. Please note the FERPA guidelines regarding student confidentiality:

FERPA Regulations Title 34 § 99.31 An educational agency or institution may disclose personally identifiable information from an education record of a student without the consent required by § 99.30 if the disclosure meets one or more of the following conditions: (1) The disclosure is to other school officials, including teachers, within the agency or institution whom the agency or institution has determined to have **legitimate educational interests.** School officials include persons employed by the district as an administrator, supervisor, teacher, or support staff member (including, but not limited to transportation personnel); or a person, agency, or company with whom the District has contracted, or otherwise arranged to perform a special task or service. Such individuals have a legitimate educational interest if s/he needs to review an education record in order to fulfill his or her professional and/or official responsibility. A legitimate educational interest also exists where the staff member or other individual works directly with students and needs to review education records to increase his/her awareness of steps necessary for the safety and welfare of students and staff members. (FERPA-Appendix B)

Several resources are provided to develop a policy if needed.

Protecting the Privacy of Student Records: Guidelines for Education Agencies
http://www.nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97527

Guidelines for Protecting Confidential Student Health Information
http://www.nasn.org/store/detail.aspx?ID=9

Privacy Standards for Student Health Records
http://www.nasn.org/Default.aspx?tabid=277

RECORD KEEPING
If your school system has or plans to utilize the STAR Student data collection system, we suggest that all screening results data be entered in the STAR Student health section. The local LEA will need to develop a policy to address an appropriate plan of action for referrals.

POST-SCREENING REFFERRALS
There is no state law or policy that specifies how many attempts a school nurse should make to contact a parent/guardian. The 'rule of 3s' is required for parent/guardian notification for Special Education and in the hospital setting.

Remember that making a referral is only part of the intervention; it is the outcome of the referral that is most important. If you have attempted to reach the parent/guardian, preferably using multiple modalities (letters, phone calls, trying to make contact with the parent/guardian when they come for the parent-child conference, etc.), and you have documented your attempts, then you need to turn over the 'file' to the principal and let him or her decide what steps should be taken next (for example, should a social worker get involved?). When a school nurse sends the information to the principal, always copy

your supervisor, so that he or she knows what steps have been taken and the current status of the situation.

Sending letters home with the student is not recommended, thus making other forms of communication important. However, when using written communication, it is important to keep communication simple - short sentences, easy to read format. General language should be used to describe the student's condition. A request for the parent to contact appropriate staff can be made. Another approach is to assign a home visit by a school nurse or family resource center staff.

It is helpful to provide information about the appropriate services available in the area, the average cost of a visit, and what to expect from the examination. Families of students in managed healthcare programs may need to contact their health insurance plan for information on how to access the appropriate services, including treatment that is available to them.

Source: Dr. Selekman, DNSc, RN, Professor - University of Delaware, Newark, Delaware, editor of " School Nursing: A Comprehensive Text". This publication is sponsored and officially recognized by the National Association of School Nurses and is regarded as the Gold standard for School Nursing Practice.

Coordinated School Health Grant
Required Health Screenings

OVERVIEW SHEET

Parents/Guardians who do not want their child screened for any health concerns have the right to not have their child screened.

Vision

All students in grades PreK, K, 2, 4, 6 and 8 are screened annually. This screening does not require parental/guardian permission; however, parents should be notified of screening results. Other students that should be screened are those new to the school system and those suspected of having a vision problem by their teachers. Specific local school system protocols must be followed.

Hearing

All students in grades PreK, K, 2, 4, 6 and 8 are screened annually. Specific, LEA protocols must be followed.

Blood Pressure

All students in grades K, 2, 4, 6 and 8 and one year of high school (usually wellness class) are screened annually.

Body Mass Index (BMI) (Height and Weight)

All students in grades K, 2, 4, 6, 8 and one year of high school (usually wellness class) are screened annually. This screening requires passive parental/guardian permission. Staff and volunteer training for BMI screenings is required. Specific protocols must be used.

Scoliosis

Schools are encouraged to screen all students in 6th grade for scoliosis. Staff training for scoliosis screenings is required. Specific protocols must be used.

Dental Screening

All schools are encouraged to screen students for oral health problems.

Well Child Visits

Well Child visits need to be encouraged by school staff for all students on an annual basis. These visits can be provided through the school system, the county health department or through a private health care provider.

Health Insurance

It is imperative to ask parents/guardians regarding their access to health care for their children. If they need assistance, you should provide information about TennCare, CoverKids and local county health department services.

Partnerships

In order to compliment and expand health care services capacity in school systems it is important to develop community partnerships. Potential partners include but are not limited to: universities, health departments, community hospitals, and non-profits.

Correspondence with Parents

Please include student information about all health screenings on one letter. Do not single out Body Mass Index results.

VISION SCREENING

Vision Screening Law – T.C.A. 49-6-5004.
Upon registration or as early as is otherwise possible and appropriate, public schools, nursery schools, kindergartens, preschools or child care facilities are encouraged to make reasonable efforts to apprise parents of the health benefits of obtaining appropriate eye and dental care for children.

POLICY: At a minimum, all students in grades PreK, K, 2, 4, 6, and 8 shall receive a vision screening once a year. Screening one year of high school is optional, however whatever year of high school that is selected must be then screened year after year. For example, if the wellness classes were chosen then wellness classes should be screened every year thereafter. If a PreK student has already been screened prior to school entry, then the data from their permanent record can be used instead of re-screening these students. At any point, a student can be referred for screening per local school district protocol.

RATIONALE: According to *Prevent Blindness America* (1998), vision problems affect one out of twenty preschoolers and one in four school-age children. They report that over 80 percent of preschool and school-age children never receive a vision screening. Most persons are visual learners, acquiring approximately 85 percent of all knowledge through vision. Therefore, it is imperative that a possible visual problem be identified as early as possible. Vision screening is the responsibility of the general education program. Each school system in the state of Tennessee is required to conduct system-wide grade level screening. Students in all classrooms in the specified grade level must be screened. This screening does not require active parental/guardian permission; however, parents/guardians should be notified of screening results. Other students who should be screened are those who are new to the school system and those suspected of having a vision problem by their teachers. School systems may utilize school personnel, volunteers, or agencies to conduct their system-wide screening. Minimum procedures for vision screening include distance and near vision acuity. Muscle balance, visual field, depth perception, and color perception may also be included. The *Vision Screening Results Form* may be used to record the results of vision screening.

If a student fails any of the areas below, a second screening should be done as confirmation of the problem. This second screening is a continuation of the initial screening and should be administered on a different day. The practice of confirming the results of the initial screening should reduce errors and/or over-referrals. Failure in one or more of the following areas should be confirmed by a second screening:

- An acuity of 20/40 or less in either eye for distance or near vision for children grades K through 3
- An acuity of 20/30 or less in either eye for distance or near vision for children grades 4 through 12
- A difference of two lines or more between eyes

It is not necessary for students who have already been identified with visual impairments to undergo vision screening and/or a referral to an eye specialist.

REFERRAL FOR EYE EXAMINATION

A vision screening program must include the capacity to make a referral for an eye examination. Follow-up procedures should include appropriate medical examination and intervention. Screening personnel should notify those responsible for follow-up when students fail the screening. Results of the final screening should be recorded in the student's cumulative record or STARS system. Distance and near vision screening results are usually reported as visual acuity and represent central field vision. The optimal distance for testing distant visual acuity is twenty (20) feet. Visual acuity is recorded as a fraction in which the numerator represents the test distance and the denominator represents the row of letters that can be read on the chart. For example, acuity of 20/100 indicates that a child reads at 20 feet what the normally seeing child should be able to read from a distance of 100 feet.

METHODS OF SCREENING FOR POSSIBLE VISION PROBLEMS

Screening of Distance Vision

Screening of distance vision may be done in three major ways: 1) screening at optical distance using a stereoscopic instrument, 2) screening at physical distances using a variety of charts or cards which are manipulated by the screening personnel, and 3) photo screening.

1. Screening using a stereoscopic instrument

Two instruments are typically used for screening at optical distances; the *Keystone Telebinocular* and the *Titmus Vision Tester*. Each instrument includes appropriate cards for assessing near and distance acuity, fusion, muscle balance, depth perception, and color perception when appropriate. Instructions for conducting screening using the *Keystone Telebinocular* and the *Titmus* are provided with the machines. These instructions should be followed very carefully to ensure valid results. Screening personnel should keep in mind that the two stereoscopic instruments mentioned above tend to over-refer. The screener should select a quiet and private place to conduct the screening. The instrument should be placed on a table close to an electrical outlet. It may be necessary to have an electric adapter and a spare bulb. Forms for recording results should be next to the instrument. Chairs should be provided for the child and the screening personnel.

2. Screening at Physical Distances

Screening at physical distances involves the use of a variety of charts, cards, and other materials that are manipulated by the screening personnel. In this method, screening personnel actually measure the physical distance between the student being screened and the various charts or other instruments being used. The room selected for vision screening using the second method should be quiet and provide good lighting. If distance screening is to be conducted in the same room as the other areas to be screened, the room must be large enough to accommodate the screening distance indicated on the chart.

The *Snellen Chart* is considered to be the most reliable instrument for vision screening. Unlike the stereoscopic instruments, use of the *Snellen Chart* is less

likely to result in over referral due to failure on the screening. If a stereoscopic instrument is used in the initial screening and a child fails that screening, it would be beneficial to use the *Snellen Chart* or a similar instrument for the second screening.

The tests for distance vision will not detect the child with hyperopia or farsightedness. The *Plus Lens Test* is a more reliable test to detect hyperopia. The child's vision is checked using the *Snellen Chart* or one of the binocular instruments while wearing plus lenses mounted in a small, inexpensive frame. The plus lenses are of 2.25 diopters for all ages. If the child can see the 20-foot line at twenty feet from the chart with both eyes while wearing these lenses, a referral should be made. Many of the stereoscopic instruments provide their own criteria for screening with the *Plus Lens Test* (Harley, Lawrence, Sanford, & Burnett, 2000).

Screening Very Young Children or Children with Multiple Disabilities
Other charts may screen children who are unable to respond to the Snellen Chart because of developmental level or multiple disabilities. The *Snellen E Chart*, the *Apple, House, Umbrella Test* or the *Symbols for 10 Feet* Chart (Lighthouse International) may be used. Other materials that may be appropriate are the Lea materials and the Home Eye Chart (Vision Associations) for screening preschool children. Vision Associates produces cards to assess the vision of young children or children with disabilities. Their information can be found at: http://www.visionkits.com/acuity.html.

SureSight is more accurate than the titmus machine and the photo screener. It is a portable and fast device that makes testing quick and painless. Some features of SureSight include:

- Five-second, automatic testing that is both fast and efficient
- SureSight's lights and sounds engage the patient's attention
- Minimal cooperation is required, making it ideal for use on young children, the disabled, and when there is a language barrier
- The hand-held, 2-pound (0.9 Kg) SureSight unit and printer can be carried easily from room to room, to your waiting area or off-site.
- SureSight refracts babies, children, and adults. You can even test patients while they're wearing glasses or contact lenses.
- As a result of using SureSight, one school system reduced vision rescreens by almost 50% among their kindergarten students.
- If a student fails the SureSight screen then a rescreen with the titmus is done to confirm the failure.

A checklist titled *Guide to Testing Distance Visual Acuity* (Prevent Blindness) is available in an easy-to-use format. It includes a diagram of room set-up, specific instructions for preparing the child, and interpretation of test results.

3. Photo screening

Photo screening is currently being used by various agencies such as the Lions Eye Center to detect potential vision problems in pre-literate children, ages six months to four years. The photo screener takes two black and white pictures of the eye which are later evaluated by eye care professionals.

Screening at Near Distance

Near vision screening is typically conducted by one of two methods: screening using stereoscopic instruments or screening using near vision test cards.

1. Screening using stereoscopic instruments

The same stereoscopic instruments used for distance screening may also be used to screen for near acuity. While these instruments do tend to over-refer, they do offer some advantages over a hand held chart in that they provide for a constant illumination and object distance (Harley, Lawrence, Sanford & Burnett, 2000, p. 126).

2. Screening using Near Vision Test Cards

Near vision is commonly tested using one of several reading cards which are available from a variety of sources. The reading card is ordinarily held at a distance of fourteen inches from the eye. The reading distance for low vision children and illumination should be recorded. Jaeger and point-print denote size which can be used in designing educational material. Jaeger thirteen to eighteen point type is largely used in books for first grade and low vision children (Harley, Lawrence, Sanford & Burnett, 2000, p. 126). Some examples of reading cards that may be used include the *ETDRS Near Chart* (Prevent Blindness America, 1996), *Rosebaum Pocket Vision Screener* and the *Lighthouse Near Vision Acuity Test*. Many of these cards may be obtained through Prevent Blindness America or Lighthouse International.

CHILDREN'S VISION SCREENING REFERRAL GUIDELINES

Refer the child who shows possible appearance, behavior, or complaint signs of a vision problem.

- Watering eye(s)
- Upper lid touching or partly covering pupil
- Presence of white pupil when looking directly at the child's eyes, or in photo
- Rigid body when looking at distant objects
- Tilting head to one side
- Excessive blinking
- Headaches, nausea, or dizziness
- Burning, scratchy, or itching eyes
- Unusual sensitivity to light
- Eye(s) turning inward or outward
- Red-trimmed, encrusted or swollen lids
- Sty's or infections
- Possible eye injury
- Thrusting head forward
- Squinting or frowning
- Closing or covering one eye
- Blurred or double vision
- Sees blur when looking up after work

GUIDELINES FOR THE DISTANCE ACUITY SCREENING (SNELLEN CHART)

Age of Student	**Starting Line**	**Refer the child who does not pass the line with one or both eyes when re-screened.**
5 years and younger	20/50	20/40
6 years and older	20/40	20/30

Source: Adapted and modified from Prevent Blindness

Source: ED – 4071 / 2003: Screening and Interventions in General Education, Department of Education

HEARING SCREENING

POLICY: At a minimum, all students in grades PreK, K, 2, 4, 6, and 8 shall receive a hearing screening once a year. Screening one year of high school is optional however whatever year of high school that is selected must be then screened year after year. For example, if the wellness classes were chosen then wellness classes should be screened every year thereafter. At any point a student can be referred for screening per local school district protocol.

RATIONALE: The objective of the hearing screening program is to identify students with possible hearing deficits at the earliest possible stage in order to refer for diagnosis and treatment, if required. Hearing deficits in children can interfere with normal speech and language development, communication, and with the ability to learn. It is estimated that one-third of children with minimal or unilateral hearing loss fail a grade. Loss of hearing is considered a "hidden handicap." It is important to detect even mild hearing loss in order to treat the problem or compensate for the loss when possible. Children with mild to moderate hearing deficits may be at a disadvantage educationally, emotionally, and socially.

PURETONE AUDIOMETRIC SCREENING

The American Speech and Hearing Association recommends that screeners be trained by an audiologist. This screening assesses the ability to hear single tones, presented at varying levels of pitch. If the individual hears the tone, they indicate that they have heard the tone using a pre-arranged signal to the screener. The result is recorded as "Pass" or "Fail."

1. Screening Equipment
   - Schedule a room that is as quiet as possible. Consider all noise; plumbing, heating/cooling systems, traffic, office machines, appliances, fluorescent light "buzz," talking in adjoining rooms, music.
   - Have a desk or table that will provide space for the audiometer and recording materials. Two chairs will be needed for the screener and the individual to be screened.
   - Leave the audiometer on all day when screening.
   - Set all connections, dials, and switches on the audiometer in the correct position.
   - Screen yourself, or another person who is known to have good hearing, before doing any screening to be sure the audiometer is working properly.
   - Audiometers should be calibrated by a qualified technician, at least annually.
   - There should be a "standard precautions" policy and procedure in place to assure earphones are properly cleaned between children.

2. Preparing the Student for Testing

   Do not screen children with a known hearing loss who wear a hearing aid, or who are under the regular care of an ENT provider. Consider each student individually; some precocious children three years old can be screened audiometrically, but some children ten years old cannot.

- Seat the student in a chair facing away from the examiner so the person whose hearing is being screened cannot watch the audiometer or the screener's movements and expressions. Shy, and other difficult to screen children may need to be screened facing the examiner with their eyes closed.
- Give test instructions before putting the earphones on the individual, and determine how they will indicate they have heard a sound.
- Tell them they will hear some tones or "beeps" and that they should respond to the sound even if it is "very soft or tiny." The individual could respond by one of the following ways:
    - Raising hand
    - Saying "yes" or "I hear it"
    - Nodding head
    - Holding block, chip, or bead close to ear then dropping it into a container when the sound is heard (use with young children)

INDIVIDUAL SWEEP SCREEN PROCEDURE

After the student has been instructed in the procedure, begin the screening:

1. Put the earphones in place.
2. Make sure hair is not under the earphone and that earrings are removed.
3. Adjust earphones so they fit snugly over the outer ear, with the speaker (center) of the earphone over the ear canal.
4. The RED earphone should be placed on the RIGHT ear, the BLUE on the LEFT ear.
5. Set the LOUDNESS dial to 20 decibels (dB). If you are in an environment with some ambient noise that cannot be eliminated, the screening should be rescheduled or relocated to a quieter environment.
6. Set control so that the tone or stimulus comes only after the examiner activates the switch.
7. Present stimulus twice as a short tone of approximately 1-2 seconds.
8. Do not present the stimulus in such a rhythm that the person being screened is given clues as to when to respond. Screen the frequencies in this order:

    1,000
    2,000
    4,000

9. When screening older students, you may wish to screen at 6,000 to detect noise-induced hearing losses.
10. Mark the results as Pass or Fail for each frequency
11. Screen the LEFT ear in the same manner. Tell the person being screened when you are changing to the other ear.

INTERPRETATION OF SCREENING RESULTS

Individuals who pass all frequencies in each ear are presumed to have normal hearing.

- Rescreen any individual who fails one or more frequencies in one or both ears.
- Rescreens also may be done on the basis of observations and/or symptoms.

- If you are doubtful about the validity of screening results, indicate that on the recording form.

RESCREENING PROCEDURE

Rescreening may be done at the time of screening. Earphones should be removed and then repositioned, checking carefully to be sure the ear canal is not soft and collapsed due to placement of the earphones. If this appears to be a problem, the ear can be pulled up and back, or the skin in front of the ear gently pulled forward as the earphones are placed.

- Instructions should be repeated to be sure student understands the procedure. Rescreening may done up to two weeks later if the student has cold and allergy symptoms. This time period may allow symptoms to clear.
- Prepare screening site and equipment as for Individual Sweep Screen.
- Set loudness dial at 20 decibels.
- Screen the frequencies in the same order. Present each frequency twice. If the student fails to respond one of two times, it may be repeated to assure that it was not a lack of attention that caused the lack of response. If both presentations are missed, it should not be repeated. Screen hearing in each ear. Record as "P" those sounds heard at 20 dB, record as "F" those tones not heard at 20 dB.
- Refer for medical and/or audiological evaluation any individual who misses one or more frequencies in one or both ears. In schools, an audiologist may be asked to do an "individual threshold test" prior to referral. This information may be helpful to the professional doing the evaluation.
- It is estimated that about 3-9 percent of students will fail a hearing screen and warrant a referral.

USE OF VOLUNTEERS

Volunteers may be useful during the initial sweep screening to assist with the flow of students through the screening procedure. Some volunteers may be trained to conduct the initial sweep screen. Holding a volunteer instruction session is helpful for all new volunteers, and should be scheduled close to the day of the screening. During the training session, familiarize volunteers with the audiometers, screening forms and procedures. Having volunteers who feel comfortable with the equipment increases accuracy during the screening procedure. All volunteers should be counseled regarding confidentiality issues.

SCHOOL SCREENING PROCEDURE

1. Administer an initial sweep screen, presenting tones at 1,000, 2,000, and 4,000 Hz, in each ear, at 20 decibels.

2. Record as Pass or Fail at each level. If one or more frequencies are failed, in either or both ears, schedule for rescreening. It is sometimes helpful to wait for an interval of 10 days to two weeks for colds, allergies to resolve. However, knowing that a student has a hearing impairment when the child has allergic symptoms is important information, especially when the hearing impairment clears when the child is treated with medication. Make a note if the child is on medication and passes the rescreening.

3. Rescreen with the same procedure. If the student still fails one or more frequencies in one or both ears at 20 decibels, they should be referred for further evaluation.

4. If the school has an audiologist, they may be asked to perform an individual threshold test to determine the need for a referral.

5. If the school speech and hearing specialist does routine hearing screening, the nurse may collaborate to ensure adequate referral follow-up. It is not appropriate to make adjustment for a noisy environment, i.e., increasing the level of decibels above 25 for the screening. The range of normal hearing is –10 to 20 decibels. Increasing the decibel level while screening could overlook children that should be referred for evaluation. Screening for hearing problems during "health fairs" is not productive unless the facility provides a quiet environment in which to screen, e.g., sound-treated van.

All failures on initial screen should be rescreened to confirm the need for further evaluation. There are a few obvious conditions that might warrant an immediate referral, but in most cases, the rescreening will eliminate some unnecessary referrals. Failure may be due to misunderstanding of directions, misinterpretation of information, poor placement of earphones, student fatigue or the inability to attend to testing. In addition, the student's past health history, teacher observations and history of previous screening and outcome of referrals should be considered in making a referral decision.

TEACHER NOTIFICATION

The nurse should notify the child's teacher(s) that the child has been referred for a possible hearing impairment. In addition to being alert to the possibility the child is having hearing difficulty, the school personnel are often in a position to reinforce the need to follow through on the referral. It is important to monitor the child closely; documenting the nurse and teacher concerns for the effect the suspected hearing impairment is having on the child's education. These concerns need to be communicated to the parent/guardian. Trying to establish the reason for failure to have the child examined will often uncover the need for additional resources or information.

Source: GUIDELINES FOR HEARING SCREENING, Missouri Department of Health and Senior Services, September 2004.

HEARING LOSS SYMPTOM CHECKLIST

If a child has one or more of these symptoms, the child may have difficulty hearing and should have their hearing checked as soon as possible.

MEDICAL SYMPTOMS

- If a child has a bad odor or smell from his/her ear
- If a child has repeated bouts of upper respiratory infections, running nose, chronic cough or ear infections
- If a child pulls, rubs or digs his/her ears
- If a child's outer ear looks red or feels warm

LISTENING SYMPTOMS

- If a child is easily distracted or frustrated in a group
- If a child does not respond consistently to his/her name or live voice
- If a child cannot understand you if his/her back is turned
- If a child has difficulty finding the source of a sound
- If a child needs verbal instructions repeated several times before he/she understands
- If a child consistently turns the tape, CD, television or computer speaker up louder

BEHAVIORAL SYMPTOMS

- If a child does not particularly like listening to tapes, CDs, television or listening activities such as rhymes, sound games etc
- If a child is very inattentive during story time
- If a child watches your face and eyes for visual clues of meaning
- If a child depends on visual clues to successfully complete simple verbal tasks
- If a child has a short attention span for his or her age

SPEECH/LANGUAGE SYMPTOMS

- If a child has poor or delayed language development
- If a child has poor articulation of speech sounds
- If a child has poor sentence structure and speech patterns
- If a child talks in an extremely loud voice or extremely soft voice

Source: Janet Coscarelli, CCC-A, CCC-SL
Tennessee Head Start State Collaboration Office

Sample hearing screening forms can be found in Appendix C.

BODY MASS INDEX (BMI)
(Height and Weight)

BMI Law - TCA 49-6-1404
Nutrition and physical activity programs in schools where aggregate data suggests high rates of overweight children may be a problem are encouraged to expand existing or implement new school-based nutrition and physical activity programs designed to reduce those rates. The effectiveness of these results could be determined by completing a BMI on the schools' students whose parents/guardians have not requested exclusion.

POLICY: At a minimum, all students in grades K, 2, 4, 6, 8 and one year of high school (usually wellness class) are screened annually. Whatever year of high school has been selected for screening must then be screened year after year. For example, if the wellness classes were chosen then wellness classes should be screened every year thereafter. Staff training for BMI screenings is required. Specific protocols must be used.

RATIONALE: The rapid increase in overweight among children and adolescents is generating widespread concern. Since the 1970s, the prevalence of overweight among children has more than doubled for preschoolers ages 2-5 and adolescents ages 12-19, and it has more than tripled for children 6-11 years. Nearly one-third of children and adolescents, of both sexes, aged 6-19 years (31.0%) are considered to be either at risk for overweight or overweight, defined as at or above the 85th percentile of the sex-specific BMI-for-age growth chart, and 16% are overweight or at or above the 95th percentile of the sex-specific BMI-for-age growth chart.

IMPLEMENT SIX SAFEGUARDS BEFORE CONDUCTING WEIGHT SCREENING*
Screening children to identify potential weight problems can contribute to positive health outcomes but, if done without sensitivity, can have negative effects on emotional well-being. On the positive side, students at both ends of the weight spectrum can be objectively identified and referred for additional evaluation and possible intervention. On the negative side, weight screening that results in labeling a child as "too fat" or "too thin" can damage self-esteem and may increase susceptibility to eating disorders. The decision to conduct weight screenings should be made by the local school board after careful review of proposed screening procedures. Schools should not initiate weight screening unless the following six safeguards are in place:

Safeguard 1: Learning Environment
Schools have fully implemented the recommendations for Creating A Safe and Supportive Learning Environment by implementing a Coordinated School Health Initiative.

Safeguard 2: Classroom Instruction
Teachers have instructed students in a way that counteracts social pressure for excessive slenderness and enhances the students' understanding of the healthy weight concept. Important concepts that need to be conveyed to students include:

- There are different body types; some body types are naturally associated with more body weight.

- A range of weights is normal. People can be healthy at many weights and look very different from one another.
- It is not normal and it is not possible for every person to be the same size and shape.
- Students have the ability to make healthy food choices.
- Daily physical activity contributes to overall health and healthy weight.
- Sedentary behaviors can contribute to weight gain.
- Normal growth and development patterns affect body shapes and sizes, especially at puberty.
- Subtle media messages suggesting that only thin people are happy or attractive should be challenged.

Safeguard 3: Parental/Guardian Permission

A system is in place to notify parents/guardians of impending weight screening and to obtain parent/guardian permission for the weight screening through passive consent. Make sure that any form returned by a parent/guardian that indicates they do not want to have their child screened is on file. Parental/guardian involvement is critical. Invite parents/guardians to a meeting to discuss the screening if necessary. Preparation on the front end will ensure a minimum of problems later.

Safeguard 4: Referral System

A system is in place for referring students for further evaluation and help. It is inappropriate and possibly harmful to identify a child as having a potential problem with weight unless some source of referral for further assessment and help can be offered. If the parent/guardian does not respond to the referral suggestions then follow your school system's protocol for follow-up. If such a protocol does not exist, it is strongly recommended that this be developed in partnership with School Nurses, Coordinated School Health Coordinator, and Family Resource Center Director.

Safeguard 5: Staff Training

All school staff participating in weight screenings have received training and have demonstrated proficiency in screening techniques and interpretation of screening results.

Safeguard 6: Respectful Screening

A screening process has been designed that protects the self-esteem of students and avoids labeling students. Whatever the results of the weight screening, school personnel should not label any child as overweight, obese, underweight, too thin or anorexic. For the purpose of school weight screening, if a child's Body Mass Index for-Age (BMI) exceeds the 85th percentile or falls below the 5th percentile on the BMI-for-Age growth chart, the Healthy Weight Advisory Group recommends the wording, "weight which may place a child at health risk". Maintain privacy in the assessment process. Only the person screening the student observes the results. For example, the screener can use an office or a screen to help maintain privacy. Height and weight should not be announced to the student or any other nearby adults.

The results of the screening should be kept confidential. For younger children in grades K-3, the teacher should not tell the students the results of the screening. Results should only be shared with the child's parents/guardians. Younger students do not have the cognitive skills to process the results and use them to shape personal behavior.

A respectfully worded letter should be developed to notify parents/guardians if a child's weight may present a health risk. The letter should not label the child but should request that the parents/guardians seek further assessment by a health care professional. Parents/guardians should be sent a letter when the student's weight falls below the 5th percentile or above the 85th percentile on the BMI-for-Age charts published by the Centers for Disease Control and Prevention **www.cdc.gov/nccdphp/dnpa/bmi/bmiforage.htm**.

No comments on weight should be offered during the measurement process. Neutral comments such as, "Thanks, you can get off the scale now," are appropriate. Younger children and students who are anxious about the weighing process can be positioned with their backs to the scale during measurement. If a student makes a negative remark about his or her own weight, it is appropriate to respond with a supportive response such as, "Good bodies come in all shapes and sizes". All students should undergo the same measurement procedures. No one child should be singled out for additional measurements because of physical appearance or weight. To minimize teasing, all students should line up in the screening area, even if their parents/guardians have excused them from the screening process.

* Implementation of Safeguards for measuring children is adapted from the Michigan State BMI measurement protocol.

GATHERING ESSENTIAL RESOURCES

Resources essential to this project fall into three categories: Community Involvement, Data Collection Personnel, and Equipment. Before any data is collected, the participation and enthusiasm of the community should be solicited to insure validation of the process and interest in the results. It is imperative that school system administrators are supportive of the system and willing to participate. The recommended partners are suggested resources for logistics of data collection and management, and are not limited to those listed.

RESOURCES

Recommended Partners

Local Health Councils	HOSA Students
School administration	PTA/PTO
Hospitals	Parent volunteers
Local health department	School psychologist/guidance counselor
Health Science Instructors	UT Extension

Local institutions of higher education

Data Collection Personnel

- Minimum of 2 people are needed with the cooperation of the classroom teacher (see Data Collection section for specific job assignments)
- Training (see training section)
- Personnel suggestions

Health Educators	PE/Health/Wellness Teachers
Nutrition Staff	College Students
School Nurse	Parent/Community volunteers

Equipment

1. Scale
2. Scale calibration weights
3. Stadiometer (measures height)
4. Data collection form
5. Privacy screen
6. Lock box for data storage
7. Parental/guardian permission request form (see Appendix A for samples)
8. Measurement follow-up parent/guardian letters (see Appendix B for samples)
9. Quality assurance notebook

WEBSITE RESOURCES

This website list was compiled for parents, school personnel and interested individuals. The websites listed are reliable sources of nutrition, physical activity and weight management.

American Dietetic Association
http://www.eatright.org
Arkansas BMI Project
http://www.achi.net/
Center for Health and Health Care in Schools – Parents Resource Center
http://www.healthinschools.org/parents/index.htm
Center for Health and Health Care in Schools – teen site
http://www.healthinschools.org/students/
The Center for Disease Control (CDC)
http://www.cdc.gov
The CDC site for Healthy Youth
http://www.cdc.gov/HealthyYouth/index.htm
Childhood Obesity: A Food and Nutrition Resource List for Educators and Researchers
http://www.nal.usda.gov/fnic/pubs/bibs/topics/weight/childhoodobesity.html
Fruits and Veggies: More Matters
http://www.fruitsandveggiesmorematters.com
http://www.fruitsandveggiesmorematters.gov
4GirlsHealth
http://www.4girls.gov/index.htm

Institute of Medicine: Preventing Childhood Obesity
http://www.iom.edu/report.asp?id=22596
My Food Pyramid
http://www.mypyramid.gov
Tennessee Department of Education, Child Nutrition Programs
http://snp.state.tn.us
Tennessee Department of Education, Office of Coordinated School Health
www.tennessee.gov/education/schoolhealth
Tennessee Department of Health
http://health.state.tn.us/nutrition/index.html
UT Extension Service
http://www.utextension.utk.edu/topics/FoodNutrition/default.asp
United States Department of Health and Human Services – Child and Adolescent Health
http://www.ahrq.gov/child/
United States Department of Agriculture/Agriculture Research Service Children's Nutrition Research Center at Baylor College of Medicine, Houston, Texas.
http://www.bcm.edu/cnrc/bodycomp/bmiz2.html
Weight Control Information Network: Helping Your Overweight Child
http://win.niddk.nih.gov/publications/over_child.htm

EQUIPMENT CONSIDERED EFFICIENT AND "USER" FRIENDLY" FOR MEASUREMENT OF WEIGHT AND HEIGHT

SCALES

BRAND & MODEL	TECHNOLOGY & CAPACITY	MANUFACTURER
Seca 770	Electronic, 440 pounds, digital	Seca Corporation 1352 Charwood Road Suite E Hanover MD 21076 1-800-542-7322
Seca 881	Electronic, 440 pounds, digital	Seca Corporation
Seca 881	Electronic, 440 pounds, digital	Seca Corporation
Seca 880	Electronic, 440 pounds, digital	Seca Corporation
Seca 841	Electronic, 330 pounds, digital	Seca Corporation
Seca 840	Electronic, 330 pounds, digital	Seca Corporation
Tanita BWB 800S	Electronic, 440 pounds, digital	Tanita Corp. of America 2625 S. Clearbrook Drive Arlington Heights, IL 60005 1-877-682-6482

STANDING MEASURING UNITS

Portable Stadiometers

BRAND & MODEL	TECHNOLOGY & CAPACITY	MANUFACTURER
Seca 214	portable	Seca Corporation 1352 Charwood Road Suite E Hanover MD 21076 1-800-542-7322
Seca 225	Freestanding platform and transport castors	Seca Corporation
Perspective Enterprises PE-AIM-101	Portable	Perspective Enterprises Portage MI 1-800-323-7452

PRIVACY SCREENS

BRAND & MODEL	SPECIFICATIONS	MANUFACTURER
Portable Room Divider		Port-A-Wall 1053 Home Run Lane Bedford, VA 24523 1-866-802-0217 www.portawall.com
Model 313	Overall Height 69”	Pro-med Products 1-800-542-9297
Model 363	Overall Height 69”	Pro-med Products
Omnimed Beam Economy Folding Screen		Medical Resource USA 1-800-330-3591 http://store.medicalresourceusa.com
Winco 363 Folding Three-Panel Screen		Medical Resource USA
Winco 364 Folding Four-Panel		Medical Resource USA

CALIBRATION WEIGHTS

BRAND & MODEL	SPECIFICATIONS	MANUFACTURER
Calibration weights	Precision weights, magnetic susceptibility >.01	Troemner 1-800-249-5554 www.troemner.com
Calibration weights	Meets ASTM specifications	Scientech 1-978-521-7095 sales@balances.com
Test Weights	Meets ASTM specifications	Seca Corporation 1352 Charwood Road Suite E Hanover, MD 21076 1-800-542-7322

LOCK BOX

Any type of lock box can be used. The only requirement is that it locks, in order to keep all measurements confidential.

$$\text{BMI} = \frac{\text{(Weight in Pounds)}}{\text{[(Height in Inches x Height in Inches)]}} \times 703$$

SUMMARY OF MEASUREMENT PROCEDURES

- Set up measurement stations with the appropriate equipment
- Privacy Screen to keep process confidential
- Stadiometer
- Scale
- Quality Assurance Notebook
- Calibration weights
- Lock Box
- Calibrate the scales and record data in the quality assurance notebook
- Prepare the child for measures
- Remove shoes, glasses, jewelry and any extra clothing such as jackets
- Empty pockets
- Measure the child
- Height in inches
- Weight in pounds
- Record data on data collection form
- Check that all data is recorded on data collection form and place form in lock box
- Instruct child to return to his/her teacher/classroom

SUMMARY OF WEIGHT MEASUREMENT

- "Zero" the scale (if digital)
- Child steps up on the center of the scale and stands in the direction as to not see their individual weight on the scale
- Body weight is evenly distributed between both feet
- Arms hang freely by the sides of the body, palms facing thighs
- Head is up and facing straight ahead
- Weight is recorded to the nearest 0.2 pounds (or appropriate unit for the scale)

TRAINING FOR RELIABLE RESULTS

The training section of the surveillance system is intended to provide for accurate, proficient, sensitive data collectors. These standardized training tools will assist system administrators in training new personnel. The objectives for training are: standardization of methods for measurement and sensitivity in addressing questions and comments from the student being measured.

Along with training, data collection personnel must sign a confidentiality statement that will be kept on file.

ACCURATELY WEIGHING AND MEASURING CHILDREN AND ADOLESCENTS

As you begin the process of collecting BMI data in schools, there are a few key concepts that need to be explored. In collecting data, the most important factors are to develop reliable techniques, to use calibrated equipment, and to perform accurate measurements.

1. Scales for weighing children and adolescents

Spring balance scales such as bathroom scales should not be used to weigh children or adolescents. These scales are not accurate over a variety of weights and the spring counter balance loses accuracy over time. Many spring balance scales can not be read accurately to less than one-half pound. The reading of bathroom scales is often distorted since the dial is on the floor rather than at eye level. A suitable scale is a quality beam balance or electronic scale that can be easily calibrated.

- Equipment must be used for the purpose for which it was designed.
- Do not use bathroom scales to weigh children or adolescents.
- If scales are moved from school to school they must be recalibrated each time.

It is desirable that the scale weigh in 100 gram or ¼ pound increments. Safety and accuracy dictate that the scale has a large enough platform for support of the individual being weighed.

The scale should have a function so that it can be "zeroed". Standard weights should be available to calibrate the scale. Beam balance scales should have "screw type" provision for immobilizing the zeroing weight. Length devices attached to scales are notably inaccurate because they do not have a stable platform.

2. Stadiometers for measuring children and adolescents

Stadiometers are available in two types. The first type is permanently fixed to the wall. The second type is portable. The most common failing of a portable stadiometer is a base that is too small. When the base is too small, the stadiometer is not stable and entirely perpendicular to the floor.

- Equipment must be used for the purpose for which it was designed.
- No tapes, yardsticks or graphics should be attached to the wall.
- Do not have carpet under stadiometer.
- Stadiometer must be stable, calibrated and dedicated to the purpose.

An accurate stadiometer for stature/height measurements is designed for and dedicated to stature measurement. An appropriate stadiometer requires a vertical board with an attached metric rule and a horizontal headpiece that can be brought into contact with the most superior part, or top, of the head. The stadiometer should be able to read to 0.1 cm or 1/8 inch.

Although it would seem efficient to use a stature device attached to a scale, height attachments on scales are never used. They are inaccurate because they do not provide a firm platform for the measurement and they are relatively sharp, and thus pose a risk for harm to the person being measured.

3. Assuring accurate, reliable equipment

Maintenance is a regular, daily event.

- It requires that scales be checked and "zeroed" before each daily screening.
- It requires that stadiometers be checked and "zeroed" before each daily screening.

Calibration is a daily event.

- It requires that scales be "tested" with standard weights at least on a daily basis.
- It requires that movable scales be calibrated after each time the scale is moved.
- It requires that moveable stadiometers be checked with standard rods after each time the equipment is moved.

4. Critical components

The two most critical components of measuring are 1) accuracy and 2) reliability.

> Accuracy is defined as the degree to which a measurement of an individual corresponds to his or her actual weight or stature.
>
> Reliability is defined as the degree to which successive measurements of the same child agree within specified limits.

Both accuracy and reliability are to some degree a function of the quality of the equipment used for the measurements. Measurers are frequently expected to perform accurate and reliable measures on equipment which is not designed for performing accurate measurements. On the other hand, if appropriate equipment is available, it is often not properly maintained or is improperly used.

Often equipment is deemed to be expensive and is not purchased, or inferior or improvised equipment is used. Quality, easily calibrated and well maintained equipment is a good investment and will provide years of accurate and reliable service. Because quality equipment is durable, the seemingly high initial investment costs for quality equipment can be amortized over 20 or more years of service.

Using the same measuring instrument over time increases accuracy and reliability therefore, it is strongly recommended that the same equipment be used for subsequent screenings.

5. Gathering parameters of measurement accuracy

Degree of refinement of a measure The measurement is recorded to:	Tolerance of a measure Two measures should agree within:
Child weight: 0.01 kg, 10 gm, or ½ oz	Child/adolescent weight: 0.1 kg, 100 gm, or ¼ oz
Child height: 0.1 cm or 1/8 inch	Child/adolescent height: 1 cm or ¼ inch

To address quality assurance issues, there are two sets of numbers of interest. The first set is the degree of refinement of a measure. That is, the degree to which a measure is recorded. For example, child weight is recorded to 0.01 kg, 10 grams, or ½ ounce. If a child was weighed to only 0.1 kg, 100 grams, or 3 ounces, a rate of weight gain of less than 100 grams would not be reflected in the measure.

The tolerance of a measure is the difference between two measures that is accepted as reasonable accuracy. The tolerance of a measure is generally larger than the degree of refinement of a measure. For example, the weight of a child is recorded as 3.12 kg and on re-measuring it is recorded as 3.13 kg. These measures are within an acceptable tolerance. If however, the child was weighed at 3.12 kg and a second measure was recorded as 3.11 kg, the average of the two closest measures would be recorded.

The tolerance of a measure is generally larger for measures of older children and adolescents because small changes are less critical for the interpretation of growth.

6. Weighing children and adolescents: Equipment and Calibration

It is assumed that the scale is appropriate for weighing a child or adolescent and is calibrated with a set of standard weights. It is important that the child or adolescent be weighed using procedures consistent with those by data collectors as other collection sites in order to establish accurate, reliable baseline data.

- A child older than 36 months is weighed standing on a scale.
- Use a calibrated beam balance or electronic scale.
- Child must be able to stand without assistance.

7. Weighing Children and Adolescents: Procedures

For all children, there is a need to respect privacy. Privacy includes where the measurements are taken, clothing removal, describing the measuring process, and interpreting the numbers.

- Child wears lightweight outer clothing.
- Child stands on center of platform scale, facing away from the scale.

8. Weighing Children and Adolescents: Quality of Measurements

The child is weighed wearing only lightweight clothing. The child stands on the center of the platform of the scale. For privacy, the child must be weighed facing in the direction so as not to see their individual weight on the scale.

The weight is recorded to the nearest 0.01kg or ½ oz.

- The weight is recorded on the data form. The individual is repositioned and the weight measure is repeated.
- The measures are compared; they should agree within 0.1 kg or ¼ lb.
- If the difference between the measures exceeds the tolerance limit, the child should be repositioned and re-measured a third time. The average of the two measures in closest agreement is recorded.

9. Measuring Child and Adolescent stature: Equipment and Preparation

Stature or height is measured for children over the age of 24 months who can stand unassisted. Accurate measurement of stature requires the use of a calibrated, vertical stadiometer with a movable headpiece, perpendicular to the vertical backboard.

- Measure stature for children over 24 months of age.
    - Use a calibrated vertical stadiometer with a right-angle headpiece.
    - The child is measured standing with heels, buttocks, shoulders and head touching a flat upright surface.

10. Measuring Child and Adolescent Stature: Procedures

The child or adolescent should stand on the footplate of the stadiometer without shoes. The person is positioned with heels close together, legs straight, arms at sides, shoulders relaxed. Ask the child to inhale deeply and to stand fully erect without altering the position of the heels. Make sure that the heels do not rise off the foot plate.

Lower the perpendicular headpiece snugly to the crown of the head with sufficient pressure to compress the hair. Hair ornaments, buns, braids, etc. may be removed to obtain an accurate measurement.

To ensure an accurate reading, the measurers' eyes should be parallel with the headpiece.

- Child or adolescent stands against stadiometer without shoes, with heels together, legs straight, arms at sides, shoulders relaxed.
- Child should look straight ahead.
- Bring the perpendicular headpiece down to touch the crown of the head.
- Measurers' eyes should be parallel with the headpiece.

11. Measuring Child and Adolescent Stature

- The measure is read to the nearest 0.1 cm or 1/8 inch and recorded on the data form.
- The person is repositioned and re-measured.
- The measures should agree within 1 cm or ¼ inch.

This website will calculate height percentile for you. It saves time to utilize this when determining blood pressure percentile:

http://pediatrics.about.com/cs/usefultools/l/bl_kids_centils.htm

Children with Physical Disabilities

Children with physical disabilities require specialized measuring equipment not appropriate for this type of screening. An example would be a child with a cast or a child in a wheelchair.

QUALITY ASSURANCE

The main points of measurer quality assurance are straightforward.

First, set a date to train new data collectors. Make sure there is documentation that all volunteers have been trained and that the documentation is on file with the school administrator.

Second, calibrate scales with standard weights.

The data collected that reflects attention to precision and accuracy of measurements by trained measurers will be very good documentation for assuring quality of data in reports and funding proposals.

For sample quality assurance forms, refer to the BMI manual that is distributed by the Tennessee Department of Health, Nutrition Services Division. A BMI manual and BMI instructional video are available by calling Tennessee Department of Health, Nutrition Services Division at 615-741-7218 or Tennessee Department of Education, Office of Coordinated School Health at 615-532-6300.

TOOLS TO CALCULATE BMI

The CDC has several tools to calculate BMI on their website.
http://www.cdc.gov/nccdphp/dnpa/growthcharts/resources/index.htm#interpretation

- BMI Percentile Calculator for Child and Teen provided in both English and Metric versions.
- CDC Table for Calculated Body Mass Index Values for Selected Heights and Weights for Ages 2 to 20 Years (PDF - 168K)
- Checkbook size BMI Table for Children and Adolescents (PDF-404K)
- Body Mass Index Measurement in Schools
  http://www.cdc.gov/HealthyYouth/overweight/BMI/pdf/BMI_execsumm.pdf

Sources:
Assessing Body Mass Index (BMI) in Schools, Tennessee Department of Health Nutrition and Wellness, October 2007 (Revised), Special Thanks to the Coordinated School Health Program, This Manual was adapted from the Tennessee Coordinated School Health Program BMI Protocol Manual.

Maternal and Child Health Bureau. "Accurately Weighing and Measuring: Developing and Rating Your Measurement Technique". Department of Health and Human Services.
(Online) **http://depts.washington.edu/growth/index.htm** July 2003

Maternal and Child Health Bureau. "Accurately Weighing and Measuring: Equipment". Department of Health and Human Services.
(Online) **http://depts.washington.edu/growth/index.htm** July 2003

Maternal and Child Health Bureau. "Accurately Weighing and Measuring: Technique".
Department of Health and Human Services.
(Online) **http://depts.washington.edu/growth/index.htm** July 2003

The Center for Health and Health Care in Schools, School of Public Health and Health Services, Graduate School of Education and Human Development, The George Washington University Medical Center, March 2005 **www.healthinschools.org**

BLOOD PRESSURE SCREENING

POLICY: At a minimum, all students in grades K, 2, 4, 6, 8, and one year of high school (usually the wellness classes) shall receive a blood pressure screening once a year. Whatever year of high school has been selected for screening must then be screened year after year. For example, if the wellness classes were chosen then wellness classes should be screened every year thereafter.

Additionally, all students who present with signs and symptoms that indicate a need should have their blood pressure (BP) status assessed and monitored. Education, counseling, and referral should be offered as indicated by the assessment.

RATIONALE:

- Mortality due to hypertension and heart disease in Tennessee is among the highest in the nation.
- Early identification followed by successful treatment may prevent heart disease, stroke and kidney failure.
- Elevated BP may be an early indication of the presence of other disease, stroke and kidney failure.
- Screening presents an excellent opportunity for health promotion related to cardiovascular health with a population of emerging adults.

STANDARDS:

In children and adolescents, the normal range of BP is determined by body size and age. BP standards that are based on gender, age, and height provide a more precise classification of BP according to body size. Normal BP in children and adolescents is defined as systolic BP and diastolic BP that is < the 90th BP percentile for gender, age, and height. Prehypertension in children and adolescents is defined as average systolic BP and/or diastolic BP levels that are > or = the 90th BP percentile but < the 95th BP percentile for gender, age, and height on three or more occasions. Prehypertension is an indication of heightened risk for developing hypertension. Children and adolescents with BP levels > or = 120/80 mm Hg but < the 95th BP percentile should be considered prehypertensive.

Hypertension in children and adolescents is defined as average systolic BP and/or diastolic BP that is > or = the 95th BP percentile for gender, age, and height on three or more occasions. When diagnosing hypertension, health care providers classify hypertension according to two stages – Stage 1 and Stage 2. Stage 1 hypertension is an average systolic BP and/or diastolic BP that is between the 95th BP percentile and the 99th BP percentile plus 5 mm Hg, inclusive. Stage 2 hypertension is an average systolic BP and/or diastolic BP that is > the 99th BP percentile plus 5 mm Hg. For the purpose of screening referral, hypertensive levels within the Stage 2 classification will warrant priority referral.

School nurses should organize and implement a BP assessment program, which includes screening and education of risk factors associated with hypertension and cardiovascular disease. Screening may be accomplished as a collaborative community effort with qualified staff from other agencies or with trained volunteers under the school nurse's supervision. If volunteers are used, training regarding confidentiality should be a component of the training content.

Screening must be conducted in a quiet environment with necessary equipment. When measuring BP, use a stethoscope, sphygmomanometer and correct size cuffs (pediatric, adult or large adult). A manual or hospital grade BP cuff can be used. The preferred method of BP measurement is auscultation. Measures obtained by oscillometric devices that exceed the 90th BP percentile should be repeated by auscultation. When measuring the student's height for use in assessing the student's BP a vertical measurement board (stadiometer), metallic measuring tape or yardstick attached to a flat wall with no baseboard should be used. A movable right triangular headboard should be used to site the accurate height. This may be attached to the measurement board or separate if using a metallic measuring tape or yardstick. Do not use the measuring rod attached to the platform scale. The platform scale provides neither a steady standing base nor an adequate vertical surface for appropriately positioning children for accurate height measurements.

Equipment should be maintained and calibrated according to the manufacturer's guidelines to assure accurate measurements. Some sources recommend calibration of aneroid manometers on a semi-annual basis. Equipment should be cleaned prior to each use and when necessary to minimize the spread of infection. Screening should be conducted in a manner congruent with infection control and standard precautions. Trained personnel should follow standard practices and procedures for measuring BP.

Parents/guardians should be notified of their child's screening results and provided information regarding cardiovascular health maintenance. All students with a BP assessment that varies from the norm should receive a referral to their health care practitioner for evaluation and treatment as indicated. Each student's BP screening results, referral, and follow-up should be documented in the student's school health record.

PROCEDURE:

Preparation

1. Every effort should be made to ensure the students' privacy during the screening process.

2. Locate a quiet room for conducting the BP screenings.

3. Work with the appropriate persons within the school to coordinate the screening activity. The process for coordination with teachers varies among schools. There may be preferred classes during which screenings are usually allowed (for an example, some schools prefer to schedule screenings during a related arts class).

4. Develop or obtain forms for recording the results of the screening for each student. Don't forget to have the appropriate gender specific CDC stature-for-age growth charts available. These charts are available at: **http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinical_charts.htm**.

5. Develop or obtain parent/guardian notification forms and educational brochures. See Appendix A for sample parent/guardian notification forms.

6. Check to be sure that the sphygmomanometer has been calibrated in accordance with the manufacturer's suggestions.

7. Check the functionality of all equipment.

8. Prior to screening, students should be given an explanation of hypertension, ways to help maintain a normal BP, and an overview of the screening process. Advise students of the possibility that shoes will need to be removed and hairstyles may need to be adjusted in order to secure an accurate height measurement. Also advise students of clothing options that allow ease of baring the right arm for BP measurement. This may be done via a classroom instructional unit or if necessary, individually.

9. Prior to conducting the screening, set up the room for screening one student at a time or use a privacy partition if more than one screener will be working in the same room.

10. Preferably, the student being screened should not be able to see or hear other students.

11. The student should be able to be seated with feet flat on the floor with right arm supported at heart level on a table or desk.

12. The screener may choose to stand or be seated during the BP measurement phase of the procedure, thus a chair for the screener will be necessary.

13. The room should have an area without a baseboard for mounting the metallic yardstick or stadiometer that will be used for measuring height.

14. To assist with the flow of students, you may wish to have a teacher or staff assistant monitor students waiting to be screened in an adjacent room or hallway. Once a student has been screened, he/she can join his/her classmates and the next student to be screened can then enter the screening room.

15. Have supplies available to clean the equipment per the manufacturers' suggestions between each student.

BP SCREENING

1. As appropriate, prior to checking a student's BP, the examiner should ask the caretaker or the student about the student's health history to determine if any risk factors exist that may cause BP readings to vary from the norm.

2. Screen for BP using an age and developmentally appropriate screening process. Talk with the student using age and developmentally appropriate terms. You may need to use words like "pressure" rather than <u>blood</u> pressure, and "arrow" rather than <u>needle</u>.

3. Explain to the student that you will be measuring his/her BP to determine if it is within a normal range or high range. Let the student know that a person's BP changes during the day depending upon many factors (e.g., activity level, diet, medications). Advise the student that if the measurement is high, you will

recheck his/her BP and may want to check it again on another day to see if the BP measurement is still high. Help the student to understand that if his/her BP remains high after you have checked it several times, you will suggest that the student's parents/guardians have a health care practitioner check to determine if the student has hypertension. The results of the BP screening do not mean that the student has hypertension; it means that the BP measurement was high during the screening activity.

4. Assess the BP.
   a. Prior to measuring BP, allow the student to rest at least 3-5 minutes.
   b. Explain the process to the student.
   c. Position student appropriately:
      (1) Student's feet should be flat on floor.
      (2) Student should be leaning gently against back of chair, not on arm.
      (3) The entire arm in which the BP will be measured should be fully supported on a firm surface (table) with the brachial artery at heart level.
      (4) Upper arm should be bare – do not apply cuff over clothing.
   d. Choose appropriate cuff size:
      (1) The screener must ensure that the rubber bladder completely encircles the student's arm and the width of the bladder covers approximately 75% of the upper arm. Most modern cuffs are marked with range lines to denote need to use larger or smaller cuff. Proper cuff size is essential for measuring BP accurately.
      (2) If there is a question between two cuffs, use the larger one. A cuff that is too small may result in an artificially elevated BP whereas a slightly larger cuff is unlikely to cause a falsely elevated BP level.
   e. Place the BP cuff on the upper right arm:
      (1) Leave enough room at the top of the cuff to prevent obstruction to the axilla and enough room at the bottom to place the stethoscope in the antecubital fossa.
      (2) Position the right arm so that the brachial artery is at heart level.
      (3) The right arm is preferred for consistency and comparison with standard tables for BP parameters and because of the possibility of coarctation of the aorta, which might result in false low readings in the left arm.
   f. To determine how far to inflate the cuff for measuring the student's BP:
      (1) Palpate for the radial pulse.
      (2) Inflate the cuff while palpating the radial pulse.
      (3) Note the level at which the radial pulse disappears.
      (4) Release air from cuff rapidly and wait 15 minutes prior to measuring the student's BP.
      (5) When measuring the BP, inflate the cuff 20 – 30 mm Hg above the point where the radial pulse disappeared.
   g. After the 15-second wait period, measure the student's BP:
      (1) Palpate the brachial pulse.
      (2) Place the ear tips of the stethoscope in your ears with tips facing forward.

(3) Place the diaphragm of the stethoscope over the brachial artery. The diaphragm of the stethoscope should not touch the cuff.
(4) Rapidly inflate cuff 20 – 30 mm Hg above the point at which the radial pulse disappeared.
(5) Release cuff pressure at a rate of 2-3 mm Hg per second, while auscultating brachial artery.
(6) The systolic BP reading is taken at the onset of a clear tapping sound (1st Korotkoff sound).
(7) The diastolic BP reading is taken at the disappearance of Korotkoff sounds (5th Korotkoff sound). After the disappearance of Korotkoff sounds, continue to deflate the cuff slowly for another 10 mm Hg. If no further sounds are heard, rapidly release all air in the cuff and record the BP measurement.
(8) If the Korotkoff sounds continue to 0 mm Hg or is very low, repeat the BP measurement with less pressure on the head of the stethoscope.
(9) If the very low 5th Korotkoff sound persists record the 4th Korotkoff (muffling of the sounds) as the diastolic BP.

HEIGHT ASSESSMENT

1. If you do not already have a current height measurement for the student, measure the student's height and plot it on the appropriate gender specific CDC stature-for-age growth chart. These charts are available at **http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinical_charts.htm**.

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2. School aged children able to stand on their own should be measured standing, without shoes, using a vertical measurement board (stadiometer) or a metallic measuring tape/yardstick attached to a flat wall with no baseboard. A movable right triangular headboard should be used when actually measuring height. Do not use the measuring rod attached to the platform scale. The platform scale does provide neither a steady standing base nor an adequate vertical surface for appropriately positioning children for accurate height measurements.

3. Prior to starting, check measurement board to ensure it is working correctly. The headboard should slide easily, but should not be so loose or worn that it slips when measuring the child's height.

4. Remove the child's shoes, hats, and bulky clothing, such as coats and sweaters. Undo or adjust hairstyles and remove hair accessories that interfere with measurement.

5. Have the student stand erect, with shoulders level, hands at sides, knees or thighs together and weight evenly distributed on both feet.

6. The student's feet should be flat on the floor or foot piece, with both heels at base of the vertical board. When possible, all four contact points (i.e., the head, back, buttocks, and heels) should touch the vertical surface while maintaining a natural stance. Some students will not be able to maintain a natural stance with all four contact points touching the vertical surface. For these students, at a

minimum, two contact points - the head and buttocks, or the buttocks and heels should always touch the vertical surface.

7. Position the student's head by placing a hand on the student's chin to move the head into the Frankfort Plane. The Frankfort Plane is an imaginary line from the lower margin of the eye socket to the notch above the tragus of the ear. When aligned correctly, the Frankfort Plane is parallel to the horizontal headboard and perpendicular to the vertical measurement board. This is best viewed and aligned when the screener is directly to the side and at eye level with the child.

8. Lower the headpiece until it firmly touches the crown of the head and is at a right angle with the measurement surface.

9. Check contact points to ensure that the lower body stays in the proper position and heels remain flat. Some students may stand up on their toes, but verbal reminders are usually sufficient to get them in proper position.

10. Read the height measurement to the nearest 1/8 inch (or 1 cm) and record in the student's school health record.

11. Follow procedural steps above as closely as possible if vertical measurement board is not available.

12. Plot the student's height on the appropriate gender specific CDC stature-for-age growth chart. These charts are available at **http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinical_charts.htm**

ASSESS BP STATUS

1. Determine height percentile of the student using the appropriate gender specific CDC growth chart (which follows in this section.). If the student's height percentile is between two percentiles, use the higher height percentile.

2. Utilize the gender specific BP tables (that follow in this section) to determine if the student's BP is normotensive, prehypertensive, hypertensive, or in the hypertensive priority referral range. This table was developed based on the BP percentile levels established by the National High BP Education Program Working Group on High BP in Children and Adolescents.

3. Compare the student's systolic and diastolic BP measurements with the level provided in the BP tables for age and height percentile using the correct gender table to determine if the measurement falls in a normal or abnormal category.

4. For students or personnel over 18 years of age, use the following guidelines for determining if the BP measurement is normal, prehypertensive, hypertensive, or in the priority range.
   - Normotensive: systolic < 120 mm Hg; diastolic < 80 mm Hg
   - Prehypertensive: systolic > or = 120 – 139 mm Hg and/or diastolic > or = 80 – 89 mm Hg
   - Hypertensive: systolic > or = 140 mm Hg and/or diastolic > or = 90 mm Hg

- Priority Referral: systolic > or = 160 mm Hg and/or diastolic > or =100

5. Assessment & Referral Criteria:
   a. In presenting these guidelines we acknowledge that the school nurse may exercise her/his clinical judgment regarding referral decisions.
   b. Keep in mind that for all ages and heights a BP measurement that is > or = 120/80 (diastolic and/or systolic) is considered prehypertensive, unless the BP reading for the student's height and age is in the hypertensive category.
   c. If the student's BP (systolic and diastolic) is normotensive: provide educational material regarding healthy diet, sleep and physical activity for maintaining a healthy cardiovascular system.
   d. If the student's BP (systolic and/or diastolic) is prehypertensive: provide educational material regarding healthy diet, sleep and physical activity and recheck the student's BP again within two weeks, on two separate visits that are a few days apart. Average the three measurements. If averaged measurement is prehypertensive, recommend that the parent/legal guardian notify the student's health care practitioner at the student's next regularly scheduled visit.
   e. If student's BP (systolic and/or diastolic) is hypertensive, but not in the priority referral range, assess for other symptoms of hypertension (e.g. headaches, blurred vision, feeling faint) and/or other activities that might explain a high BP (e.g., exercise prior to BP measurement, caffeine intake, medications).

      - If symptomatic, ask the student to rest for 15 minutes; then recheck the student's BP. Average the two measurements. Provide educational material regarding healthy diet, sleep and physical activity and refer for evaluation by the student's health care practitioner.

      - If not symptomatic, recheck the student's BP again within one week, on two separate visits that are a few days apart. Average the three measurements. Refer for evaluation by the student's health care practitioner if averaged measurement is elevated.

   f. If BP (systolic and/or diastolic) falls in the priority referral range on the gender specific BP tables, assess for other symptoms of hypertension (e.g. headaches, blurred vision, feeling faint) and/or other activities that might explain a high BP (e.g., exercise prior to BP measurement, caffeine intake, and medications). Ask the student to rest for 15 minutes and then recheck the student's BP. Average the two measurements. Provide educational material regarding healthy diet, sleep and physical activity and refer for evaluation by the student's health care practitioner. A telephone call to the student's parent/guardian should be placed within 24 hours to discuss the BP screening results and to assist with referral completion.
   g. Referrals for assessment, treatment, and follow-up, may be made using an appropriate parent/notification form found in Appendix A.

6. Parents/guardians should be notified of their students' screening results, whether normal or abnormal.

7. Education and counseling should be provided about normal findings, deviations from normal, and for any specific concerns identified during the visit.

8. Efforts should be made by the school nurse to assist parents/guardians with referral completion.

9. All findings, referrals, and follow-up should be documented in the student's school health record.

USING THE BLOOD PRESSURE TABLES

1. Use the standard height charts to determine the height percentile.

2. Measure and record the child's SBP and DBP.

3. Use the correct gender table for SBP and DBP.

4. Find the child's age on the left side of the table. Follow the age row horizontally across the table to the intersection of the line for the height percentile (vertical column).

5. There, find the 50th, 90th, 95th, and 99th percentiles for SBP in the left columns and for DBP in the right columns.
   - BP less than the 90th percentile is normal.
   - BP between the 90th and 95th percentile is prehypertension. In adolescents, BP equal to or exceeding 120/80 mmHg is prehypertension, even if this figure is less than the 90th percentile.
   - BP greater than the 95th percentile may be hypertension.

6. If the BP is greater than the 90th percentile, the BP should be repeated twice at the same office visit, and an average SBP and DBP should be used.

7. If the BP is greater than the 95th percentile, BP should be staged. If Stage 1 (95th percentile to the 99th percentile plus 5 mmHg), BP measurements should be repeated on two more occasions. If hypertension is confirmed, evaluation should proceed as described. If BP is Stage 2 (>99th percentile plus 5 mmHg), prompt referral should be made for evaluation and therapy. If the patient is symptomatic, immediate referral and treatment are indicated. Those patients with a compelling indication and would be treated as the next higher category of hypertension.

TABLE 3

Blood Pressure Levels for Boys by Age and Height Percentile*

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
1	50th	80	81	83	85	87	88	89	34	35	36	37	38	39	39
	90th	94	95	97	99	100	102	103	49	50	51	52	53	53	54
	95th	98	99	101	103	104	106	106	54	54	55	56	57	58	58
	99th	105	106	108	110	112	113	114	61	62	63	64	65	66	66
2	50th	84	85	87	88	90	92	92	39	40	41	42	43	44	44
	90th	97	99	100	102	104	105	106	54	55	56	57	58	58	59
	95th	101	102	104	106	108	109	110	59	59	60	61	62	63	63
	99th	109	110	111	113	115	117	117	66	67	68	69	70	71	71
3	50th	86	87	89	91	93	94	95	44	44	45	46	47	48	48
	90th	100	101	103	105	107	108	109	59	59	60	61	62	63	63
	95th	104	105	107	109	110	112	113	63	63	64	65	66	67	67
	99th	111	112	114	116	118	119	120	71	71	72	73	74	75	75
4	50th	88	89	91	93	95	96	97	47	48	49	50	51	51	52
	90th	102	103	105	107	109	110	111	62	63	64	65	66	66	67
	95th	106	107	109	111	112	114	115	66	67	68	69	70	71	71
	99th	113	114	116	118	120	121	122	74	75	76	77	78	78	79
5	50th	90	91	93	95	96	98	98	50	51	52	53	54	55	55
	90th	104	105	106	108	110	111	112	65	66	67	68	69	69	70
	95th	108	109	110	112	114	115	116	69	70	71	72	73	74	74
	99th	115	116	118	120	121	123	123	77	78	79	80	81	81	82
6	50th	91	92	94	96	98	99	100	53	53	54	55	56	57	57
	90th	105	106	108	110	111	113	113	68	68	69	70	71	72	72
	95th	109	110	112	114	115	117	117	72	72	73	74	75	76	76
	99th	116	117	119	121	123	124	125	80	80	81	82	83	84	84
7	50th	92	94	95	97	99	100	101	55	55	56	57	58	59	59
	90th	106	107	109	111	113	114	115	70	70	71	72	73	74	74
	95th	110	111	113	115	117	118	119	74	74	75	76	77	78	78
	99th	117	118	120	122	124	125	126	82	82	83	84	85	86	86
8	50th	94	95	97	99	100	102	102	56	57	58	59	60	60	61
	90th	107	109	110	112	114	115	116	71	72	72	73	74	75	76
	95th	111	112	114	116	118	119	120	75	76	77	78	79	79	80
	99th	119	120	122	123	125	127	127	83	84	85	86	87	87	88
9	50th	95	96	98	100	102	103	104	57	58	59	60	61	61	62
	90th	109	110	112	114	115	117	118	72	73	74	75	76	76	77
	95th	113	114	116	118	119	121	121	76	77	78	79	80	81	81
	99th	120	121	123	125	127	128	129	84	85	86	87	88	88	89
10	50th	97	98	100	102	103	105	106	58	59	60	61	61	62	63
	90th	111	112	114	115	117	119	119	73	73	74	75	76	77	78
	95th	115	116	117	119	121	122	123	77	78	79	80	81	81	82
	99th	122	123	125	127	128	130	130	85	86	86	88	88	89	90

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
11	50th	99	100	102	104	105	107	107	59	59	60	61	62	63	63
	90th	113	114	115	117	119	120	121	74	74	75	76	77	78	78
	95th	117	118	119	121	123	124	125	78	78	79	80	81	82	82
	99th	124	125	127	129	130	132	132	86	86	87	88	89	90	90
12	50th	101	102	104	106	108	109	110	59	60	61	62	63	63	64
	90th	115	116	118	120	121	123	123	74	75	75	76	77	78	79
	95th	119	120	122	123	125	127	127	78	79	80	81	82	82	83
	99th	126	127	129	131	133	134	135	86	87	88	89	90	90	91
13	50th	104	105	106	108	110	111	112	60	60	61	62	63	64	64
	90th	117	118	120	122	124	125	126	75	75	76	77	78	79	79
	95th	121	122	124	126	128	129	130	79	79	80	81	82	83	83
	99th	128	130	131	133	135	136	137	87	87	88	89	90	91	91
14	50th	106	107	109	111	113	114	115	60	61	62	63	64	65	65
	90th	120	121	123	125	126	128	128	75	76	77	78	79	79	80
	95th	124	125	127	128	130	132	132	80	80	81	82	83	84	84
	99th	131	132	134	136	138	139	140	87	88	89	90	91	92	92
15	50th	109	110	112	113	115	117	117	61	62	63	64	65	66	66
	90th	122	124	125	127	129	130	131	76	77	78	79	80	80	81
	95th	126	127	129	131	133	134	135	81	81	82	83	84	85	85
	99th	134	135	136	138	140	142	142	88	89	90	91	92	93	93
16	50th	111	112	114	116	118	119	120	63	63	64	65	66	67	67
	90th	125	126	128	130	131	133	134	78	78	79	80	81	82	82
	95th	129	130	132	134	135	137	137	82	83	83	84	85	86	87
	99th	136	137	139	141	143	144	145	90	90	91	92	93	94	94
17	50th	114	115	116	118	120	121	122	65	66	66	67	68	69	70
	90th	127	128	130	132	134	135	136	80	80	81	82	83	84	84
	95th	131	132	134	136	138	139	140	84	85	86	87	87	88	89
	99th	139	140	141	143	145	146	147	92	93	93	94	95	96	97

BP, blood pressure

* The 90th percentile is 1.28 SD, 95th percentile is 1.645 SD, and the 99th percentile is 2.326 SD over the mean. For research purposes, the standard deviations in appendix table B–1 allow one to compute BP Z-scores and percentiles for boys with height percentiles given in table 3 (i.e., the 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentiles). These height percentiles must be converted to height Z-scores given by (5% = -1.645; 10% = -1.28; 25% = -0.68; 50% = 0; 75% = 0.68; 90% = 1.28; 95% = 1.645) and then computed according to the methodology in steps 2–4 described in appendix B. For children with height percentiles other than these, follow steps 1–4 as described in appendix B.

TABLE 4

Blood Pressure Levels for Girls by Age and Height Percentile*

Age (Year)	BP Percentile ↓	Systolic BP (mmHg) ← Percentile of Height →							Diastolic BP (mmHg) ← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
1	50th	83	84	85	86	88	89	90	38	39	39	40	41	41	42
	90th	97	97	98	100	101	102	103	52	53	53	54	55	55	56
	95th	100	101	102	104	105	106	107	56	57	57	58	59	59	60
	99th	108	108	109	111	112	113	114	64	64	65	65	66	67	67
2	50th	85	85	87	88	89	91	91	43	44	44	45	46	46	47
	90th	98	99	100	101	103	104	105	57	58	58	59	60	61	61
	95th	102	103	104	105	107	108	109	61	62	62	63	64	65	65
	99th	109	110	111	112	114	115	116	69	69	70	70	71	72	72
3	50th	86	87	88	89	91	92	93	47	48	48	49	50	50	51
	90th	100	100	102	103	104	106	106	61	62	62	63	64	64	65
	95th	104	104	105	107	108	109	110	65	66	66	67	68	68	69
	99th	111	111	113	114	115	116	117	73	73	74	74	75	76	76
4	50th	88	88	90	91	92	94	94	50	50	51	52	52	53	54
	90th	101	102	103	104	106	107	108	64	64	65	66	67	67	68
	95th	105	106	107	108	110	111	112	68	68	69	70	71	71	72
	99th	112	113	114	115	117	118	119	76	76	76	77	78	79	79
5	50th	89	90	91	93	94	95	96	52	53	53	54	55	55	56
	90th	103	103	105	106	107	109	109	66	67	67	68	69	69	70
	95th	107	107	108	110	111	112	113	70	71	71	72	73	73	74
	99th	114	114	116	117	118	120	120	78	78	79	79	80	81	81
6	50th	91	92	93	94	96	97	98	54	54	55	56	56	57	58
	90th	104	105	106	108	109	110	111	68	68	69	70	70	71	72
	95th	108	109	110	111	113	114	115	72	72	73	74	74	75	76
	99th	115	116	117	119	120	121	122	80	80	80	81	82	83	83
7	50th	93	93	95	96	97	99	99	55	56	56	57	58	58	59
	90th	106	107	108	109	111	112	113	69	70	70	71	72	72	73
	95th	110	111	112	113	115	116	116	73	74	74	75	76	76	77
	99th	117	118	119	120	122	123	124	81	81	82	82	83	84	84
8	50th	95	95	96	98	99	100	101	57	57	57	58	59	60	60
	90th	108	109	110	111	113	114	114	71	71	71	72	73	74	74
	95th	112	112	114	115	116	118	118	75	75	75	76	77	78	78
	99th	119	120	121	122	123	125	125	82	82	83	83	84	85	86
9	50th	96	97	98	100	101	102	103	58	58	58	59	60	61	61
	90th	110	110	112	113	114	116	116	72	72	72	73	74	75	75
	95th	114	114	115	117	118	119	120	76	76	76	77	78	79	79
	99th	121	121	123	124	125	127	127	83	83	84	84	85	86	87
10	50th	98	99	100	102	103	104	105	59	59	59	60	61	62	62
	90th	112	112	114	115	116	118	118	73	73	73	74	75	76	76
	95th	116	116	117	119	120	121	122	77	77	77	78	79	80	80
	99th	123	123	125	126	127	129	129	84	84	85	86	86	87	88

Age (Year)	BP Percentile ↓	Systolic BP (mmHg)							Diastolic BP (mmHg)						
		← Percentile of Height →							← Percentile of Height →						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
11	50th	100	101	102	103	105	106	107	60	60	60	61	62	63	63
	90th	114	114	116	117	118	119	120	74	74	74	75	76	77	77
	95th	118	118	119	121	122	123	124	78	78	78	79	80	81	81
	99th	125	125	126	128	129	130	131	85	85	86	87	87	88	89
12	50th	102	103	104	105	107	108	109	61	61	61	62	63	64	64
	90th	116	116	117	119	120	121	122	75	75	75	76	77	78	78
	95th	119	120	121	123	124	125	126	79	79	79	80	81	82	82
	99th	127	127	128	130	131	132	133	86	86	87	88	88	89	90
13	50th	104	105	106	107	109	110	110	62	62	62	63	64	65	65
	90th	117	118	119	121	122	123	124	76	76	76	77	78	79	79
	95th	121	122	123	124	126	127	128	80	80	80	81	82	83	83
	99th	128	129	130	132	133	134	135	87	87	88	89	89	90	91
14	50th	106	106	107	109	110	111	112	63	63	63	64	65	66	66
	90th	119	120	121	122	124	125	125	77	77	77	78	79	80	80
	95th	123	123	125	126	127	129	129	81	81	81	82	83	84	84
	99th	130	131	132	133	135	136	136	88	88	89	90	90	91	92
15	50th	107	108	109	110	111	113	113	64	64	64	65	66	67	67
	90th	120	121	122	123	125	126	127	78	78	78	79	80	81	81
	95th	124	125	126	127	129	130	131	82	82	82	83	84	85	85
	99th	131	132	133	134	136	137	138	89	89	90	91	91	92	93
16	50th	108	108	110	111	112	114	114	64	64	65	66	66	67	68
	90th	121	122	123	124	126	127	128	78	78	79	80	81	81	82
	95th	125	126	127	128	130	131	132	82	82	83	84	85	85	86
	99th	132	133	134	135	137	138	139	90	90	90	91	92	93	93
17	50th	108	109	110	111	113	114	115	64	65	65	66	67	67	68
	90th	122	122	123	125	126	127	128	78	79	79	80	81	81	82
	95th	125	126	127	129	130	131	132	82	83	83	84	85	85	86
	99th	133	133	134	136	137	138	139	90	90	91	91	92	93	93

BP, blood pressure

* The 90th percentile is 1.28 SD, 95th percentile is 1.645 SD, and the 99th percentile is 2.326 SD over the mean. For research purposes, the standard deviations in appendix table B–1 allow one to compute BP Z-scores and percentiles for girls with height percentiles given in table 4 (i.e., the 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentiles). These height percentiles must be converted to height Z-scores given by (5% = -1.645; 10% = -1.28; 25% = -0.68; 50% = 0; 75% = 0.68; 90% = 1.28; 95% = 1.645) and then computed according to the methodology in steps 2–4 described in appendix B. For children with height percentiles other than these, follow steps 1–4 as described in appendix B.

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SCOLIOSIS SCREENING

POLICY: Schools are encouraged to screen all 6th graders for scoliosis once a year. Staff training for scoliosis screenings is required. Specific protocols must be used.

RATIONALE: Scoliosis is a physical condition characterized by an abnormal curvature of the spine. Its cause is unknown in most cases. The amount of curvature is measured in degrees after an X-ray and can vary from mild to severe. It is most often seen in the middle school age group, when rapid growth is occurring. Both girls and boys may be affected, but girls tend to progress eight times more frequently. Treatment ranges from observation to bracing to corrective surgery in severe cases. After scoliosis is identified or suspected, follow-up is essential to measure the degree of curvature and determine treatment options. Kyphosis, an accentuated spinal hump, and lordosis, or swayback, may occur independently or in conjunction with scoliosis.

Every student present will be screened, unless parents refuse by signing and returning a form that will be sent home. Screening consists of examining the student's unclothed back. Female students can be screened wearing just a bra above the waist (preferred), or can wear a bathing suit under their clothes for the day of screening. The student will be asked to stand straight, and then bend forward while the examiner looks from the front, the back and the side. The screener looks for obvious curves, rib humps, uneven shoulders, waist or hips. Specially-trained PE teachers, clinic personnel, or volunteers can complete or assist school nurses with primary screening. Female examiners are preferable for female students. Refer students with questionable findings to the school nurse, public health nurse or other consultants for secondary screening. This can be done easily on the same day, if secondary screeners are available. If a curvature is seen or suspected on the secondary screening, notify the parents/guardians in writing. Offer assistance when access to healthcare is a barrier for the family. The child's primary healthcare provider can complete a further examination or refer the child to a specialist.

TIPS FOR SETTING UP A SUCCESSFUL SCOLIOSIS SCREENING

1. Training for volunteers and new staff, and a refresher for experienced screeners should be done shortly before the screening date. A video and a training manual are available from Children's Healthcare of Atlanta at 404.929.8397.

2. Schedule the screening so that there are no conflicts with testing, field trips, etc.

3. Schedule when secondary screeners can be available if possible.

4. Send letters/permission forms home one to two weeks before the screening is scheduled.

5. Have teachers collect and save the "Do Not Screen" letters.

6. Prepare students the day before screening, discussing the procedure that will be followed. A video for students "Scoli-What?" is available from Children's Healthcare of Atlanta at 404.929.8397.

7. Remind female students the day before to wear bras or bathing suits under clothes.

8. Students or teachers should complete the personal information on the screening forms and the student should bring the completed form to the screening.

9. Many middle schools schedule screenings during PE or exploratory periods on one day and reschedule lunch periods if necessary to complete screenings.

10. It is very important to manage the screening area so that the student's privacy is maintained i.e., utilizing boys' and girls' locker rooms, shower areas, screens, etc. This practice will make screening go more smoothly and quickly.

11. The setting chosen for screening should be checked for good lighting; the floor should be free of uneven areas; and the temperature of the room should be comfortable for students who will be undressing.

12. It is important to screen with the student's entire back exposed (no T-shirts around the neck, bra is OK). An adequate exam cannot be done otherwise.

13. Volunteers will be helpful to control "traffic," call classes down, get students to secondary screeners, etc.

Source: *Georgia Department of Human Resources, Division of Public Health, Children's Healthcare of Atlanta & Georgia Association of School Nurses 2004 Georgia School Health Resource Manual–Chapter 8 Screening Guidelines in the School Setting*

SCOLIOSIS SCREENING PROTOCOLS

If your school system chooses to screen for scoliosis (6th grade only), it is recommended to partner with a local orthopedic doctor, osteopathy doctor or other trained professional to provide specific training for school staff and/or volunteers. A scoliosis training manual can be found at **http://www.dshs.state.tx.us/spinal/pdf/spscrnprggd.pdf**.

A sample scoliosis screening form can be found in Appendix C.

ORAL HEALTH SCREENING

Dental Screening Law – T.C.A. 49-6-5004.
Upon registration or as early as is otherwise possible and appropriate, public schools, nursery schools, kindergartens, preschools or child care facilities are encouraged to make reasonable efforts to apprise parents of the health benefits of obtaining appropriate eye and dental care for children.

POLICY: All schools are encouraged to screen students for oral health problems.

RATIONALE: Oral health is an important component of overall health and should be integrated into school health services. Because schools are where the majority of children and youth are, schools, and school nurses in particular, have an important role to play in promoting oral health by serving as a significant source of information and participating in prevention programs such as providing dental health education, intervening in dental emergencies and advocating the provision of well-balanced nutritious meals.

The goal of the school oral health program is to prevent oral disease and injury. The program should enable every child to maintain his or her own oral health. Dental health education combined with referral treatment programs has been shown to be effective in improving oral health. In addition, the school nurse can serve as an advocate for safe practices in all school settings (physical education, team sports, etc.) to prevent dental injuries.

Dental disease is a significant preventable debilitating disease. Nationally, diseases of the mouth, one of the most common health problems, affects about 98% of the entire U.S. population at some point in their lives. Health examination surveys conducted by the National Center for Health Statistics found that the most significant problems detected by an examination of children in the U.S. were “dental problems” in all age groups. Access to dental care is limited for a significant part of the population with 40% of Americans failing to receive any dental care each year.

Preventable oral disease is more common in children from underserved groups and in disabled children.

Screening for dental defects should be part of total health screening, and the personnel should be those involved with the overall responsibility for health defects. Screening for dental disease should require relatively little time. A set routine should be followed so as not to omit necessary aspects of the screening process. If one defect is found, the screening procedure should be terminated and the child referred to the family dentist or to the local health department dentist where available.

Source: *Dr. E.J. Alderman, Former Director Oral Health Section, Office of Infant and Child Health, Georgia Department of Health*

ORAL HEALTH SCREENING

A dental screening is an appraisal activity and identifies individuals with pain or imminent pain. It also creates awareness about the importance of good oral health. Please note, a dental screening does not replace a regular dental examination by a dentist. Routine dental screenings will assist in securing every child dental services and education to prevent pain, infection, premature loss of teeth and/or malocclusion.

A Dental Health Screening Program is designed to preserve the health of children and provides a procedure where a program in preventive dental hygiene is presented. The benefits of an oral health screening program include:

- Dental defects may be discovered early so they can be corrected with the least amount of discomfort to the child.
- Early symptoms of oral disease may be detected and corrected.
- Irregularity of tooth position may be observed and preventive measures instituted.
- Referral for early treatment before problems become magnified will keep the cost of dental care to a minimum.

AGE/GRADE FOR ORAL HEALTH SCREENING

The American Dental Association recommends annual oral health screenings for every student. The Tennessee Department of Health, Oral Health Services, provides a School Based Dental Prevention Program. This program is a statewide, school based preventive dental program targeting children in grades kindergarten through eighth in schools with 50% or more free and reduced lunch. Portable equipment is used by dental staff to provide dental screenings, referrals, and follow-up to dental providers to address unmet dental needs in this population. Health education and preventive sealants are provided to the target school population as well as information regarding TennCare eligibility and the application process. More information is available at **http://health.state.tn.us/oralhealth/schoolbased.html**. Also, contact your local health department to ascertain what types of oral health services are available for your community.

SCREENING

Oral health screening is performed using: a tongue depressor, disposable gloves, and flashlight. Gauze pads may be helpful if the tongue needs to be manipulated.

An overall visual inspection is performed in order to view the outer and inner aspects of the oral cavity, including the lips, outer cheeks, all inner tissues, floor of the mouth, tongue, palate, oropharynx, uvula, and teeth.

When viewing the student's face and neck prior to the oral health screening, swollen and tender lymph nodes may be noted in the neck and/or jaw. If breath is highly odiferous, seek the cause. Also, observe the quality of the voice.

SYMTOMS FOR REFERRAL (WITH OR WITHOUT SCREENING)

- Visibly decayed and/or fractured teeth, broken filling(s) and/or missing permanent teeth.
- Toothache, swelling and/or bleeding gums.
- Ulceration, lesions, inflammation or draining of oral mucosa, palate, tongue, gums.
- Malocclusion, mal-position or supernumerary teeth.
- Protrusion of upper/lower jaw; deviate swallowing (tongue thrust).
- Leukoplakia (on tongue or cheek) in known tobacco user.
- Broken or ill fitting orthodontic appliance.
- Difficulty in eating; e.g. chewing or swallowing of food.
- Swollen or tender lymph nodes in neck and jaw.
- Dental-related injuries obviously requiring treatment.
- Unusual lip conditions such as fissures, drooping, or color (e.g. pale or bluish).
- Nasal voice quality can suggest a health problem such as enlarged adenoids.

Source:

Answers4Families is a partnership of the Nebraska Health & Human Services System and the Center on Children, Families, and the Law at the University of Nebraska in Lincoln. The IFSPweb represents collaboration between the early intervention co-lead agencies of the Nebraska Department of Education and the Nebraska Health & Human Services System, and the University of Nebraska/Lincoln. The IFSPweb is funded through IDEA funds from the U.S. Department of Education Office of Special Programs.

Tennessee Department of Health, Oral Health Services,
http://health.state.tn.us/oralhealth/schoolbased.html.

Appendix A

SAMPLES

PARENT/GUARDIAN CONSENT FORMS FOR SCHOOL HEALTH SCREENINGS

SAMPLE
PARENT/GUARDIAN SCREENING CONSENT FORM

Dear Parent or Guardian,

Throughout the school year we will be providing several free health screenings for the students of _____ school system. We routinely screen a variety of students in the appropriate grade levels. We also screen all transfer students, any student needing a screening for evaluation purposes, or any student referred by a teacher. For example, a teacher may notice that a student is having difficulty seeing the board or hearing his/her instructions and request a screening of the child. This information is shared only on a need to know basis. Following the example above, if your child did have difficulty with his/her vision or hearing test, we would ask the teacher to move the student to the front of the classroom so they could see or hear the classroom information until you were notified and able to follow-up on the screening.

We will be screening for the following throughout the school year. The _____ County Health Department, or other community health care providers may be assisting with these screenings. Again, this information is only shared on a need to know basis.

Vision	Dental	Speech/Hearing
Height/Weight	Scoliosis	Blood Pressure

If we screen your child and find any alterations from a normal screening we will contact you concerning this manner. There are no charges for these services.

PLEASE NOTIFY YOUR CHILD'S TEACHER AT THIS TIME IF YOU WISH FOR HIM/HER NOT TO BE INCLUDED IN THESE SCREENINGS. Please feel free to contact your school nurse if you have any questions.

Thank you,

(name)_____

SAMPLE
PASSIVE PARENTAL/GUARDIAN CONSENT FORM FOR SCHOOL HEALTH SCREENINGS
(Stewart County Sample)

STUDENT HEALTH SCREENING NOTIFICATION

Free student health screenings will be conducted at your child's school before November 1st of this year. The high school students will be screened in their Wellness classes. Austin Peay State University (APSU) Nursing Department, Lions Club and various other trained volunteers will be assisting with screening. Data does not include any identifying information. Al information is private and confidential.

We will be screening to determine if your child has a health risk that:

1) needs medical attention, and/or
2) might affect his/her classroom work.

The screenings that will be conducted are as follows:

Vision – Grades PreK, K, 2, 4, 6, and 8.
Hearing – Grades PreK, K, 2, 4, 6 and 8.
Scoliosis – Grade 6 only – (include only if your school system is providing this optional screening)
Dental – Grades K, 2, 4, 6 and 8 (include only if your school system is providing this optional screening)
Blood Pressure – Grades K, 2, 4, 6, 8 and one year of high school
Height and Weight – Grades K, 2, 4, 6, 8, and one year of high school

You will be mailed a report with the results of your child's screenings after review by the school nurse. If there is a need for further evaluation by a physician a referral will be indicated. These screenings do not qualify as an examination and parents are encouraged to make sure your child has annual medical check ups as well as bi-annual dental check ups.

If you have any questions regarding this free service, or if you wish your child excluded from any part of the Health screenings, please contact the School Nurse at your child's school:

_____

SCHOOL NURSE PHONE NUMBER

SAMPLE
PARENT/GUARDIAN SCREENING DENIAL FORM

If you wish to decline any of the following services/survey listed below please check the appropriate box, sign and date this form and return to the school nurse by _____.

I, _____, parent/guardian of

_____ student decline the following services:

[ ] Health Screenings

[ ] Youth Risk Behavior Survey

[ ] Other: _____

Date: _____ Sign: _____

Appendix B

SAMPLES

PARENT/GUARDIAN NOTIFICATION FORMS FOR SCHOOL HEALTH SCREENING RESULTS

SAMPLE
PARENT/GUARDIAN SCREENING RESULTS NOTIFICATION FORM

_____ COUNTY DEPARTMENT OF EDUCATION
COORDINATED SCHOOL HEALTH
Address
Phone numbers

Date:_____
Name:_____

Teacher:_____ Grade:_____
School:_____

Dear Parent/Guardian:
Your child recently participated in a vision, hearing, dental and body mass index, blood pressure and pulse screening mandated by the State of Tennessee. They are effective in revealing common vision and hearing deficiencies, dental problems and developmental trends. It does not substitute for a professional examination.

YOUR CHILD <u>SCREENED WITHIN NORMAL LIMITS</u> THE FOLLOWING: □ Vision □ Hearing □ Dental □ Blood Pressure □ BMI □ PULSE
A <u>RESCREEN</u> WILL BE PERFORMED BY NURSING SERVICES FOR: □ Vision □ Hearing □ BP □ PULSE
WE HAVE ISSUED A <u>PHYSICIAN REFERRAL</u> FOR: □ Vision □ Hearing □ Dental □ BP □ BMI □ PULSE

Our observations, for your child, are listed below. If your child is not under the care of a physician, we strongly encourage you to make an appointment for a complete examination and any needed treatment; if your child has already been seen please ask them to fax a report to _____. If your child does not have a physician or if you need financial assistance, please call our office . Thank you for your prompt attention to this matter.

Please have the physician complete the form below and mail or fax to the address above. Thank you.

_____**VISION REFERRAL** Results: <u>Far Acuity</u>: 20/ 20/ <u>Near Acuity:</u> 20/ 20/
□ Failed Muscle Balance

<u>We recommend your child receive an examination from an eye doctor</u>.
<u>To be completed by physician:</u>
This student was seen by me on _____as per your referral. The following diagnosis/recommendations were made:_____.
Glasses prescribed:_____Comments:_____

Physician Signature and Phone Number

_____**HEARING REFERRAL** Results: □ Failed Audiometry □ Failed Tympanometry
Signs of Infection: □ Pain □ Discharge □ Wax □ Erythema
_____1. Immediate Care is recommended for the acute symptoms circled above
_____2. As soon as possible for a suspected hearing problem

<u>We recommend your child receive an examination from a physician or audiologist.</u>
<u>To be completed by physician:</u>
This student was seen by me on _____as per your referral. The following diagnosis/recommendations were made:_____

Medication/PE Tubes/Hearing Aids prescribed:_____Comments:_____

Physician Signature and Phone Number

_____**DENTAL REFERRAL**

_____Immediate Care is recommended for: □ Pain □ Extensive Decay □ Severe Gum Inflammation

_____As soon as possible for: □ Obvious Decay □ Gum Inflammation □ Damaged Filling

____ When possible for: □ Symptoms of Early Decay □ Routine Cleaning / Exam Needed

We recommend your child receive an examination from a dentist.

To be completed by dentist:

This student was seen by me on _____as per your referral. The following diagnosis/recommendations were made:_____

Filling/Extraction:_____Comments:_____

Physician Signature and Phone Number

_____**BMI (BODY MASS INDEX) (Do not send specific results)** _____**BLOOD PRESSURE REFERRAL**

_____**PULSE REFERRAL**

Call the Coordinated School Health Office _____ for your PULSE Today:_____

Blood Pressure Reading Today: _____/_____

Child's results

We recommend your child receive an examination from a physician.

To be completed by physician:

This student was seen by me on _____as per your referral. The following diagnosis/recommendations were made:_____

Comments:_____

Physician Signature and Phone Number

_____

Signature Date

SAMPLE
PARENT/GUARDIAN SCREENING RESULTS NOTIFICATION FORM

_____ COUNTY DEPARTMENT OF EDUCATION
COORDINATED SCHOOL HEALTH
Address
Phone:
Fax:

Student Name:_____
School:_____

Grade:_____ Date:_____
Teacher:_____

Dear Parent:
Your child recently participated in free health screenings that included scoliosis, body mass index, hearing, vision, blood pressure and pulse screenings.

All screenings are within normal limits: _____ Your child **does not** require further follow up.

****

Your child was given a posture check to screen for scoliosis (curvature of the spine) by the Nursing Supervisors as one of the health services provided by the school system. The results are below. It is advised that you have your child further checked by your family doctor or pediatrician. Early treatment can often prevent a progressive spine deformity. Please take this form with you when you take your child for the evaluation and return it to your school nurse or the address above. We need the physician's recommendations in order to close out the referral in our records. If you need assistance obtaining an appointment or have questions, please call the number above.

Greater than 10 degree curvature measured:_____ Your child **does** require further follow up.

Accentuated kyphosis (roundness in upper back) observed:_____Your child **does** require further follow up.
Extreme lordosis (swaying of the lower back) observed:_____Your child **does** require further follow up.
Obvious Leg Length Discrepancy observed:_____Your child **does** require further follow up.

_____BLOOD PRESSURE REFERRAL
Blood Pressure Reading Today:_____/_____

_____PULSE REFERRAL
Pulse Today:_____

We recommend your child receive an examination from a physician.

_____BMI (BODY MASS INDEX)
Call the Coordinated School Health Office at _____ for your child's results

_____ We recommend your child receive an examination from a physician.

TO BE COMPLETED BY PHYSICIAN

I examined this patient and make the following observations and recommendations:

_____

_____

_____

_____

Physician Signature **Physician Phone Number**

SAMPLE
PARENT/GUARDIAN SCREENING RESULTS NOTIFICATION FORM

Monroe County Schools
Office of Coordinated School Health

Date: _____

Dear Parent or Guardian,
Now through the end of the _____school year, the Monroe County School System, in conjunction with the state office of Coordinated School Health, will be performing the health screenings listed below to all students in the appropriate grade levels. All screenings will maintain strict adherence to the confidentiality of each child and adolescent screened.

Blood Pressure	Height/Weight
Vision	Hearing
Scoliosis	Dental

If you want your child's results in any of the above screenings, please complete and sign the form below and return to your child's teacher.
If you have any questions or concerns, please feel free to contact me at the number listed below.

Thank you.
Contact Person and Phone Number and Hours Person Is Available

---

I want my child's results of the free screenings.

Parent/Guardian's signature: _____

Child's Name: _____ Date: _____

Child's School: _____Teacher's Name: _____

Check the screening that you want your child's results:

_____ Blood Pressure	_____Height/Weight
_____ Vision	_____Hearing
_____Scoliosis	_____Dental

Appendix C

SAMPLES

SCREENING RESULTS FORMS FOR SCHOOL RECORDS

SAMPLE
SCREENING RESULTS FORM FOR SCHOOL RECORDS

SCREENING RESULTS

School:_____ **Birth date**:_____

Last Name:_____ **First Name**:_____

Teacher:_____**Grade**:_____**Date**:_____
□ Routine Screening □ Special Ed Request
□Teacher/Parent Request □ Rescreening
****
Vision: □ Glasses □ Contacts **Last Exam**: □ > One Year □ < One Year
Glasses: □ Broken □ Lost □ Not Wearing □ Refuses to Wear
R FAR: Acuity 20/_____ **LFAR**: Acuity 20/_____
R NEAR: Acuity 20/ _____ **LNEAR**: Acuity 20/_____
Muscle Balance**:** □ **Passed** □ **Failed**

Comment:_____

Hearing: □ Hx.of hearing loss/surgery □ PE Tubes
□ Hearing Aid (s) □ Rescreening
Audiometry: □ Pass □ Fail **Tympanometry**: □Pass □Fail
Otoscope:□ Cerumen □ Drainage □ Erythema □ Infected/Ruptured Eardrum

R Hz Freq 1000_____ R Hz Freq 2000_____ RHz Freq 4000_____
L Hz Freq 1000_____L Hz Freq 2000_____LHz Freq 4000_____
Comment:_____

Dental: _____1. Immediate Care is recommended for:
□ Pain□ Extensive Decay □ Severe Gum Inflammation
_____2. Care is recommended as soon as possible for:
□ Obvious Decay □Gum Inflammation □Damaged Filling
_____3 Care is recommended when possible for:
□ Symptoms of Early Decay □ Routine Cleaning/Exam needed
Comment: _____

Vital Statistics:
Blood Pressure: _____/_____ Ht:_____inches Wt:_____lbs.
Pulse:_____ BMI:_____

Vision	Hearing	Dental	Blood Pressure	BMI	PULSE
Passed □	Passed □	Passed □	Passed □	WNL □	Passed □
Failed □	Failed □	Failed □	Failed □	UW □	Failed □
Referred □	Referred □	Referred □	Referred □	AR □	Referred □
Retest □	Retest □	Retest □	Retest □	OW □	Retest □

Sample
Scoliosis Medical Screening Form

Shoulder Elevated _____

Shoulder Blade Prominence _____

Unequal Distance Between Arm and Body _____

Uneven Hips _____

Rib Prominence _____

Lumbar Prominence _____

Kyphosis Increased _____

Date of screening: _____

Negative Referred for 2º screening _____

Screener's name (print): _____

Check one: __Volunteer __Teacher __Clinic Asst. __School Nurse
__Health Dept. Employee __Other (Specify) _____

Comments of screener:
_____
_____
_____
_____
_____

Date of screening _____

Negative Referred _____

Screener's name (print): _____

Check one: __School Nurse __Health Dept. Employee __Other (Specify)

Comments of screener:
_____
_____
_____
_____
_____

Elevated Shoulder blade (scapular) prominence _____

Unequal distance between arm and body _____

Uneven hips Rib Prominence (Upper back) _____

Lumbar Prominence (Lower back) _____

More than normal roundness (kyphosis) _____

Source: Georgia Department of Human Resources, Division of Public Health, Children's Healthcare of Atlanta & Georgia Association of School Nurses, *Georgia School Health Resource Manual–Chapter 8 Screening Guidelines in the School Setting, 2004*

SAMPLE
Hearing Screening Form

Student Name _____
Last First

Teacher _____ Grade ____ School _____

School System _____ Date _____

Pure Tone Screening
1000 Hz 2000 Hz 4000 Hz

RIGHT EAR: _____ _____ _____

LEFT EAR: _____ _____ _____

(20 db HL)(20db HL) (20 db HL) (Screening Level)

√ = Pass

_____ Pass _____ Could not screen

_____ Rescreen _____ Absent

_____
(Screener's Signature)

****

Rescreen Date _____

Pure Tone Screening
1000 Hz 2000 Hz 4000 Hz

RIGHT EAR: _____ _____ _____

LEFT EAR: _____ _____ _____
(20 db HL)(20db HL) (20 db HL) (Screening Level)

√ = Pass

_____ Pass

_____ Further testing indicated

_____
(Screener's Signature)

Source: ED – 4071 / 2003: Screening and Interventions in General Education, Department of Education

HEARING SCREENING PROGRAM
Re-screening Worksheet

Name _____ Age _____ Grade _____ Teacher _____

Parents _____ Address _____

Phone _____ Health Care Provider _____

Conditions Indicative of Possible Hearing Loss: (teacher observations and health history)

_____ Repeated colds
_____ Cold today
_____ Sore throat today
_____ Discharge from ear more than once
_____ Discharge from ear today

Frequent earaches:
R _____L _____ Both_____

_____ Complains of loud, constant ringing in the ears

_____ Hearing problems or deafness in family

_____ Inattentive
_____ Slow responding
_____ Repeating grade
_____ Says "huh?" or "what" often
_____ Speech defect "baby talk"
_____ Omits letters
_____ Substitutes letters
_____ Garbled speech
_____ Distorted speech
_____ Too soft
_____ Too loud
_____ Too high pitched
_____ Too low pitched

Date of Re-screen _____ decibels		
Frequencies	R	L
1,000		
2,000		
4,000		
6,000 (optional)		

Tympanometry			
R Ear	P	F	Type Curve _____
L Ear	P	F	Type Curve _____

Referred by nurse to:

_____ Family
_____ Primary Care Provider
_____ ENT Specialist
_____ Speech/Language Pathologist
_____ Audiologist
_____ Other

Appendix D

SAMPLES

CONFIDENTIALITY AGREEMENT FORMS

Sample
Confidentiality Agreement Form
(STAFF)

Definition: Disclosing health information only to the people who are authorized to know it.

Purpose: To safeguard the privacy of students and staff regarding personal health information and to maintain the nurse/patient relationship in compliance with the nurse practice act while facilitating accurate nursing assessment and safe intervention. To allow student, staff and parent to feel secure in sharing appropriate information and to observe statutes and rules governing confidentiality.

Steps and/or Points:

1. Nursing assessment and intervention shall be provided in such a way as to protect student privacy and confidentiality.
2. Nursing feedback to school personnel who refer a student is essential and shall always occur. Share only information that is necessary and that impacts the student's educational experience, health care of safety.
3. Sharing student health information in staffing committees may require written permission for release of confidential information.
4. A "Health Concerns List" is distributed to all school personnel for whom the student's health information might possibly impact the student's educational experience and safety. This information is not sent to anyone whom the parent/guardian checked on the Health History as NOT wanting the information shared with. This Health Concerns List contains all students (listing conditions) who have a moderate to high risk of a major health problem exacerbation while at school.
5. There are situations when confidentiality must not be maintained. If at any time, information has been shared with you that indicates a student or staff member is at imminent risk of harm or is a danger to himself or others, that information must be shared with those who need to intervene in order to protect the student or staff member (school administrators, parent, child protective agency, police, health care provider, etc.).
    a. It is recommended that your discussion with students or staff include something like, "What you tell me, I will keep in confidence, unless I feel it is necessary to share it with someone to protect you or others."
    b. In those situations where nursing judgment determines it is necessary to reveal information regarding the student's health without a release from student/parent, it is prudent to share only those details that are essential to achieve resolution of the problem. It is also recommended that the information be shared with as few people as possible.
6. Records of student/nurse communications regarding the personal affairs of the student or his/her family are confidential and may be shared only as the student or parent authorizes except in life-threatening situations. All information is confidential by virtue of nurse/client relationship and under student records law.
    a. Only the school nurse, back-up, and the Director of Nursing may have access to nursing records without written release by student/parent.

b. Nursing records may be viewed by the involved and, with some exceptions, his parent.
    (1) A student, particularly a student under age 18, can't limit the parent's access to nursing records in most cases. There are some health-related items that are confidential from parents, but such items are the exception.
    **A parent does NOT have the right to inspect that part of the nurse's record that the state law requires to be kept confidential, even from parents. This pertains to sexually transmitted diseases, contraceptives and family planning issues. To respond to these parental requests, follow the direction of your legal counsel/district policy (consult the Director of Schools).
    (2) The student may view records immediately upon his/her request unless the nurse feels such viewing would be counterproductive to the student's health management.

7. Anytime nurse/health records are released to someone, the bottom part of the Release of Information form is to be completed and filed in the student's or staff's nursing file.
8. Nursing records may not be released to another agency/individual unless the parent has signed a "Release of Information" document or the nursing record is subpoenaed by court action.
   **The non-custodial parent has the right to inspect nursing records but not to sign an authorization to release them.
9. When a record is subpoenaed:
    a. The original of the records will be maintained by the school and a copy will be submitted to court.
    b. The exception to this would be health records obtained from other clinics/physicians that are stamped, "Do not release for third party access." For these unreleased records, make note in the released copy that a medical report from a specific clinic exists in your nursing record. The receiving party may wish to obtain a release for this same source document.
10. Information may be shared with protective services caseworkers without a subpoena when the caseworker is conducting an assessment or planning intervention/court hearing.
    **Information to be shared will be summative in nature; a subpoena is necessary to release the nursing record.
11. Exercise caution in discussing confidential issues on the telephone. Efforts should be taken to establish the identity of the caller and his/her right to confidential information.
12. Documents released by our department should be stamped, "Confidential; Not To Be Forwarded Without Parental Permission."
13. When uncertain who has legal custody of a student, consult with the school administrator and when necessary, the student's Child Protective Service Case Manager.
14. Use the FAX ONLY when there is not sufficient time for mailing records.
    a. Confirm recipient's FAX number before pushing the "send" button.
    b. Use a cover sheet to facilitate confidentiality and to give directions for destruction of misdirected information.

c. Always call the receiver when you suspect a FAX was sent to a wrong place, to confirm the information was destroyed.

15. All health records containing staff or student's names should be kept in a locked location where no one but the school nurse, back-up, or nursing supervisor has access.
16. All discarded health records containing staff or student names should be shredded before being discarded.
17. Never discuss health information about a student or staff member with anyone who is not authorized to know it. The only people authorized to know it are as follows:
    a. School Nurse
    b. Back-up
    c. Director of Nursing
    d. Staff listed on the Health History whom the parent authorized to know the health information
    e. EMT personnel, if an ambulance has to be called
    f. Physicians, as listed on the Health History, if the Health History is signed.
    g. Persons/agencies authorized by the parent on the Release of Information
    h. Coordinated School Health (CSH) personnel
    i. Health screening workers/volunteers

    **The above listed authorized people only need to be informed of the health information if, and when, it becomes "need-to-know" to them. This means if and when the particular information would affect that person or agency by impacting the student's or staff's educational experience, health care or safety.
18. All school nurses, backups, CSH personnel, teachers, teaching assistants, and health screening workers/volunteers must sign a copy of this policy/procedure.

SAMPLE
CONFIDENTIALITY FORM
(STAFF and VOLUNTEERS)

Tennessee Department of Education Confidentiality Statement

By signing below, I am acknowledging my awareness of the requirements of the Health Insurance Portability and Accountability Act (HIPPA) and acknowledging and understand that, as a volunteer for the Department of Education's interests I am prohibited from releasing to any unauthorized persons any protected health information which may come to my attention in the course of my duties and that all data is the property of the school system and State of Tennessee and must be sent to the state CSH evaluator and is not the property of the screener. School systems are expected to follow the Family Educational Rights and Privacy Act (FERPA) requirements that cover health information privacy concerns in the educational setting. For information on FERPA visit the National Association of School Nurses website: http://www.nasn.org/Default.aspx?tabid=277.

_____

Signature

_____

Date

_____

Print Name

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