Physical Activity Tools
Physical Activity

The term “physical activity” describes many forms of movement, including activities that involve the large skeletal muscles. Activities that involve the small skeletal muscles (e.g., playing board games, drawing, writing) are important, but they do not provide the health benefits of activities that involve the large skeletal muscles and require substantial energy expenditure.

Physical activity is defined by its duration, intensity, and frequency:

- **Duration** is the amount of time spent participating in a physical activity session.
- **Intensity** is the rate of energy expenditure.
- **Frequency** is the number of physical activity sessions during a specific time period (e.g., 1 week).

Types of Physical Activity

**Aerobic.** Light- to vigorous-intensity physical activity that requires more oxygen than sedentary behavior and thus promotes cardiovascular fitness and other health benefits (e.g., jumping rope, biking, swimming, running; playing soccer, basketball, or volleyball).

**Anaerobic.** Intense physical activity that is short in duration and requires a breakdown of energy sources in the absence of sufficient oxygen. Energy sources are replenished as an individual recovers from the activity. Anaerobic activity (e.g., sprinting during running, swimming, or biking) requires maximal performance during a brief period.

**Lifestyle.** Physical activity typically performed on a routine basis (e.g., walking, climbing stairs, mowing or raking the yard), which is usually light to moderate in intensity.

**Physical activity play.** Play activity that requires substantial energy expenditure (e.g., playing tag, jumping rope).
Play. Activity with flexible rules, usually self-selected, for the purpose of having fun.

Sports. Physical activity that involves competition, scorekeeping, rules, and an outcome that cannot be predetermined. Sports are usually divided into several categories, such as individual (e.g., gymnastics), dual (e.g., tennis), and team (e.g., basketball).

Weight-bearing. Physical activity that requires people to move their own weight. Weight-bearing activity (e.g., jumping rope, walking, gymnastics, playing volleyball) contributes to the growth of healthy bones in children and adolescents.

**Exercise**

Exercise consists of activities that are planned and structured, and that maintain or improve one or more of the components of physical fitness. "Physical activity" and "exercise" are often used interchangeably. However, "physical activity" suggests a wide variety of activities that promote health and well-being, whereas "exercise" is often associated with fitness maintenance or improvement only. To achieve specific fitness and performance goals, people must focus on the duration, intensity, and frequency of exercise sessions.

**Types of Exercise**

Calisthenics. Isotonic muscle-fitness exercise that overloads muscles (e.g., pushups, side leg raises, abdominal curl-ups) by forcing the muscles to work at a higher level than usual.

Flexibility (stretching). Exercise designed to stretch muscles and tendons to increase joint flexibility or range of motion (e.g., trying to touch the floor with the hands while the legs are nearly straight, stretching an arm upward while standing and leaning to the opposite side). Specific flexibility exercises need to be done for each part of the body.

Isokinetic. Muscle-fitness exercise in which the speed of movement is usually controlled, allowing maximal force to be exerted throughout the full range of movement.

Isometric. Muscle-fitness exercise in which the amount of force equals the amount of resistance, so that no movement occurs (e.g., pushing against a door frame while standing in a doorway).

Isotonic. Muscle-fitness exercise (e.g., weightlifting) in which the amount of force exerted is constant throughout the range of motion, including muscle shortening (concentric contractions) and muscle lengthening (eccentric contractions).
Muscle-fitness. Exercise designed to build muscle strength and endurance by overloading the muscles; also called progressive resistance exercise (PRE). Common forms of muscle fitness exercise include isokinetic, isometric, and isotonic. Specific exercises need to be done for each major muscle group.

**Fitness**

Participating in physical activity is beneficial to people of all ages. Physical activity contributes to fitness, a state in which people's health characteristics and behaviors enhance the quality of their lives.4

**Types of Fitness**

Physical fitness. A set of physical attributes related to a person's ability to perform physical activity successfully, without undue strain and with a margin of safety.1

Health-related physical fitness. A physiological state of well-being that reduces the risk of hypokinetic disease (i.e., disease resulting from abnormally decreased mobility or abnormally decreased motor function or activity); a basis for participation in sports; and a vigor for the tasks of daily living.5 Components include cardiorespiratory endurance, muscle strength and endurance, flexibility, and body composition.

Skill-related physical fitness. Common components of physical fitness (e.g., agility, balance, coordination, speed, power, reaction time) that enable participation in sports and other physical activities; also called performance or motor fitness.6

**References**


2. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; President's Council on Physical Fitness and Sports. 1996. Physical Activity and Health: A Report of the Surgeon General. Washington, DC: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; President's Council on Physical Fitness and Sports.


**Suggested Reading**


A variety of factors motivate children and adolescents to participate in physical activity, including guidance and encouragement from health professionals.\textsuperscript{1} To promote physical activity in children and adolescents, health professionals need to consider factors (e.g., personal, social, environmental) that affect children’s and adolescents’ participation. Health professionals also need to consider children’s and adolescents’ readiness to change, because it affects the steps that children, adolescents, and their families need to take to improve or maintain their levels of physical activity.

Factors Affecting Physical Activity Levels

The following factors affect children’s and adolescents’ physical activity levels:\textsuperscript{2–4}

- Self-efficacy
- Expectation of positive outcomes from physical activity
- Barriers that make it difficult to participate in physical activity
- Enjoyment of physical activity

Physical activity counseling can help children and adolescents do the following:

- Increase self-efficacy
- Understand the benefits of being physically active
- Reduce barriers to physical activity
- Select enjoyable activities

The counseling suggestions presented here are based on several models of behavior change. One of these models, the stages of change (shown below), illustrates the steps people go through when they are considering making a change.\textsuperscript{5–8}

Although there is considerable research validating this model’s applicability to adults, more limited research exists for its applicability to children less than 9 years of age. Thus, health professionals are encouraged to consider this model as only a general framework for health behavior change for children.

1. Precontemplation
   Description: Is unaware of problem and hasn’t thought about change. Has no intention of taking action within the next 6 months.

2. Contemplation
   Description: Intends to take action within the next 6 months.

3. Preparation
   Description: Intends to take action within the next 30 days and has taken some behavioral steps in this direction.

4. Action
   Description: Has changed overt behavior for less than 6 months.

5. Maintenance
   Description: Has changed overt behavior for more than 6 months.
Children and adolescents and their families may be at any of these stages in terms of their decision to increase or maintain their physical activity levels. Physical activity counseling is most helpful when it is tailored to the child’s or adolescent’s stage of change. For example, for children and adolescents at the precontemplation stage, explaining the benefits of physical activity is more useful than talking about specific activities. Children and adolescents at the contemplation and preparation stages need counseling to help them set realistic goals, make plans for change, and reduce barriers. Children and adolescents at the action and maintenance stages benefit from counseling on how to prevent a relapse.8

Counseling

The health professional begins physical activity counseling by assessing the child’s or adolescent’s self-efficacy, knowledge of the benefits of physical activity, perceived barriers to participation in physical activity, and stage of change. The health professional needs to consider these factors, along with the medical history and physical examination results, and family and community resources. One example that demonstrates how health professionals have successfully used these factors to assess and counsel adults is the Patient-Centered Assessment and Counseling for Exercise (PACE) program.9–11 Preliminary research on the program’s efficacy with adolescents ages 11 to 17 shows promising results. PACE researchers expect the program to be efficacious for children and adolescents of other ages. The following physical activity counseling approaches, which have been adapted from PACE research, describe how to counsel children and adolescents at different stages of change.

Stage 1: Precontemplation

Goal: Encourage the child or adolescent to participate in physical activity.

1. Identify the benefits of physical activity.
   
   Rationale: Children and adolescents may not be aware of the benefits of physical activity (e.g., promotes well-being; helps reduce the risk of certain diseases such as coronary heart disease, hypertension, colon cancer, diabetes mellitus).
   
   Counseling statement: “Elena, being physically active is one of the most important things you can do to stay healthy, both physically and mentally. It can also help you build strong bones and feel energetic.”

2. Explain the benefits of physical activity as they pertain to the child or adolescent.
   
   Rationale: Children and adolescents may understand that physical activity is good for them, but this may not be enough to convince them to become physically active. The health professional needs to personalize the benefits of physical activity and the risks of inactivity based on the child’s, adolescent’s, and family’s health history.
   
   Counseling statement: “Charlie, participating in physical activities, such as walking, might help reduce your risk of developing diabetes, which your older sister has. I know that you’re concerned about this, and this is a way for you to do something about it.”

3. Recommend that the child or adolescent consider beginning some type of physical activity.
   
   Rationale: One study found that a physician’s recommendation to exercise would be taken very seriously by more than 75 percent of high school students.12 So health professionals can influence
children’s and adolescents’ attitudes toward physical activity.

Counseling statement: “Lauren, your weight is above the recommended weight range for your age and height. If you were to begin something as simple as brisk walking for 30 minutes each day, you’d probably feel a lot better and lose the extra weight.”

Stages 2 and 3: Contemplation and Preparation
Goal: Help the child or adolescent develop a plan for participating in physical activity.

1. Help the child or adolescent identify the benefits of physical activity.
   
   Rationale: Children and adolescents are more likely to participate in physical activity if they believe they will receive something in return. The health professional needs to help children and adolescents identify what they will gain by becoming physically active.

   Counseling statement: “Hilary, why are you interested in becoming physically active now? What do you hope to gain by participating in physical activity?”

2. Help the child or adolescent choose appropriate physical activities.
   
   Rationale: Children and adolescents are more likely to participate in physical activity if they are involved in planning the activities and participate in ones they enjoy. The health professional needs to provide guidance on the duration, intensity, and frequency of activities.

   Counseling statement: “Beth, what types of physical activities do you enjoy? Are there any you have enjoyed in the past? If so, which ones? How much activity do you think you can handle right now?”

3. Help the child or adolescent identify barriers to physical activity.
   
   Rationale: Children and adolescents may face barriers that prevent them from participating in physical activity. Identifying these barriers is the first step to overcoming them.

   Counseling statement: “John, what is keeping you from participating in physical activity (e.g., fear, embarrassment, lack of time or transportation)"
If you’ve participated in physical activity before, why did you quit? What would help you participate in physical activity now?

4. Help the child or adolescent assess confidence in his or her ability to become physically active.

Rationale: Children and adolescents are good judges about whether they will continue to participate in physical activity. If their confidence is low, the physical activity plan may need to be revised to make it less daunting.

Counseling statement: “David, on a scale of 1 to 5, with 1 being the lowest and 5 being the highest, how confident are you that you will continue to swim for the next 3 months?” (An acceptable rating is 4 or 5.)

**Stages 4 and 5: Action and Maintenance**

Goal: Encourage the child or adolescent to participate regularly in physical activity.

1. Praise the child or adolescent for being physically active.

Rationale: Praising children and adolescents for participating in physical activity will increase the likelihood that they will participate in physical activity on a regular basis.

Counseling statement: “Susan, I am pleased that you are playing tennis regularly. I think being more physically active will really help you stay healthy.”

2. Help the child or adolescent remain physically active.

Rationale: Most people can become physically active for a short period of time. However, maintaining physical activity is more difficult. The health professional needs to help children and adolescents identify strategies to help them remain physically active.

Counseling statement: “Stan, your physical activity plan is going well. What will help you remain physically active?”

3. Help the child or adolescent identify social support.

Rationale: Social support (e.g., encouragement from friends and family, participation in
physical activity with others) is crucial for helping children and adolescents remain physically active.

Counseling statement: “Lisa, does anyone support your decision to become physically active? You may want to ask your parents to help you stay active. Also, it may be helpful to participate in physical activity with your family and friends.”

4. Help the child or adolescent assess confidence in his ability to remain physically active.

Rationale: If children or adolescents are not confident in their ability to remain physically active, they are likely to get discouraged and quit. The health professional needs to help the child or adolescent increase his confidence.

Counseling statement: “Cameron, on a scale of 1 to 5, with 1 being the lowest and 5 being the highest, how confident are you that you will continue to participate in regular physical activity for the next 3 months?” (An acceptable rating is 4 or 5.) “What will help you continue?”

References

2. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; President’s Council on Physical Fitness and Sports. 1996. Physical Activity and Health: A Report of the Surgeon General. Washington, DC: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; President’s Council on Physical Fitness and Sports.


TOOL C: APPROPRIATE PHYSICAL ACTIVITY FOR CHILDREN: EXECUTIVE SUMMARY

Summary Rationale

Extensive evidence, including information from the Surgeon General’s Report on Physical Activity and Health, has documented the health benefits of regular physical activity. The report also indicates that Americans become increasingly less active with each year of age. Inactivity among children has now been linked to sedentary living among adults. For this reason efforts to promote active lifestyles among children have been targeted by the Centers for Disease Control and Prevention (CDC) as well as other groups interested in the health and well-being of all Americans. To help health professionals effectively promote physical activity early in children’s lives, developmentally appropriate guidelines for activity of elementary school children are outlined below.

Summary Guidelines

• Elementary school age children should accumulate at least 30 to 60 minutes of age- and developmentally appropriate physical activity from a variety of physical activities on all, or most, days of the week.

• An accumulation of more than 60 minutes, and up to several hours per day, of age- and developmentally appropriate activity is encouraged for elementary school age children.

• Some of the child’s activity each day should be in periods lasting 10 to 15 minutes or more and include moderate-to-vigorous activity. This activity will typically be intermittent in nature involving alternating moderate-to-vigorous activity with brief periods of rest and recovery.

• Extended periods of inactivity are inappropriate for children.

• A variety of physical activities selected from the Physical Activity Pyramid are recommended for elementary school children.
Summary: Important Activity Concepts for Children

Because children are not small adults, activity recommendations should be based on the characteristics of children. Several important concepts outlining the unique characteristics of children are described and provide the basis for recommendations in this report (for more details see the comprehensive report).

Summary: Guidelines for Promoting Physical Activity in Schools & Physical Education

- Provide time for activity in the school setting
- Individualize activities
- Expose youngsters to a variety of physical activities
- Focus instructional feedback on process, not product
- Continue to teach physical skills
- Be an active role model
- Care about the attitudes of students
- Teach positive approaches to lifetime activity
- Promote activity outside the school environment
- Consider lifetime activities that endure

Source: Adapted, with permission, from Physical Activity for Children: A Statement of Guidelines, p. 3. ©1998, National Association for Sport and Physical Education.
Physical activity programs help prepare children and adolescents for physical activity throughout life. The way health professionals present physical activity programs to children and adolescents can greatly influence their levels of physical activity participation.1–3 Thus, it is important for health professionals who provide care for children and adolescents to become familiar with the basics of physical education programs.

There are two types of physical activity: lifestyle and structured (or systematic). Lifestyle physical activity consists of activities such as walking, climbing stairs, doing chores, and playing. Structured physical activity consists of programs (e.g., sports and instructional programs in dance, gymnastics, swimming) designed to increase the quality and/or intensity of physical activity. Structured physical activity helps children and adolescents acquire muscle strength and endurance, flexibility, and cardiovascular fitness, as well as obtain and maintain a healthy weight.

There are two categories of structured physical activity programs: (1) physical education programs during school and (2) extracurricular physical activity programs at school or in non-school settings. Guidelines for assessing and organizing school and community programs to promote physical activity for children and adolescents are available.4 These guidelines address policy, environment, physical education, health education, extracurricular activities, parental involvement, personnel training, health services, community programs, and program evaluation.
Physical Education Programs During School

Quality physical education programs during school (1) provide children and adolescents with an opportunity to learn,1–3 (2) are developed and led by qualified teachers,5 (3) have appropriate content,6 and (4) follow appropriate instructional practices.7–9

An Opportunity to Learn

Children and adolescents have an opportunity to acquire the knowledge and skills they need to establish a healthy lifestyle by participating in quality physical education programs before kindergarten and continuing through 12th grade. To provide children and adolescents with the knowledge and skills they need, schools must have the following.1–3

• Adequate and safe facilities.
• A comprehensive curriculum that reflects national physical education standards, and enough equipment and materials.
• A certified physical education teacher.
• 150 minutes per week of scheduled physical education instruction in elementary schools and 250 minutes per week in middle and high schools.
• No more than 30 children or adolescents in each physical education class.

Teacher Qualifications

Quality physical education programs are taught by teachers who meet state licensing requirements, which means that they meet national standards in the following areas: content, learning styles, learner assessment, management and motivation, communication, planning and instruction, reflection, and collaboration. Teachers also need to be caring, positive role models who are dedicated to helping children and adolescents lead active, healthy lives.5

Content

A physically educated child or adolescent is defined as one who (1) has learned the skills necessary to perform a variety of physical activities, (2) is physically fit, (3) participates regularly in physical activity, (4) knows the benefits of involvement in physical activity, and (5) values physical activity and its contributions to health.6 Physical education programs should help children and adolescents obtain the knowledge and skills they need to become physically educated.

Seven national standards and accompanying benchmarks exist for determining whether a child or adolescent has the knowledge and skills needed to be considered physically educated:6

1. Demonstrates competency in many movement forms and proficiency in a few movement forms
2. Applies movement concepts and principles to the learning and development of motor skills
3. Has a physically active lifestyle
4. Achieves and maintains a health-enhancing level of physical fitness
5. Demonstrates responsible personal and social behavior in physical activity settings
6. Demonstrates understanding and respect for differences among people in physical activity settings
7. Understands that physical activity provides opportunities for enjoyment, challenge, self-expression, and social interaction

The benchmarks for each of these standards provide goals or targets for assessing the child’s or adolescent’s learning or achievement, designing instructional units and lessons, and selecting learning experiences and movement activities.

**Instructional Practices**

Physical education teachers need to do the following to help children and adolescents become physically educated:7–10

- Provide individualized instruction to meet the needs of children and adolescents whose abilities and backgrounds vary
- Offer a variety of learning experiences in games, fitness, and sports
- Devote a high proportion of time to learning and skill practice
- Support varied learning styles
- Provide authentic and meaningful formative and overall assessment
- Include all children and adolescents in meaningful and challenging learning experiences
- Integrate scientific principles and movement concepts into classroom instruction
- Offer children and adolescents systematic, specific feedback based on their acquisition of skills
- Do not use physical activity as punishment
- Do not give assignments and tasks that are too easy or too difficult
- Do not conduct arbitrary, norm-referenced assessments of children and adolescents that are not related to the learning opportunities provided

**Extracurricular Physical Activity Programs**

Physical activity in school is important, but opportunities for children and adolescents to participate in regular physical activity should extend beyond the school day. The following considerations are important when assessing or organizing extracurricular physical activity programs at school or in nonschool settings:4,11,12

- All children and adolescents should participate in 30 minutes or more of moderate-intensity physical activity on most, if not all, days of the week.
- Children’s and adolescents’ interests are important when planning physical activities for them.
- Children and adolescents need successful physical activity experiences, and the goals set for them or that they set for themselves should be realistic.
- Children and adolescents need positive feedback that focuses on participation, not outcomes. For example, a child who actively participates during a soccer game should be complimented, regardless of the game’s outcome.
- The best physical activity programs focus on enjoyment.
- Children and adolescents need positive role models. For example, parents and other adults can be
positive role models by participating in physical activity themselves.

• Children’s and adolescents’ physical activity interests may differ from those of adults.

• Children and adolescents benefit when they are encouraged to participate in physical activity.

• Physical activity programs should help children and adolescents increase physical competence and self-efficacy.

When selecting extracurricular physical activity programs for children or adolescents, parents are advised to look for programs with the following characteristics.

**Philosophy**

• The program has a written philosophy or mission statement that incorporates skill development, educational focus, fair play, and enjoyment.

• Fun is a priority.

• Performance and success are based on developmentally appropriate standards for children and adolescents, not adult standards.

• Fair play, teamwork, and good sportsmanship are taught and reinforced.

**Administration and Organization**

• There are published guidelines for child, adolescent, parent, coach, and spectator involvement.

• Coaches are carefully selected and trained, undergo a background check, and are monitored. Coaches who do not meet guidelines are provided with additional training or are removed.

• Sufficient and appropriate safety equipment is available for all children and adolescents participating in the program.

• All aspects of children’s and adolescents’ growth and development (e.g., size, emotional development, skill level) are considered when practice groups or teams are selected.

**Coach and Staff Qualifications and Development**

• Coaches and staff possess current safety certifications and credentials appropriate for the physical activity and the age of participants.

• Coaches and staff are sensitive to participants’ emotional and social needs and respond accordingly.

• Coaches and staff are knowledgeable about the physical activity and participate in ongoing professional training.

**Safety**

• Facilities are clean.

• Equipment, and practice and competition areas, are safe and in good repair; regular inspections are conducted, and maintenance and replacement policies are enforced.

• Appropriate safety equipment (e.g., mats, helmets, and wrist, elbow, and knee guards) is provided.

• Coaches and staff are trained in injury prevention, first aid, and cardiopulmonary resuscitation (CPR).

• The ratio of coaches and staff to children and adolescents is appropriate. The ratio allows for
adequate instruction and supervision and ensures safety at all times. (Ratios vary depending on the physical activity and on the age and skill levels of children and adolescents.)

**Child’s or Adolescent’s Readiness to Participate**

- The group or team’s interest level, desire to have fun, skill level, and emotional development match those of the child or adolescent.
- The program’s level of intensity and competitiveness matches the child’s or adolescent’s needs.
- All children and adolescents are treated with respect and are given meaningful opportunities to learn skills and participate fully.

Parents also need to consider their own willingness and ability to support the child’s or adolescent’s participation in a physical activity. To help the child or adolescent have a positive experience, parents need to:

- Provide the necessary time and assistance (e.g., encouragement, transportation, meeting attendance, volunteering, spectating).
- Understand and be willing to make the necessary financial and time commitments.
- Support the child’s or adolescent’s active involvement by emphasizing participation, skill development, cooperation, and teamwork.

**References**


Suggested Reading


TOOL E: CHARACTERISTICS OF EXCELLENT COACHING

Participation in sports is popular among children and adolescents in the United States. Approximately half of all children and adolescents participate in community sports programs. In addition, millions participate in interscholastic programs.

Children’s and adolescents’ experience in sports, whether positive or negative, is affected by the relationship they have with the coach. Thus, it is critical that adults who are interested in coaching children and adolescents participate in coaching education programs. In addition, leaders of community programs need to be involved in planning, organizing, and delivering these programs.

Health professionals who counsel children, adolescents, and their families about physical activity can improve the quality of their efforts by learning more about coaching. Health professionals can also make a difference in the quality of sports participation by becoming knowledgeable about and involved in sports programs in their community.

Guidelines for Promoting Excellent Coaching

National Standards for Athletic Coaches: Quality Coaches, Quality Sports aims to educate coaches, improve the quality of coaching, and promote a positive experience for children and adolescents who participate in sports. The document discusses eight domains that address (1) the knowledge, skills, and abilities coaches need, which vary depending on the ages of the children and adolescents they coach; (2) the level of competency coaches need for particular situations; and (3) the sport in which the children and adolescents they coach participate. The domains follow:

- Prevention, care, and management of injury
- Risk management
- Growth, development, and learning
- Training, conditioning, and nutrition
- Social/psychological aspects of coaching
- Skills, tactics, and strategies
- Teaching and administration
- Professional preparation and development
Educational Opportunities for Coaches

Several nationally recognized coaching education programs exist for community recreation and sports professionals. These programs and their curricula were developed by leaders in the fields of coaching, psychology/sociology of sport and exercise, and exercise science. The materials are available in a variety of formats. More information on these programs can be obtained from the following:

American Sport Education Program
Human Kinetics
P.O. Box 5076
Champaign, IL 61825
Phone: (217) 351-5076
Fax: (217) 351-2674

National Youth Sport Coaches Association
National Alliance for Youth Sports
2050 Vista Parkway
West Palm Beach, FL 33411
Phone: (561) 684-1141
Fax: (561) 684-2546
Web site: http://www.nays.org

Program for Athletic Coaches Education
Institute for the Study of Youth Sports
I.M. Sports Circle, Room 313
Michigan State University
East Lansing, MI 48824
Phone: (517) 355-7620
Fax: (517) 353-5363

Characteristics of Excellent Coaching

Successful coaches understand that children and adolescents participate in sports for the following reasons:

• To have fun
• To improve existing skills and learn new ones
• To be with friends or make new friends
• To feel successful or win

Successful coaches understand that children and adolescents cease to participate in sports for these reasons:

• They become involved in other activities
• They lose interest in a particular sport
• They feel they do not get to play enough
• They do not like the coach
• They feel that their skills are not improving
Successful coaches motivate children and adolescents to continue to participate in sports by doing the following:\(^5\)

- Knowing why children and adolescents participate in and drop out of sports
- Helping children and adolescents improve existing skills and develop new skills
- Making practices and games enjoyable

**Guidelines for Coaches**

Successful coaches do the following to make children’s and adolescents’ participation in sports as positive as possible:\(^1\)–\(^2\),\(^5\)

- Make practices enjoyable
- Maximize all participants’ physically active time during practices and games
- Minimize organizational time (i.e., inactive time) during practices and games
- Design or use instructional activities that will facilitate skill development and/or improvement
- Always use a positive style of interaction:
  - Use positive reinforcement (i.e., encouragement)
  - Provide quick, appropriate, and realistic feedback about performance
- Continually revise assessment of child’s or adolescent’s competence and skill development
- Prevent competitive stress (i.e., fear of failure):
  - Set realistic goals
  - Use a positive approach to correct mistakes
  - Do not overemphasize games’ outcomes

**References**


**Suggested Reading**


TOOL F: PHYSICAL ACTIVITY RESOURCES

General physical activity resources are listed first, followed by resources for specific physical activity issues and concerns.

General Physical Activity Information

Academy for Sports Dentistry
3705 Lincoln Trail
Taylorville, IL 62568
Phone: (217) 824-4990, (800) 273-1788
Fax: (217) 824-6819
Web site: http://www.acadsportsdent.org

Amateur Athletic Union
AAU National Headquarters
1910 Hotel Plaza Boulevard
Lake Buena, FL 32830-1000
Phone: (407) 934-7200, (800) AAU-4USA
Fax: (407) 934-7242
Web site: http://www.aausports.org

American Academy of Family Physicians
11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
Phone: (913) 906-6000
Fax: (913) 906-6975
Web site: http://aafp.org

American Academy of Pediatrics
141 Northwest Point Boulevard
Elk Grove Village, IL 60007-1098
Phone: (847) 434-4000
Fax: (847) 434-8000
Web site: http://www.aap.org

American Alliance for Health, Physical Education, Recreation, and Dance
1900 Association Drive
Reston, VA 20191
Phone: (703) 476-3400, (800) 213-7193
Fax: (703) 476-9527
Web site: http://www.aahperd.org

American Association for Active Lifestyles and Fitness
1900 Association Drive
Reston, VA 20191-1599
Phone: (800) 213-7193
Fax: (703) 476-9527
Web site: http://www.aahperd.org/aaalf

American Association for Health Education
1900 Association Drive
Reston, VA 20191-1599
Phone: (800) 213-7193
Fax: (703) 476-6638
Web site: http://www.aahperd.org/aahe

American Association for Leisure and Recreation
1900 Association Drive
Reston, VA 20191-1599
Phone: (703) 476-3472
Fax: (703) 476-9527
Web site: http://www.aahperd.org/aalr-main.html

American College Health Association
P.O. Box 28937
Baltimore, MD 21240-8937
Phone: (410) 859-1500
Fax: (410) 859-1510
Web site: http://www.acha.org
American College of Sports Medicine
401 West Michigan Street
Indianapolis, IN 46202-3233
Phone: (317) 637-9200
Fax: (317) 634-7817
Web site: http://www.acsm.org

American Council on Exercise
5820 Oberlin Drive, Suite 102
San Diego, CA 92121-3787
Phone: (858) 535-8227, (800) 825-3636
Fax: (858) 535-1778
Web site: http://www.acefitness.org

American Medical Association
515 North State Street
Chicago, IL 60610
Phone: (312) 464-5000
Fax: (312) 464-4184
Web site: http://www.ama-assn.org

American Medical Society for Sports Medicine
11639 Earnshaw
Overland Park, KS 66210
Phone: (913) 327-1491
Fax: (913) 327-1490
Web site: http://www.amssm.org

American Nurses Association
600 Maryland Avenue, S.W., Suite 100 West
Washington, DC 20024-2571
Phone: (202) 651-7000, (800) 274-4ANA
Fax: (202) 651-7001
Web site: http://www.ana.org

American Public Health Association
800 I Street, N.W.
Washington, DC 20001-3710
Phone: (202) 777-APHA
Fax: (202) 777-2534
Web site: http://www.apha.org

American School Health Association
7263 State Route 43
P.O. Box 708
Kent, OH 44240
Phone: (330) 678-1601
Fax: (330) 678-4526
Web site: http://www.ashaweb.org

Boys and Girls Clubs of America
1230 West Peachtree Street, N.W.
Atlanta, GA 30309
Phone: (404) 487-5700
Fax: (404) 487-5757
Web site: http://www.bgca.org

Boy Scouts of America National Council
1325 West Walnut Hill Lane
P.O. Box 152079
Irving, TX 75015-2079
Phone: (972) 580-2000
Fax: (972) 580-2502
Web site: http://www.bsa.scouting.org

Camp Fire Boys and Girls
4601 Madison Avenue
Kansas City, MO 64112-1278
Phone: (816) 756-1950
Fax: (816) 756-0258
Web site: http://www.campfire.org

Center for Science in the Public Interest
1875 Connecticut Avenue, N.W., Suite 300
Washington, DC 20009-5728
Phone: (202) 332-9110
Fax: (202) 265-4954
Web site: http://www.cspinet.org
Cooper Institute for Aerobics Research  
12330 Preston Road  
Dallas, TX 75230  
Phone: (972) 341-3200, (800) 635-7050  
Fax: (972) 341-3227  
Web site: http://www.cooperinst.org

IDEA—The Health and Fitness Source  
6190 Cornerstone Court, East, Suite 204  
San Diego, CA 92121-3773  
Phone: (800) 999-4332, ext. 7  
Fax: (858) 535-8234  
Web site: http://www.ideafit.com

Federal Consumer Information Center  
1800 F Street, N.W., Room G-142 (XC)  
Washington, DC 20405  
Phone: (202) 501-1794  
Fax: (202) 501-4281  
Web site: http://www.pueblo.gsa.gov

National Association for Health and Fitness  
201 South Capitol Avenue, Suite 560  
Indianapolis, IN 46225  
Phone: (317) 237-5630  
Fax: (317) 237-5632  
Web site: http://www.physicalfitness.org

Girl Scouts of the USA  
420 Fifth Avenue  
New York, NY 10018-2798  
Phone: (800) GSUSA 4 U  
Fax: (212) 852-8000  
Web site: http://www.girlscouts.org
National Recreation and Park Association
22377 Belmont Ridge Road
Ashburn, VA 20148
Phone: (703) 858-0784, (877) 523-4440
Fax: (703) 858-0794
Web site: http://www.activeparks.org

National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
Phone: (630) 285-1121
Fax: (630) 285-1315
Web site: http://www.nsc.org

National School Boards Association
1680 Duke Street
Alexandria, VA 22314
Phone: (703) 838-6722
Fax: (703) 683-7590
Web site: http://www.nsba.org

Rails to Trails Conservancy
1100 17th Street, N.W., 10th Floor
Washington, DC 20036
Phone: (202) 331-9696
Fax: (202) 331-9680
Web site: http://www.railtrails.org

U.S. Consumer Product Safety Commission
Washington, DC 20207-0001
Phone: (301) 504-0990, (800) 638-2772 (hotline)
Fax: (301) 504-0399
Web site: http://www.cpsc.gov

YMCA of the USA
101 North Wacker Drive
Chicago, IL 60606
Phone: (312) 977-0031
Fax: (312) 977-9063
Web site: http://www.ymca.net

ZERO TO THREE: National Center for Infants, Toddlers, and Families
734 15th Street, N.W., Suite 1000
Washington, DC 20005-1013
Phone: (202) 638-1144, (800) 899-4301
Fax: (202) 638-0851
Web site: http://www.zerotothree.org

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
1400 Independence Avenue, S.W.
South Building, Stop 2207, Room 3328
Washington, DC 20250-0900
Phone: (202) 720-4651
Fax: (202) 690-0289
Web site: http://www.reeusda.gov

Food and Nutrition Service
3101 Park Center Drive, Room 503
Alexandria, VA 22302-1500
Phone: (703) 305-2281
Fax: (703) 305-2312
Web site: http://www.fns.usda.gov/fns

National Agricultural Library
Food and Nutrition Information Center
10301 Baltimore Avenue, Room 304
Beltsville, MD 20705-2351
Phone: (301) 504-5719
Fax: (301) 504-6409
Web site: http://www.nal.usda.gov/fnic
U.S. Department of Health and Human Services

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division of Nutrition and Physical Activity
4770 Buford Highway, N.E., MS/K-24
Atlanta, GA 30341-3717
Phone: (770) 488-5820
Fax: (770) 488-5473
Web site: http://www.cdc.gov/nccdphp/dnpa

Centers for Disease Control and Prevention
National Center for Health Statistics
6525 Belcrest Road
Presidential Building, Room 1064
Hyattsville, MD 20782-2003
Phone: (301) 458-4636
Web site: http://www.cdc.gov/nchs

Food and Drug Administration
Office of Consumer Affairs
5600 Fishers Lane, HFE-88, Room 16-85
Rockville, MD 20857
Phone: (888) 463-6332
Fax: (301) 443-9767
Web site: http://www.fda.gov

Health Resources and Services Administration
Maternal and Child Health Bureau
5600 Fishers Lane
Parklawn Building, Room 18-20
Rockville, MD 20857
Phone: (301) 443-0205
Fax: (301) 443-1797
Web site: http://www.mchb.hrsa.gov

National Institutes of Health
National Heart, Lung, and Blood Institute
Education Programs Information Center
P.O. Box 30105
Bethesda, MD 20824-0105
Phone: (301) 592-8573
Fax: (301) 592-8563

National Institutes of Health
National Institute of Child Health and Human Development Clearinghouse
31 Center Drive
Building 31, Room 2A-32, MSC 2425
Bethesda, MD 20892-2425
Phone: (301) 496-5133, (800) 370-2943
Fax: (301) 496-7101
Web site: http://www.nichd.nih.gov

Office of Disease Prevention and Health Promotion
200 Independence Avenue, S.W.
Hubert H. Humphrey Building, Room 738-G
Washington, DC 20201
Phone: (202) 205-8611
Fax: (202) 690-7054
Web site: http://www.odphp.osophs.dhhs.gov

President’s Council on Physical Fitness and Sports
Department W
200 Independence Avenue, S.W.
Hubert H. Humphrey Building, Room 738-H
Washington, DC 20201-0004
Phone: (202) 690-9000
Fax: (202) 690-5211
Web site: http://www.fitness.gov
Specific Physical Activity Issues and Concerns

Asthma

Allergy and Asthma Network/Mothers of Asthmatics
2751 Prosperity Avenue, Suite 150
Fairfax, VA 22031
Phone: (703) 641-9595, (800) 878-4403
Fax: (703) 573-7794
Web site: http://www.aanma.org

American Academy of Allergy, Asthma and Immunology
611 East Wells Street
Milwaukee, WI 53202
Phone: (414) 272-6071, (800) 822-2762
Fax: (414) 272-6070
Web site: http://www.aaaai.org

Asthma and Allergy Foundation of America
1233 20th Street, N.W., Suite 402
Washington, DC 20036
Phone: (800) 7-ASTHMA
Fax: (202) 466-8940
Web site: http://www.aafa.org

National Institutes of Health
National Institute of Allergy and Infectious Diseases
Office of Communications and Public Liaison
9000 Rockville Pike
Building 31, Room 7A-50
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
Phone: (301) 496-5717
Fax: (301) 402-0120

Children and Adolescents with Special Health Care Needs

American Association of Mental Retardation
444 North Capitol Street, N.W., Suite 846
Washington, DC 20001-1512
Phone: (202) 387-1968, (800) 424-3688
Fax: (202) 387-2193
Web site: http://www.aamr.org
Disabled Sports USA
451 Hungerford Drive, Suite 100
Rockville, MD 20850
Phone: (301) 217-0960
TDD: (301) 217-0963
Fax: (301) 217-0968
Web site: http://www.dsusa.org

Family Voices
P.O. Box 769
Algodones, NM 87001
Phone: (505) 867-2368, (888) 835-5669
Fax: (505) 867-6517
Web site: http://www.familyvoices.org

Federation for Children with Special Needs
1135 Tremont Street, Suite 420
Boston, MA 02120
Phone: (617) 236-7210
Fax: (617) 572-2094
Web site: http://www.fcsn.org

March of Dimes
1275 Mamaroneck Avenue
White Plains, NY 10605
Phone: (914) 428-7100, (888) MODIMES
Fax: (914) 428-8203
Web site: http://www.modimes.org

National Information Center for Children and Youth with Disabilities
P.O. Box 1492
Washington, DC 20013-1492
Phone: (800) 695-0285
Fax: (202) 884-8441
Web site: http://www.nichcy.org

National Parent Network on Disabilities
1130 17th Street, N.W., Suite 400
Washington, DC 20036
Phone: (202) 463-2299
Fax: (202) 463-9403
Web site: http://www.npnd.org

National Sports Center for the Disabled
P.O. Box 1290
Winter Park, CO 80482
Phone: (970) 726-1540
Fax: (970) 726-4112
Web site: http://www.nscd.org
Diabetes Mellitus

American Diabetes Association
1701 North Beauregard Street
Alexandria, VA 22311
Phone: (703) 549-1500, (800) 342-2383
Fax: (703) 549-6995
Web site: http://www.diabetes.org

Diabetes Exercise and Sports Association
1647 West Bethany Home Road, Suite B
Phoenix, AZ 85015
Phone: (800) 898-4322
Fax: (602) 433-9331
Web site: http://www.diabetes-exercise.org

International Diabetes Center
Institute for Research and Education
HealthSystem Minnesota
3800 Park Nicollet Boulevard
St. Louis Park, MN 55416
Phone: (952) 993-3393, (888) 825-6315
Fax: (952) 993-1302
Web site: http://www.idcdiabetes.org

Juvenile Diabetes Foundation International
120 Wall Street, 19th Floor
New York, NY 10005-4001
Phone: (212) 785-9500, (800) 533-2873
Fax: (212) 785-9595
Web site: http://www.jdf.org

National Diabetes Information Clearinghouse
One Information Way
Bethesda, MD 20892-3560
Phone: (301) 654-3327, (800) 860-8747
Fax: (301) 907-8906

Eating Disorders

Academy for Eating Disorders
6728 Old McLean Village Drive
McLean, VA 22101
Phone: (703) 556-9222
Fax: (703) 556-8729
Web site: http://www.acadeatdis.org

American Anorexia Bulimia Association
165 West 46th Street, Suite 1108
New York, NY 10036
Phone: (212) 575-6200
Fax: (212) 501-0342
Web site: http://www.aabainc.org

Eating Disorders Awareness and Prevention
603 Stewart Street, Suite 803
Seattle, WA 98101
Phone: (206) 382-3587, (800) 931-2237
Fax: (206) 829-8501
Web site: http://www.edap.org

National Association of Anorexia Nervosa and Associated Disorders
P.O. Box 7
Highland Park, IL 60035
Phone: (847) 831-3438
Fax: (847) 433-4632
Web site: http://www.anad.org
Ergogenic Aids

National Clearinghouse for Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20847-2345
Phone: (301) 468-2600, (800) 729-6686
Fax: (301) 468-6433
Web site: http://www.health.org

Girls and Female Adolescents in Physical Activity

Girls Incorporated
120 Wall Street, Third Floor
New York, NY 10005
Phone: (800) 374-4475
Fax: (212) 509-8708
Web site: http://www.girlsinc.org

Melpomene Institute for Women’s Health Research
1010 University Avenue
St. Paul, MN 55104
Phone: (651) 642-1951
Fax: (651) 642-1871
Web site: http://www.melpomene.org

National Association for Girls and Women in Sport
1900 Association Drive
Reston, VA 20191-1599
Phone: (703) 476-3450
Fax: (703) 476-4566
Web site: http://www.aahperd.org/nagws

Women’s Sports Foundation
Eisenhower Park
East Meadow, NY 11554
Phone: (516) 542-4700, (800) 227-3988
Fax: (516) 542-4716
Web site: http://www.womenssportsfoundation.org

YWCA of the USA
Empire State Building
350 Fifth Avenue, Suite 301
New York, NY 10118
Phone: (212) 273-7800
Fax: (212) 465-2281
Web site: http://www.ywca.org
Heat-Related Illness
Centers for Disease Control and Prevention
National Center for Environmental Health
4770 Buford Highway, N.E., Mailstop F-29
Atlanta, GA 30341-3724
Phone: (770) 488-7025, NCEH Health Line (888) 232-6789
Fax: (770) 488-7197
Web site: http://cdc.gov/nceh

Injury
Centers for Disease Control and Prevention
National Center for Injury Prevention and Control
Division of Unintentional Injury Prevention
4770 Buford Highway, N.E., MS K65
Atlanta, GA 30347
Phone: (770) 488-1506
Fax: (770) 488-1667
Web site: http://www.cdc.gov/ncipc

Children’s Safety Network National Injury and Violence Prevention Resource Center
Education Development Center, Inc.
55 Chapel Street
Newton, MA 02458-1060
Phone: (617) 969-7101, ext. 2207
Fax: (617) 244-3436
Web site: http://www.edc.org/HHD/csn

National Institute for Sports Science and Safety
222 Richmond Street, Suite 109
Providence, RI 02903
Phone: (401) 453-2688
Fax: (401) 272-4418
Web site: http://www.nisss.org

National Program for Playground Safety
School for Health, Physical Education and Leisure Services
WRC 205, University of Northern Iowa
Cedar Falls, IA 50614-0618
Phone: (800) 554-PLAY
Fax: (319) 273-7308
Web site: http://www.uni.edu/playground

National Safe Kids Campaign
1301 Pennsylvania Avenue, N.W., Suite 1000
Washington, DC 20004-1707
Phone: (202) 662-0600
Fax: (202) 393-2072
Web site: http://www.safekids.org

National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
Phone: (630) 285-1121
Fax: (630) 285-1315
Web site: http://www.nsc.org

National Youth Sports Safety Foundation
333 Longwood Avenue, Suite 202
Boston, MA 02115
Phone: (617) 277-1171
Fax: (617) 277-2278
Web site: http://www.nyssf.org

Nutrition
American Dietetic Association
216 West Jackson Boulevard, Suite 800
Chicago, IL 60606-6995
Phone: (312) 899-0040
Fax: (312) 899-4757
Web site: http://www.eatright.org
National Programs

PE Central Challenge

The PE Central Challenge is designed for fourth and fifth grade children to encourage them to practice a variety of motor skills, many of which are contained in National Association for Sport and Physical Education standards. The goal of the challenge is to help children become more skillful movers, which, in turn, will encourage them to become more physically active.

PE Central
P.O. Box 10262
Blacksburg, VA 24062
Phone: (800) 783-8124
Fax: (800) 783-8124
Web site: http://pe.central.org

President’s Challenge Awards Program

The President’s Council on Physical Fitness and Sports President’s Challenge Awards Program is designed to help physical educators and youth-serving organizational leaders encourage children and adolescents ages 6 to 17 to make a commitment to increased physical activity and a lifetime of fitness. The program strives to help children and adolescents adopt and maintain a fit and active lifestyle while receiving presidential recognition for their efforts. All children and adolescents are recognized as winners in activity and fitness.

President’s Council on Physical Fitness and Sports
Department W
200 Independence Avenue, S.W.
Humphrey Building, Room 738-H
Washington, DC 20201-0004
Phone: (202) 690-9000
Fax: (202) 690-5211
Web site: http://www.fitness.gov
Healthy People 2010 provides a comprehensive health promotion and disease prevention agenda for the nation. The publication’s focus is on improving the health of individuals, communities, and the nation. Healthy People 2010 includes 467 health objectives in 28 focus areas. For each objective, there is a 2010 target. The objective, the target, and baseline information for objectives pertaining to the physical activity and fitness status of children and adolescents are listed in Table 23 below.

Table 23. Physical Activity and Fitness Objectives for Children and Adolescents

<table>
<thead>
<tr>
<th>Objective Number</th>
<th>Objective, Target, and Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-6</td>
<td>Increase the proportion of adolescents who have engaged in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days. Target: 30 percent. Baseline: 20 percent of students in grades 9 through 12 had engaged in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days in 1997.</td>
</tr>
<tr>
<td>22-7</td>
<td>Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion. Target: 8 percent. Baseline: 64 percent of students in grades 9 through 12 engaged in vigorous physical activity 3 or more days per week for 20 or more minutes per occasion in 1997.</td>
</tr>
<tr>
<td>22-8</td>
<td>Increase the proportion of the nation’s public and private schools that require daily physical education for all students. Target: 25 percent for middle and junior high schools and 5 percent for senior high schools. Baseline: 17 percent for middle and junior high schools and 2 percent for senior high schools.</td>
</tr>
</tbody>
</table>
### Table 23. Physical Activity and Fitness Objectives for Children and Adolescents (cont.)

<table>
<thead>
<tr>
<th>Objective Number</th>
<th>Objective, Target, and Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-9</td>
<td>Increase the proportion of adolescents who participate in daily school physical education.</td>
</tr>
<tr>
<td></td>
<td>Target: 50 percent.</td>
</tr>
<tr>
<td></td>
<td>Baseline: 27 percent of students in grades 9 through 12 participated in daily school physical education in 1997.</td>
</tr>
<tr>
<td>22-10</td>
<td>Increase the proportion of adolescents who spend at least 50 percent of school physical education class time being physically active.</td>
</tr>
<tr>
<td></td>
<td>Target: 50 percent.</td>
</tr>
<tr>
<td></td>
<td>Baseline: 32 percent of students in grades 9 through 12 were physically active in physical education class more than 20 minutes 3 to 5 days per week in 1997.</td>
</tr>
<tr>
<td>22-11</td>
<td>Increase the proportion of children and adolescents who view television 2 or fewer hours per day.</td>
</tr>
<tr>
<td></td>
<td>Target: 75 percent.</td>
</tr>
<tr>
<td></td>
<td>Baseline: 60 percent of persons ages 8 to 16 viewed television 2 or fewer hours per day 1988–94.</td>
</tr>
<tr>
<td>22-14b</td>
<td>Increase the proportion of trips made by children and adolescents ages 5 to 15 years walking to school less than 1 mile.</td>
</tr>
<tr>
<td></td>
<td>Target: 50 percent.</td>
</tr>
<tr>
<td></td>
<td>Baseline: 28 percent in 1995.</td>
</tr>
<tr>
<td>22-15b</td>
<td>Increase the proportion of trips made by children and adolescents ages 5 to 15 years bicycling to school less than 2 miles.</td>
</tr>
<tr>
<td></td>
<td>Target: 50 percent.</td>
</tr>
<tr>
<td></td>
<td>Baseline: 22 percent in 1995.</td>
</tr>
</tbody>
</table>

**Reference**

TOOL H: CDC GROWTH CHARTS

The Centers for Disease Control and Prevention’s (CDC's) clinical growth charts are a tool to assess the health and well-being of infants, children, and adolescents. The following gender-specific growth charts are available:

- Charts for infants, birth to 36 months, which provide length-for-age, weight-for-age, head circumference-for-age, and weight-for-length percentiles
- Charts for children and adolescents, 2 to 20 years, which provide stature-for-age, weight-for-age, and body-mass-index (BMI)-for-age percentiles
- A chart for children, 2 to 5 years, which provides weight-for-stature percentiles

The growth charts appear in the pocket located at the back of this guide. They can also be downloaded from the CDC Web site: http://www.cdc.gov/growthcharts.

BMI correlates with an individual’s total body fat content or percentage of body fat. BMI can be used to monitor changes in body weight and to consistently assess risk of underweight and overweight in children and adolescents 2 to 20 years.

The interpretation of BMI depends on the child’s or adolescent’s age. Established cut-off points should be used to identify underweight and overweight children and adolescents. The following BMI-for-age percentile cutoffs may indicate a health risk. In these cases, further health screening and assessment (including nutrition, physical activity, and laboratory tests) is recommended.

- Underweight: BMI-for-age less than the 5th percentile
- At risk for overweight: BMI-for-age greater than or equal to the 85th percentile but less than the 95th percentile
- Overweight: BMI-for-age greater than or equal to the 95th percentile