- If a child needs verbal instructions repeated several times before he/she understands.
- If a child consistently turns up the volume of the television, music, or computer.

Behavioral Symptoms

- If a child does not particularly like listening to music or 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 cues of meaning.
- If a child depends on visual cues to successfully complete simple verbal tasks.
- If a child has a short attention span for his/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: Vanderbilt Bill Wilkerson Center

Body Mass Index (BMI)/Height and Weight

Tenn. Code Ann. § 49-6-1404 *Nutrition and physical activity programs in schools where aggregate data suggests high rates of obesity.*

Schools where aggregate data suggests that 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-for-age on the school's students whose parents or guardians have not requested exclusion from the testing at the end of the school year.

BMI Screening Recommendations

The TDOE encourages LEAs to conduct annual BMI screenings for all students in grades Pre-K, K, 2, 4, 6, 8, and one year or class of high school (usually wellness class). The LEA should screen the same high school grade-level or class year after year. For example, if the LEA conducts BMI screenings for those students enrolled in a wellness class, then the LEA should conduct BMI screenings for students enrolled in the same wellness classes every year thereafter. Staff training for BMI screenings is required. Specific protocols must be used.

BMI Rationale

Childhood obesity is a serious problem in the United States and is associated with health risks. Since the 1970s, the percentage of children and adolescents affected by obesity has more than tripled. According to 2015-2016 data, the prevalence of obesity was 13.9% among 2- to 5- year olds, 18.4% among 6- to 11-year-olds, and 20.6% among 12- to 19- year olds. Obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex. Overweight is defined as a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex.

Sources:

Fryar CD, Carroll MD, Ogden CL. (2018, September). *National Center for Health Statistics.* Prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2-19 years: United States, 1963-1965 Through 2015-2016. https://www.cdc.gov/nchs/data/hestat/obesity_child_15_16/obesity_child_15_16.pdf

Hales CM, Carroll MD, Fryar CD, Ogden CL. (2017, October). *NCHS Data Brief*. Prevalence of obesity among adults and youth: United States, 2015–2016. https://www.cdc.gov/nchs/data/databriefs/db288.pdf

Ten Safeguards to Implement 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.

According to the CDC, safeguards are an essential part of a BMI measurement program. They help to ensure respect for student privacy and confidentiality, protect students from potential harm, and increase the likelihood that the program will have a positive impact on promoting a healthy weight. Schools should not initiate weight screening unless the following ten safeguards are in place:

SAFEGUARD 1: *Introduce the program to parents, guardians, students, and school staff; ensure that there is an appropriate process in place for obtaining parental consent for measuring students' height and weight*.

To help minimize negative response from the public, programs need to involve parents or guardians early in the planning stages. Before the program begins:

- All parents should receive a clear description of the program to minimize confusion and anxiety.
- Communications with parents should focus on the health implications of obesity, overweight, and underweight, and make it clear that the school will be measuring weight out of concern for a student's health, not their appearance or a desire to criticize parenting practices.
- Schools should assure parents and students that the screening results will remain confidential.
- In addition, students and school staff should be informed of the purposes and logistics of height and weight measurement, as well as the school's policy on sharing results.

Parents must be given the option of declining permission to measure their child's BMI. Some programs use passive parental consent; that is, all students have their BMI measured unless parents send a written refusal. For example, at the beginning of each school year, school districts can inform parents about the school health program and the screenings that are conducted in each grade. Parents can choose not to have their child screened; otherwise, all students are measured. Alternatively, a school district can require active consent from both parents and students; only students who signed the consent form and whose parents have submitted a signed consent form would be screened.

> *SAFEGUARD 2: Ensure that staff members who measure height and weight have the appropriate expertise and training to obtain accurate and reliable results and minimize the potential for stigmatization.*

Accurate measurements are those that correspond to the youth's actual height and weight, while reliable measurements are those that produce consistent results when they are repeated.

Measurements are more likely to be accurate and reliable when they are conducted by trained professionals, such as school nurses. Unfortunately, many schools do not have full-time nurses on campus, and many school nurses feel that they cannot add another responsibility to their workload. Staff members involved in the program need the appropriate technical training from people who are experienced in conducting height and weight measurements and calculating and interpreting BMI results.

Conducting repetitive tasks, such as measuring height and weight, can be tedious and may lead an individual to become careless and fail to consistently follow measurement protocols. Quality control checks can be implemented through random visits to measurement sites to oversee the performance of the staff measuring students' height and weight.

Staff members need to ensure that each student takes off his/her shoes and jacket or other heavy clothing items and removes all items from his/her pockets before being weighed. Similarly, staff members must make sure that hair styles do not interfere with an accurate measurement of height.

Each measurement should be taken twice, and the youth should be repositioned prior to each measurement. If the two measurements do not agree within one-fourth of a pound for weight or one-fourth of an inch for height, then two additional measures should be taken until there is agreement. Height errors reduce the validity of BMI substantially.

Staff also need appropriate training to measure height and weight in a sensitive and caring manner. This training should address procedures to maintain student privacy during measurement, increase awareness of groups at increased risk of stigmatization (i.e., larger students, shorter boys, and taller girls), provide information about body size acceptance and the dangers of unhealthy weight control practices, and help staff identify indications of student problems related to weight or body image (e.g., eating disorders).

Staff should be prepared to respond to questions or comments by students. For example, if a student makes a negative comment about his/her own weight, staff members need to be able to respond with supportive statements such as, "Kids' bodies come in lots of assorted sizes and shapes. If other kids are teasing you about your body, let us talk and see what we can do about it." Staff members also need to know how to respond to questions about what the school will do with the measurement results and referrals.

Resources that can assist with training on height and weight measurement include:

- Health Resources and Services Administration's Maternal and Child Health Bureau

- CDC's Division of Nutrition, Physical Activity, and Obesity Growth Chart Training Modules

SAFEGUARD 3: Ensure that the setting for data collection is private.

Height and weight measurements must not be conducted within sight or hearing distance of other students. The trained staff member conducting the measurement should be the only person to see the results and should not announce them aloud. To maintain anonymity when collecting data for surveillance purposes, school staff should remove identifying information, including the student's name, from the data collection form as soon as record keeping is complete and prior to calculating BMI and aggregating and analyzing the data.

SAFEGUARD 4: Use equipment that can accurately and reliably measure height and weight.

The preferred equipment to assess students' weight is an electronic or beam balance scale that is properly calibrated to the nearest one-fourth pound according to the manufacturer's directions. Spring balance scales, such as bathroom scales, are not sufficiently accurate. The preferred equipment to assess height is a stadiometer, a wall-mounted or portable unit solely designed to measure height to the nearest one-eighth inch. The stadiometer should include a vertical board, metric tape, and horizontal headpiece that slides down to measure height. All equipment should be maintained and calibrated regularly.

SAFEGUARD 5: Ensure that the BMI number is calculated and interpreted correctly.

The English formula for calculating BMI is: (Weight [lb] ÷ [Height (in)]^2) × 703

Schools should establish the BMI-for-age percentile using the CDC growth charts. Staff must collect the student's correct age in years and months as well as their gender to properly plot the BMI on the CDC growth charts. Schools conducting BMI screening programs should refer youth categorized as underweight, overweight, and obese to a medical care provider for diagnosis and possible weight management counseling.

Resource: CDC's About BMI for Children and Teens

SAFEGUARD 6: Develop efficient data collection procedures.

To facilitate efficient and accurate data collection, BMI measurement programs should coordinate data collection times with school administrators and employ enough staff members to minimize disruptions to class time.

CDC's BMI Tool for Schools is an excel spreadsheet that can compute up to 2,000 BMI and BMI percentiles and provide a summary of students' BMI-for-age categories and graphs for the prevalence of overweight and obesity. Software can reduce the time it takes staff to conduct screenings. Other software may be available that can both aggregate the data and produce health report cards.

SAFEGUARD 7: Do not use the actual BMI-for-age percentiles of the students as a basis for evaluating student or teacher performance (e.g., in physical education or health education class).

Many factors beyond physical education and health education courses influence a student's weight, so it is not appropriate to hold students or teachers accountable for changes in BMI percentiles. Using BMI results to evaluate performance might heighten attention to weight and increase stigmatization and harmful weight-related behaviors.

Knowledge, skills, and changes in dietary, physical activity, and sedentary behaviors are more appropriate as performance measures.

SAFEGUARD 8: Evaluate the BMI measurement program by assessing the process, intended outcomes, and unintended consequences of the program.

Data should be collected on concerns about the program, such as stigmatization, cost, parental responses, and displacement of other health–related initiatives. Schools can use the evaluation results to guide improvements to their program. The results should be shared with key stakeholders, parents, the community, school administrators, and policy makers to inform their decisions about school-based BMI measurement.

Resource: CDC Program Evaluation

SAFEGUARD 9: Ensure that resources are available for safe and effective follow-up.

BMI screening programs are not intended to diagnose weight status. Schools should refer students who need follow-up to appropriate local medical care providers.

Actions to initiate a screening program:

Schools

- Work with the local medical community to ensure that adequate diagnostic and treatment services are available, staffed by employees with appropriate training, and accessible to all students, including those with low family incomes or without insurance.
- Identify school- or community-based health promotion programs that encourage physical activity and healthy eating.

School Nurses

- Be educated, trained, and equipped with the appropriate resources to respond to parents requesting guidance.
- A valuable resource during the follow-up period, school nurses can provide parents with a clear explanation of the results and health risks associated with obesity, develop an action plan for behavior change, and connect the family to medical care in the community.

School Health Personnel

- Establish systematic processes and criteria for referring students to external medical care providers.
- Refer students with signs of underweight, overweight, obesity, disordered eating, or other diet-related health conditions (e.g., sudden weight loss, eating disorders) to a local medical care provider for diagnosis and, if needed, establishment of management or treatment plans. For example, students classified as obese or overweight after BMI screening require further medical examination to determine whether the student in fact has excess body fat or other conditions related to obesity (e.g., diabetes or prediabetes, high blood cholesterol and triglyceride levels, or early pubertal maturation).

School Staff

- Receive guidance on how to recognize early signs of health risks that require urgent attention such as hunger or disordered eating. If a school staff member suspects a student to have these risk behaviors, staff should confidentially refer these students to school health or mental health personnel.

Schools can play a significant role in developing and marketing a referral system for students and families. To establish a referral system, school health personnel should identify health-care services and school or community-based programs that encourage healthy eating and physical activity and address obesity and eating disorders. These services include:

- school-based and/or school-linked health clinics
- local health departments
- universities
- medical schools
- outside health-care providers (e.g., private physicians and dentists, hospitals, psychologists and other mental health workers, pediatric weight management clinics, community health clinics, and managed care organizations)
- community-based nutrition and physical activity providers and services (e.g., dieticians, recreational programs, and cooking classes)

The list of referral services should be based on the health needs of the student population, barriers to health care in the community, past student use of community services, and current community culture. Health, mental health, and social services staff members can assess which services are available at the school and which require outside referral. The list should include services that are accessible to all students, including those with low family incomes or without health insurance or transportation. If feasible, arrangements can be made to bring community-based services to the school. With a comprehensive referral system in place, health, mental health, and social services staff members are

able to respond to requests from families seeking guidance and increase access to care among students.

Resource: CDC School Health Guidelines to Promote Healthy Eating and Physical Activity. MMWR. 60(5):1-75

SAFEGUARD 10: Provide all parents with a clear and respectful explanation of the BMI results and a list of appropriate follow-up actions.

Parents should be notified of student's BMI results by secure means. To reduce the risk of stigmatizing students, notification should be sent to all parents who have consented to the screening. To avoid giving the impression that a diagnosis has been made, the letters to parents about students who need further evaluation—those classified as underweight, overweight, or obese—should avoid definitive statements about the student's weight category. For example, communication might:

1. State that the student's BMI result "suggests" that he/she "may" be overweight.
2. Identify the student's height, weight, and BMI-for-age percentile, and include a table defining BMI-for-age percentile categories with images.
3. Communicate that the student's weight was found to be low, normal, or high for his/her height and age.

All communication should strongly encourage parents to consult a medical care provider to determine if the student's weight presents a health risk.

Communication to all parents, including those whose children have been classified as normal weight, should include scientifically sound and practical tips designed to promote health-enhancing physical activity and dietary behaviors. For example, the communication might encourage families to consume a healthy diet based on the U.S. Dietary Guidelines for Americans. Parents should also be aware that youth should engage in 60 minutes or more of physical activity each day and reduce sedentary screen time such as television, video games, and computer usage. If written, the communication should be written in appropriate languages and at appropriate reading levels to be understood by parents; the tone should be neutral to avoid making parents feel that they are being blamed for their child's weight status. Motivational messages should be guided by sound communication and health behavior change theories. To ensure comprehension and effectiveness, the letters can be tested with representative parents in advance.

The communication should include:

1. Contact information for the school nurse or other school-linked health care provider;
2. Educational resources for weight, nutrition, and physical activity;
3. Contact information for community-based health programs or medical care providers who treat weight-related health problems (including programs for those without health insurance); and
4. Information on school and community-based programs that promote nutrition and physical activity.

Source:

Nihiser AJ, Lee SM, Wechsler H, McKenna M, Odom E, Reinold C, Thompson D, Grummer-Strawn L. (2007, September), Body Mass Index Measurement in Schools. *Journal of School Health*. 77:651-671. https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1746-1561.2007.00249.x

BMI Screening Program

Collaboration between health care services in school systems and the community is essential for a successful screening program. Before any data is collected, the participation and enthusiasm of the community should be solicited to ensure 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 coordination of data collection and management and are not limited to those listed.

Potential Partners

- Local Health Councils
- School administration
- Hospitals
- Local health department
- Health Science Instructors
- HOSA Students
- PTA/PTO
- Parent volunteers
- School psychologist/school counselor
- UT Extension
- Local institutions of higher education

Equipment Needed

Accuracy and reliability are affected by the quality of the screening equipment. It is difficult to perform accurate and reliable screenings with inadequate equipment. Even with the proper screening equipment, care must be taken to properly maintain and effectively implement the use of that equipment.

While proper screening equipment can appear to be prohibitively expensive, the accuracy and consistency of quality equipment is worth the cost. If screening results are not accurate and consistent, then the data cannot be relied upon. High-quality, easily calibrated and well-maintained equipment is a worthwhile investment and will provide years of accurate and reliable service. Because quality equipment is durable, the high initial investment costs for quality equipment can be amortized over 20 or more years of service.

- **Scale** - A properly calibrated, high quality balance beam or electronic digital scale should be used to measure children and adolescents. Spring balance scales such as bathroom scales should not be used. The scale should:
    - be able to weigh in ¼ lb. increments;
    - have a stable platform;
    - have the capacity to be “zeroed” after each weight is taken; and
    - have the capacity to be calibrated.

- **Scale calibration weights**
- **Stadiometer** (measures height) - A portable or wall-mounted stadiometer should be used that
    - can read to ⅛ inch increments;
    - has a large stable base; and
    - has a horizontal headpiece that is at least three inches wide that can be brought into contact with the most superior part of the head (i.e., the crown).

    Note: Movable headpiece attached to balance-beam scales are **not** recommended for use.
- **Data collection form**
- **Privacy screen**
- **Parental/guardian permission request form**
- **Parent/guardian notification and referral forms** (see Appendix B for samples)
- **Quality assurance notebook**

Maintenance and Calibration of Equipment

1. Check the equipment regularly to ensure accurate measurements.
2. Scales should be calibrated regularly to ensure accurate measurements.
    a. Re-calibrate if the scale has been moved to a different surface.
    b. Portable digital scales, frequently moved, should be calibrated before each use.
    c. For scales that are not moved or used excessively, calibrate at least annually.
    d. Use known weights (a set of standard weights purchased from a sports store) on the scale or a professional service to check accuracy.
    e. Send the scale for professional calibration if the standard weight and the scale weight are off by ¼ pound or more. For a digital scale, change the batteries and if it is still off after checking again with the standard weights, send scales for professional calibration and/or check the owner manual for scale instructions.
    f. Beam balance scales should have “screw type” provision for immobilizing the zeroing weight.
3. Check the stadiometer regularly to be sure the base is stable, and measures are accurate.
    a. Length rods, a standard measuring test rod, should be used to verify accuracy at least annually.
    b. Portable stadiometers should be checked more frequently.
    c. If a discrepancy is found in accuracy, contact the manufacturer for advice.

Training for Reliable Results

Along with training, data collection personnel must sign a confidentiality statement that will be kept on file. Make sure there is documentation that all volunteers have been trained and that the documentation is on file with the school administrator.

Data Collection Personnel

A minimum of 2 people is needed with the cooperation of the classroom teacher.
Personnel suggestions include, but are not limited to the following:

- Health educators
- Nutrition staff
- School nurse
- PE/Health/Wellness teachers
- Parent/Community volunteers

Train staff involved in the screening process. To improve accuracy, especially for mass screening of students, it is recommended that at least two staff conduct the BMI screening: one to measure the child and one to record the data. This reduces recording errors.

The objectives for training are:

1. Proper use and maintenance of equipment for accurate and precise measurement;
2. Review of forms for the recording of information;
3. Emphasis on the importance of privacy and confidentiality for the students; and
4. Appropriate and sensitive communication with students regarding height and weight measurement (e.g., saying "Let us check your weight" instead of "Let us see how big you are;" reassuring students that kids' bodies come in assorted sizes and shapes; and avoiding labels such as "obese," "overweight," "too thin," or "too short").

Children with Physical Disabilities

Assessing measurement of non-ambulatory students with special health care needs requires special consideration as children may not be able to stand up or lie flat. An example would be a child with a cast or a child in a wheelchair. Measurements may need to be assessed at an alternate time or coordinate with the primary care specialist for the child with special health needs to obtain measurements, if needed. Alternate methods are available for measuring children requiring special accommodations such as sitting heights, segmental lengths, girths, and skin folds but require special skills and equipment.

Process for Weight and Height Measurements

Accuracy is important in obtaining height and weight measurements because these measurements will be used to calculate the BMI which, in turn, is utilized to assess healthy weight status and/or provide surveillance data.

Prior to screen

- Calibrate the scales and record data in the quality assurance notebook.
- Set up measurement stations with the appropriate equipment.
- Check that all data is recorded on the data collection form.
- 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.
- Have appropriate gender specific CDC stature-for-age growth charts available to plot measurements.

Measuring Weight

1. Set the scale to zero reading**.**
2. Have the student remove shoes, heavy outer clothing (jacket, vest, sweater, hat), and empty pockets (cell phones, iPods) to extent possible**.**
3. Have the student step on center of the scale, facing away from the read out ensuring they cannot see their test results; with body weight evenly distributed on both feet, arms hanging naturally at side with palms facing thighs and head is up and facing straight ahead**.**
4. Make note of the first weight value to the nearest ¼ lb.
5. Have the student step off the scale and take a second measurement, repeating the steps above.
6. The measures are compared; they should agree within ¼ lb.

    a. 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.
7. For confidentiality and to avoid stigma or harassment, do not call out weight value**.**
8. Record the weight value immediately on the student data form**.**
9. If using a balance beam scale, return the weights to zero position**.**

Measuring Height

1. 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.
2. Have the student stand erect, with shoulders level, hands at sides, knees, or thighs together and weight evenly distributed on both feet.
3. 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.
4. 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.
5. Assure student's legs are straight, arms are at sides, and shoulders are relaxed.
6. Ask the child to look straight ahead, inhale deeply and to stand fully erect without altering the position of the heels.
    a. Lower the headpiece until it firmly touches the crown of the head with sufficient pressure to compress the hair and is at a right angle with the measurement surface.
    b. 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 the proper position.
    c. Position yourself so that your eyes are parallel with the head piece, read the measurement to the nearest ⅛ inch, and make note of the first measurement.
    d. Move the headboard away; check the posture, and re-measure the student.
    e. Measurements should agree within ¼ inch, re-measure and select the average of the two measures that agree the most.
    f. Immediately record the results in the student health record or data log.

Calculating BMI

After collecting the student's height and weight, the BMI can be calculated. There are several methods to determine BMI:

- BMI Wheel
- BMI calculation computer software
- BMI Table
- The Children's BMI Tool for Schools:

    - This Excel spreadsheet can be used by school, childcare, and other professionals who want to compute Body Mass Index (BMI)-for-age for a group of up to 2000 children, such as for a school classroom or grade.
- If using electronic health records, the program may calculate and plot BMI on the growth chart
- BMI Percentile Calculator for Child and Teen
- BMI calculation by mathematical equation:

BMI =	**(weight in pounds) divided by (height in inches X height in inches)**	**X 703**

Parent/Guardian Notification

Provide all parents with a clear and respectful explanation of the BMI results and a list of appropriate follow-up actions.

Eating Disorders/Malnutrition

Although considered to be mental health disorders, eating disorders are remarkable for their association with nutrition-related problems. In anorexia nervosa, nutrition-related problems include refusal to maintain a minimally healthy body weight (e.g., 85% of that expected), dramatic weight loss, fear of gaining weight even though underweight, preoccupation with food, and abnormal food consumption patterns. According to the National Institute of Mental Health, the lifetime prevalence of anorexia nervosa was three times higher among females than males in a national survey. Anorexia nervosa is ten times more common in females, especially just after onset of puberty, peaking at ages 12-13 years. Bulimia nervosa is an eating disorder with food addiction as the primary coping mechanism. In bulimia nervosa, problems include recurrent episodes of binge eating, a sense of lack of control overeating, and compensatory behavior after binge eating to prevent weight gain (e.g., self-induced vomiting, abuse of laxatives or diuretics, fasting). Body weight is often normal or slightly above normal.

Students identified to be at risk for malnutrition, failure-to-thrive or who are suspected to have eating disorders should be referred to a primary care provider for in-depth medical assessment. These nutrition-related conditions must be addressed cautiously and expediently. Aside from psychological disturbances, eating disorders can lead to serious electrolyte imbalances and dehydration. Long-term effects include osteoporosis. Death can occur in extreme cases. Because of the serious nature of these potential conditions, it is imperative that school health personnel communicate observations and concerns directly to the parent/guardian. Effective treatment for eating disorders involves medical and psychological treatment, nutritional counseling, and family and school support. Keep in mind that a diagnosis of an eating disorder can be made only by a physician or an appropriate health care provider.

Sources:

Massachusetts Department of Public Health. (2014) *BMI Screening guidelines for Schools.* http://www.mass.gov/eohhs/docs/dph/com-health/school/bmi-screening-guidelines-for-schools.pdf.

Maternal and Child Health Bureau. (n.d.). *Accurately Weighing and Measuring: Developing and Rating Your Measurement Technique.* http://depts.washington.edu/growth/index.htm
National Institute of Mental Health. (2017, November). *Eating Disorders.* *https://www.nimh.nih.gov/health/statistics/eating-disorders.shtml*

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.

- Tennessee Department of Education, Office of Coordinated School Health
- Tennessee Department of Education, School Nutrition
- Tennessee Department of Health, School Nutrition Program Resources
- Academy of Nutrition and Dietetics
- Center for Health and Health Care in Schools
- CDC - Adolescent and School Health
- CDC – Healthy Weight, Nutrition, and Physical Activity
- CDC – Tips for Parents – Tips to Help Children Maintain a Healthy Weight
- Fruits and Veggies: More Matters
- Girls Health
- Healthier Tennessee
- MyPlate
- UT Extension Service
- NIH, Helping Your Child Who is Overweight

Blood Pressure (BP) Screening

BP Screening Recommendations

The TDOE encourages LEAs to conduct annual BP screenings for all students in grades Pre-K, 2, 4, 6, 8, and one year or class of high school (usually wellness class). The LEA should screen the same high school grade-level or class year after year. For example, if the LEA conducts BP screenings for those students enrolled in a wellness class, then the LEA should conduct BP screenings for students enrolled in the same wellness classes every year thereafter.

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

BP Screening Rationale

1. Mortality due to hypertension (high BP) and heart disease in Tennessee is among the highest in the nation.
2. High BP in youth is associated with health problems later in life. Early identification followed by successful treatment may prevent heart disease, stroke, and kidney failure.
3. Elevated BP may indicate the presence of other diseases.
4. Screening presents an excellent opportunity for health promotion related to cardiovascular health with a population of emerging adults.