

# Sports Preparation: Pre-season Recreation and Exercise for Pre-teens

*by Avery Faigenbaum*

Over the past twenty years there has been an explosion in the popularity of youth sports in the United States. More than 30 million children and adolescents play on organized teams and in many communities sports programs are available for children starting at age four or five. But along with this staggering number of youth sport participants there has been a concomitant rise in the number of overuse injuries. While muscle imbalances, hard playing surfaces and improper footwear are recognized risk factors for overuse injuries in children, a recurrent theme in almost all overuse injuries in young athletes relates to training errors (i.e., inappropriate changes in the intensity, volume and/or progression of training).

In a growing number of cases it seems that boys and girls who enter sports programs are generally unfit and ill-prepared to handle the duration and magnitude of forces that develop during practice and game situations. According to the Surgeon General's report on physical activity and health, only about one-half of young people regularly participate in vigorous physical activity and daily attendance in physical education is declining. Further, sedentary pursuits such as television viewing and "surfing" the internet continue to occupy a significant amount of time during childhood and adolescence. Some health care providers believe that approximately 50% of overuse injuries sustained by young athletes could be prevented if children were better prepared to play the game.

**Fundamental Fitness** Instead of focusing one's efforts entirely on the development of sport-specific skills, aspiring young athletes need to develop fundamental fitness abilities such as speed, strength, power and agility prior to sports practice and competition. Although some coaches and parents argue that early sports specialization is the key to success, research now suggests that the development of fundamental fitness abilities prior to sports-specialization is more related to later sports success than early sports specialization. Emphasizing sports skills instead of fundamental fitness abilities not only limits the ability of boys and girls to succeed outside of a narrow physical spectrum, but also discriminates against children whose motor skills are not as well developed. Seasoned youth coaches know that long-term success in sports is built upon a strong foundation of fundamental fitness abilities. Most successful adult athletes did not focus on one sport as a young athlete, but rather participated in several sports and recreational activities during childhood and adolescence.

While the concept of preseason conditioning for preteens may seem unnecessary to some observers, the preparticipation physical examination primarily focuses on medical and orthopedic issues and not fitness related abilities. Thus a child can "pass" the pre-season examination and not be physically (or mentally) ready for the demands of sports training and competition. While the preparticipation examination serves a worthwhile purpose, the bottom line is that participation in physical activity should not begin with sports competition, but rather should evolve out of preparatory conditioning.

In some cases it may be necessary to delay sports training until the child has had the opportunity to enhance fundamental fitness abilities. In other cases it may be necessary to decrease the time a child spends practicing sport specific skills to allow time for preparatory conditioning. This may be particularly important for female athletes who appear to be at increased risk for knee injuries.

**Pre-season Conditioning** A pre-season conditioning program for preteens should begin at least six to eight weeks before the season starts, although ideally young athletes should participate in a year-round program that varies in volume and intensity. While there is no minimal age requirement for participation in a pre-season conditioning program, all participants should have the emotional maturity to accept and follow directions and should understand the benefits and risks associated with the conditioning program. Due to individual differences in stress tolerance, the conditioning program needs to be carefully prescribed because this type of training adds to the chronic repetitive stress placed on the musculoskeletal system. Further, the goal of the program should not be limited to enhancing performance and increasing a preteen's resistance to injury, but should include teaching children about their bodies, promoting lifetime fitness and having fun. In short, conditioning programs for kids should be characterized by enthusiastic leadership, fun activities, and lots of positive reinforcement.

Our research studies have clearly shown that boys and girls as young as age 6 can make significant gains in muscle strength and power by participating in a well-designed conditioning program. Our twice-per-week, after-school "kids workout" program lasts for 60 minutes and includes a functional warm-up with light weight medicine balls (1 kg); several bodyweight jumping and medicine ball throwing drills; a series of strength-building exercises using balls, bands, dumbbells and child-size weight machines; and cool-down games and activities. Children work in groups of 10 and the program is closely supervised by at least two trained youth fitness leaders. Following only eight weeks of training we have observed significant gains in upper and lower body muscle strength, long jump, vertical jump, and seated ball putt measures. Recently, a group of young figure skaters participated in our program and after several weeks of training we observed significant improvements in selected fitness measures including "on ice" jumping ability.

While we should all encourage boys and girls to participate in a variety of sports and activities as part of a multifaceted approach to better health, parents, teachers, coaches and health-care providers have the shared responsibility of ensuring that aspiring young athletes are prepared for the demands of sports training and competition.