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Childhood obesity is a key public health issue in the United States and around the globe in developed and developing countries. Obese children are at increased risk of acute medical illnesses and chronic diseases—in particular, osteoarthritis, diabetes mellitus, and cardiovascular disease, which can lead to poor quality of life; increased personal and financial burden to individuals, families, and society; and shortened lifespan. Physical inactivity and sedentary lifestyle are associated with being overweight in children and adults. Thus it is imperative to consider exercise and physical activity as a means to prevent and combat the childhood obesity epidemic. Familiarity with definitions of weight status in children and health outcomes like metabolic syndrome is crucial in understanding the literature on childhood obesity. Exercise and physical activity play a role in weight from the prenatal through adolescent time frame. A child's family and community impact access to adequate physical activity, and further study of these upstream issues is warranted. Recommended levels of physical activity for childhood obesity prevention are being developed.

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With the exception of Rhode Island, all states require high school athletes to undergo a preparticipation examination. These

examinations may vary from state to state, however. This article covers the basics of the history, physical examination, special tests, and issues surrounding clearance for various diagnoses.

Strength Training Recommendations for the Young Athlete

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Jeffrey M. Vaughn and Lyle Micheli

In recent years there has been a significant increase in the number of youth participating in organized and competitive sports. Recent studies have supported the participation of preadolescent athletes in strength training to improve health and performance in sports. This article presents the most recent data available to help youth develop a safe and effective strength training program. Variables, such as the recommended rate of progression, the number of sets and repetitions an athlete should perform on each exercise, and how often an athlete needs to workout to avoid loss of strength achieved during a period of strength training are presented.

Adolescent Sports Concussion

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Cara Camiolo Reddy, Michael W. Collins, and Gerald A. Gioia

Approximately 2 million sports and recreation concussive injuries occur per year in the United States, which may be an underestimate because of inconsistent data reporting. The field of concussion management has evolved rapidly over the last 10 years, and with these advances comes new understanding of the significant symptomatic and cognitive impairments of concussion. These sequelae are more fully realized and may last longer than previously thought. Data have emerged regarding pathophysiology of concussion, risk factors, outcome, effects of repetitive injury, subtypes of concussive injury, and treatment protocols. This evidence calls for more conservative management of concussion, particularly in younger athletes, and demonstrates the shortcomings of concussion guidelines.

Shoulder and Elbow Injuries in the Adolescent Athlete

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Brian J. Krabak, Eric Alexander, and Troy Henning

The shoulder and elbow represent two of the most commonly injured joints in the adolescent population. Specific injuries vary by sport and can involve various structures, depending on the mechanism of injury. Unlike the adult shoulder, the immature skeletal structure of the adolescent athlete can lead to several unique injuries. By understanding the special demands placed on the immature shoulder, the sports physician can more effectively treat the resultant injury. This article reviews the diagnosis and management of unique injuries to the shoulder and elbow in the adolescent athlete.

Low Back Pain in the Adolescent Athlete

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Christopher J. Standaert

Low back pain is a common problem among young athletes. These individuals are at risk for significant structural injuries or non-mechanical problems that can be associated with their symptoms. Any athlete who has severe, persisting, or activity-limiting symptoms must be evaluated thoroughly. Clinicians must have a working knowledge of the developmental issues, injury patterns, and particular conditions that may affect a given athlete and be able to work with patients in addition to families, coaches, trainers, and others involved in the care and training of the injured athlete.

Examination and Treatment of Pediatric Injuries of the Hip and Pelvis

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Brandee L. Waite and Brian J. Krabak

Injuries to the hip and pelvis are the least common of lower extremity injuries in youth sports, but include many of the more serious conditions. This article describes the bone and soft-tissue conditions of the hip and pelvis that may present to health care providers caring for the pediatric and adolescent sporting population. The article discusses epidemiology, mechanisms, clinical presentation, evaluation, and treatment options.

Acute Knee Injuries in Skeletally Immature Athletes

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Hua Ming Siow, Danielle B. Cameron, and Theodore J. Ganley

The knee is the body part most commonly injured as a consequence of collisions, falls, and overuse occurring from childhood sports. The number of sports-related injuries is increasing because of active participation of children in competitive sports. Children differ from adults in many areas, such as increased rate and ability of healing, higher strength of ligaments compared with growth plates, and continued growth. Growth around the knee can be affected if the growth plates are involved in injuries. This article discusses fractures, anterior and posterior cruciate ligament injuries, and meniscal and patellar conditions.

Common Injuries of the Foot and Ankle in the Child and Adolescent Athlete

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Gerard A. Malanga and Jose A. Ramirez – Del Toro

A myriad problems in the foot and ankle are specific to child and adolescent athletes. The anatomy of young athletes with respect to the presence of a growth plate makes their injury patterns different from those seen in adults. The main general injury patterns seen in the feet and ankles of children are related to growth and development or occur from overuse syndromes or acute trauma. In this article we outline in an anatomically oriented manner most of the common problems in this population.

Nutritional Requirements of the Child and Teenage Athlete 373
Anne Z. Hoch, Katie Goossen, and Tricia Kretschmer

There has been an explosion in sports participation, especially for women, in the last 35 years mainly because of Title IX. In 2005–2006, nearly 3 million girls and 4.2 million boys participated in high school athletics, and many more participated in club sports and recreational activities. On the other end of the spectrum, the prevalence of obesity in the United States is at an all-time high. Proper nutrition in combination with the appropriate amount of physical activity is of paramount importance for this era of adolescents.

Psychologic Stress Related to Injury and Impact on Sport Performance 399
Angela H. Nippert and Aynsley M. Smith

Injury rates are high among children and adolescent athletes. Psychosocial stressors, such as personality, history of stressors, and life event stress can influence injury occurrence. After injury, those same factors plus athletic identity, self-esteem, and significant others—such as parents, coaches, and teammates—can affect injury response, recovery and subsequent sport performance. Goal setting, positive self-talk, attribution theory, and relaxation or mental imagery are psychologic interventions that can help injured athletes cope with psychosocial stressors. Medical professionals should be aware of the potential influence that psychosocial stressors and psychologic interventions can have on injury occurrence, injury recovery, and sport performance.

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