AMERICAN ACADEMY OF PEDIATRICS

Fitness, Activity, and Sports Participation in the Preschool Child

Committee on Sports Medicine and Fitness

A sedentary lifestyle has been linked to the development of coronary artery disease, hypertension, diabetes mellitus, obesity, and other chronic diseases of adulthood. Although these conditions are predominately diseases of adulthood, they are thought to be lifelong processes with their origins in childhood. The promotion of physical activity in early childhood may be important as the initial step in developing lifelong habits that may help forestall future chronic illness. Although some children may be too sedentary, others are participating in training programs and competitive sports that are inappropriate for the preschool age group. Guidelines for fitness and sports participation for preschool children younger than 6 years must be based on a careful consideration of the physical fitness needs as well as the unique developmental requirements and limitations of this age group.

LEVELS OF CHILDHOOD FITNESS

The results of recent national physical fitness testing of school-aged children have raised the concern that we are in the midst of a youth fitness crisis. It is clear from these studies that school-aged children have more body fat and weight than children had 20 years ago. However, because of the lack of comparable physical fitness tests done in the past, it has been difficult to determine if there has been a decline in physical fitness. Although national surveys, such as the National Children and Youth Fitness Study, have determined norms for field test measures of physical fitness in school-aged children, no such data exist for children younger than 6 years. In addition, it is unknown whether there has been any change in the level of physical fitness of preschool children in recent years.

The type and amount of exercise for optimal functional capacity and health in preschool and school-aged children in general have not been determined. Most preschool children are inherently active and experience a strong drive for motor activity. Motor activity is the means by which preschoolers explore their environments, achieve physical closeness, and communicate with others, and it is an essential component for their physical and cognitive development.

It is likely that most preschool children achieve adequate levels of physical fitness when allowed to express their innate curiosity and natural propensity for active exploration in a safe environment. Under these circumstances, specific intervention to improve the physical fitness of preschool children is usually unnecessary.

Childhood obesity affects a significant subset of preschool children. Studies of young children suggest that a low physical activity level is a primary factor contributing to excessive fat accumulation. The large amount of time that many children spend watching television has been linked to an increase in childhood obesity. Children aged 2 to 5 years are estimated to watch 25.5 hours of television per week, which cuts significantly into time available for more vigorous activities. Obese children and those with a strong genetic predisposition for obesity may benefit from interventions designed to encourage daily physical activity.

MOTOR DEVELOPMENT

There is no evidence that children’s motor development can be accelerated or their subsequent sports performance influenced by physical training during the preschool years. For example, there is no proof that special training can groom a preschooler to become a future champion. Most children follow the same sequence of acquisition of motor skills. This appears to be an innate process that occurs independent of gender. The rate at which children master motor skills, however, is variable and cannot be predicted for an individual child.

During the preschool years, children learn to perform tasks such as throwing, kicking, running, hopping, jumping, and catching. Among 4-year-old children, only 20% are proficient at throwing and 30% at catching. A number of skills are not yet fully developed in preschool-aged children. It is this lack of maturity rather than poor motor coordination that limits a child’s ability to perform certain tasks. During the preschool years, motor skills are best learned in an unstructured, non-competitive setting in which a child can experiment and learn by trial and error on an individual basis. Specific skills can be refined through repetitive practice only after the relevant level of motor development has been reached.

ORGANIZED SPORTS PARTICIPATION

A preschool child’s readiness to participate in organized sports or structured exercise sessions depends on a combination of factors: (1) neurodevelopmental
level (motor skills acquisition); (2) social development (interaction with coaches and teammates); and (3) cognitive level (ability to understand instructions).8 “Sports readiness” will occur at different rates for individual children and is best determined by the child’s eagerness to participate and subsequent enjoyment of the activity.

Organized sports sessions should be tailored to match the developmental level of the preschool child. Preschool children characteristically have short attention spans and are easily distracted. Therefore, exercise sessions should be short and emphasize playfulness, experimentation, and exploration of a wide variety of movement experiences. A reasonable format would consist of no longer than 15 to 20 minutes of structured activity combined with 30 minutes of free play. Concentration will be maximized if instructional sessions take place in a setting with minimal distractions or variations. Modifications of equipment and rules can be made to suit the developmental level and attention span of the participants. Such modifications are changes in the size of balls, softer balls, smaller fields, shorter duration of games and practices, reduced number of participants playing at the same time, frequent changing of positions, and not keeping score. Instruction should follow a “show and tell” format that emphasizes physical demonstration rather than verbal instruction since preschoolers need visual cues in addition to simple auditory cues for full comprehension of instructional material.9 Competition with others requires rapid decision making that may be beyond the cognitive capabilities of preschoolers and may also interfere with the learning of fundamental skills. Competition offers no advantage and should be minimized. Rather, the focus should be on varied movement experiences. Factors such as fun, success, variety, freedom, family participation, peer support, and enthusiastic leadership encourage and maintain participation, whereas others such as failure, embarrassment, competition, boredom, regimentation, and injuries discourage subsequent participation.10 Structured exercise sessions should be supervised by adults knowledgeable about the specific needs and limitations of the preschool age group.

ROLE OF THE PEDIATRICIAN

Pediatricians have a unique opportunity to encourage appropriate physical activity habits during the preschool years as a basis for establishing lifelong behavior important for general well-being and prevention of subsequent disease. All preschool children should be encouraged to participate regularly in a form of physical activity appropriate for their developmental level. Pediatricians should incorporate an assessment of physical activity into well-child visits when taking histories by addressing topics such as the following: interest and participation in active as opposed to sedentary hobbies; time spent watching television; activity level relative to peers; participation in organized physical activity programs; and exercise habits of family members. Pediatricians can educate parents, teachers, and coaches regarding the developmental progression and limitations of preschool children as they relate to physical activities and the appropriate structure, goals, and safety issues pertaining to exercise sessions for this age group.

AMERICAN ACADEMY OF PEDIATRICS RECOMMENDATIONS

1. All preschool children should participate regularly in a form of physical activity appropriate for their developmental level and physical health status.
2. Emphasis should be placed on promotion of physical activity as a natural and lifelong activity of healthy living. Goals of accelerating motor development to maximize subsequent sports ability are inappropriate and futile, and should be discouraged.
3. Free play designed to provide opportunities for each child to develop fundamental motor skills and to reach his or her potential at his or her own rate is preferable to structured sessions.
4. Readiness to participate in organized sports should be determined individually, based on the child’s (not the parent’s) eagerness to participate and subsequent enjoyment of the activity. Children are unlikely to be ready before age 6 years.
5. In structured sports programs, goals of participation and enjoyment should be emphasized rather than those of competition and victory. Sessions should be supervised by adults knowledgeable about the specific needs and limitations of preschool children. Setting, format, rules, and equipment should be modified accordingly.
6. Pediatricians should assess preschoolers’ physical activity level and time spent in passive activities, such as television watching, by incorporating relevant questions into the medical history during health assessment visits. Appropriate physical activity should be promoted by counseling parents, teachers, and coaches.
7. Parents and other family members should be encouraged to serve as role models for their children by participating in regular physical activity programs themselves. In addition, physical activities that parents can do with young children should be encouraged.
REFERENCES

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