



Golden Hills

Orthopedic and Sports Physical Therapy

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Preventing and Treating Child and Adolescent Sports Injuries

Injuries Defined

Acute Injuries

- Occur suddenly during activity.
- Signs include:
 - Sudden, severe pain and swelling
 - Inability to place weight on a lower limb
 - Extreme tenderness in an upper limb
 - Inability to move a joint through its full range of motion
 - Extreme limb weakness
 - Visible dislocation or break of a bone

Chronic Injuries

- Result from overusing one area of the body over a long period.
- Signs include:
 - Pain when performing an activity
 - A dull ache when resting
 - Swelling

The April issue of *Golden Hills News* was the first in a special two-issue series on preventing and treating sports injuries in children and adolescents. In April, we focused on strategies that parents, coaches and kids can put into place to mitigate the risk of injury. This month, we present strategies for physicians and other caregivers to help kids and their families prevent athletic injuries and to respond with effective rehabilitation when an injury occurs.

Part II: Prevention and Treatment

Preventing the Injury

Preventing injuries in children and adolescents is a team effort, requiring strong communication between physicians, physical therapists, parents, coaches and the kids themselves.

At Golden Hills, we want our referring physicians to see us as a valuable partner in both the prevention and the rehabilitation of youth sports injuries. We encourage you to refer your pediatric patients involved in sports to us for a physical therapy consultation, even before the next sports season begins. Our goal is to help the kids and their families understand the many injury risks inherent in playing sports, and to ensure that they put the appropriate strategies in place to minimize those risks.

Preparticipation Examination

Injury prevention begins with a thorough physical examination and screening before the child participates in a sport activity. The examination is a tool used by physical therapists and other sports medicine staff to determine any weaknesses, problem areas or preexisting injuries. Deficits in flexibility, strength and range of motion also can be detected. Detection of problem areas gives the physical therapist an opportunity to work with the young athlete to make corrections.

Physical Conditioning and Training

Improper or inadequate conditioning is one of the principal causes of sports injuries in kids, and can include poor flexibility, muscular imbalance, and inadequate muscular and cardiovascular endurance.

It is important that coaches design conditioning and training programs that adapt to the four phases of the sport: in-season, postseason, off-season and preseason.

Postseason programs must focus on physical restoration of the athlete's body, including rehabilitation of injury and low-intensity work and rest.

The off-season workout is a combination of cardiovascular, strength and endurance exercises.

(Continued on reverse...)

Child and Adolescent Sports Injuries (Continued)

Preseason includes increasingly intense physical workouts to build strength, speed and agility in order to prepare for the physical demands of the season.

During the season, the competition schedule may not include enough strenuous activity to maintain preseason fitness levels. Athletes should undergo structured maintenance programs throughout the competitive season to maintain superior conditioning.

As physical therapists, we cannot stress enough the importance of a well-rounded fitness program. The athlete who maintains preseason levels throughout the season and some semblance of conditioning during the off-season will be less prone to injury than athletes who do not work out during the off-season.

Protective Equipment and Devices

Not all youth sports include protective padding, but in most sports, appropriate taping, bracing and orthotics may help prevent injury or manage an existing injury. Any young athlete requiring taping, bracing or orthotics should consult a certified physical therapist or appropriate healthcare professional to ensure that all devices are being applied correctly.

Responding to the Injury

Tips for physicians and other caregivers:

- Minor injuries are fairly common in young children; severe injuries are not.
- A young child's self-esteem and enjoyment of a sport can be influenced by an adult's reaction when the child is injured.

- Don't judge a child's reaction to an injury based on the child's age, sex or size.
- Acknowledge the child's feelings (pain, fright and/or anxiety), provide emotional support, and convey a sense of protection and caring.
- Inappropriate overconcern can have negative effects and may lead to a more frightened child or eventually to a more vulnerable child.
- Listen to the child and get his or her reaction to reentering a sport or activity.
- Time, ice and a caring attitude will help to minimize many simple traumatic injuries.

Rehabilitating the Injury

Stage One: Acute Care

Appropriate acute care can prevent or minimize the effects of initial trauma, including hemorrhage and edema. Physical therapists can provide onsite care of injuries, using typical acute care measures—such as protection, rest, ice, compression and elevation (P.R.I.C.E.)—that minimize the effects of the initial inflammatory response.

Stage Two: Subacute Care (Physical Conditioning)

Stage two rehabilitation begins when pain and swelling are controlled and the athlete does not require continued immobilization.

The primary goal during stage two of rehabilitation is to restore range of motion, strength and endurance to the affected site. The progression is based on the physician's prescribed therapy, as well as the physical therapist's assessment of the status of the injury.

Restoring range of motion to an injured limb is of paramount importance to the rehabilitation process. As an athlete progresses through stage two and regains range of motion, the strengthening process should be initiated, which includes resistance and endurance training. Finally, proprioceptive and coordination exercises will help the athlete return to his or her previous level of athletic performance.

Stage Three: Chronic Care (Return to Competition)

Returning to competition is often the most difficult decision for the physician, physical therapist, coach, parent and athlete to make. The decision must be based on a thorough assessment of the athlete's physical status to ensure that the risk of reinjury has been minimized.

At this point, the rehabilitation program should have ensured that the athlete is able to perform certain activities that are functional within his or her sport without causing any abnormal mechanics at competitive speed.

Upon returning the athlete to competition, taping, splinting or bracing should be considered to assist maintenance and provide additional stability. However, the athlete and coach must realize that these measures cannot replace the rehabilitation process.

Return to activity should be gradual and needs to be considered by the physician, physical therapist, coach, parent and athlete. Before any young athlete returns to competition, he or she must have regained full mechanical ability, balance, coordination and general fitness.