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Shoulder, elbow injuries can throw kids a curve

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Health notes

Organized youth sports are good for growing bodies. That is, to a certain extent.

Youth sports are getting increasingly competitive and aggressive, with many athletes overextending themselves by participating in multiple sports simultaneously, playing on teams in overlapping seasons or training excessively. Associated strenuous and repetitive motions, combined with inadequate rest periods, can cause painful, motion-inhibiting injuries to growing, and vulnerable, bodies. These injuries not only sideline athletes from the sports they love, but have the potential for long-term consequences if left untreated.

In throwing, high-impact and contact sports, like baseball, football, hockey, tennis, gymnastics and wrestling, young athletes are particularly at-risk for shoulder or elbow problems. Dislocations, tears, fractures and tendinitis are common traumatic and overuse injuries. It's important for athletes, parents and coaches to know that non-invasive therapies and minimally invasive surgical options can help young athletes effectively resume activities, and conditioning and mechanics exercises can help prevent these injuries from happening in the first place.

Injuries and treatments

First, the shoulder — a ball-and-socket joint that can be structurally unstable and, compared to other joints, more susceptible to dislocation. In youth sports, shoulder dislocation usually happens when athletes fall on an outstretched arm or collide with another athlete. Repeated dislocations can tear the glenoid labrum, the ring of fibrous tissue surrounding the socket in the shoulder. Bankart lesions refer to tears of the inferior or bottom portions of the glenoid labrum; SLAP (Superior Labrum Anterior and Posterior) lesions refer to tears of the labrum's superior or top portions. The glenoid labrum stabilizes the shoulder joint and, without repairing associated tears, young athletes can experience chronic complications into adulthood such as recurring dislocations and arthritis.

After diagnosing tears with an MRI, repairing Bankart or SLAP lesions requires arthroscopic surgery. With arthroscopy, the orthopedic surgeon uses two to three small incisions and a scope (camera) to further inspect and repair tears. While it is a minimally invasive, outpatient procedure, patients generally carry out six weeks of physical therapy and abstain from contact sports for four to six months post-surgery to restore full function and range of motion.

As for the elbow, a common overuse injury in sports with repetitive overhand throwing is a Ulnar Collateral Ligament (UCL) tear. This ligament connects the humerus in the upper arm to the ulna, a bone in the forearm. In cases where rest, ice, anti-inflammatories and physical therapy aren't successful in treating the injury and eliminating pain, UCL reconstruction, also referred to as Tommy John surgery, is required. Another overuse injury of the elbow is tennis elbow, which is tendinitis or inflammation or irritation of the tendons, and can be treated with rest, anti-inflammatories, and physical therapy.

Before growth plates close, which happens around the ages of 12 to 14 in girls and 14 to 16 in boys, athletes are also susceptible to stress reactions like widening of or fractures to the growth plates in the shoulder or elbow. Occasionally, if repetitive stress continues, permanent damage to the growth plate could cause the bone or limb to prematurely stop growing and be shorter than the other limb. One example of this type of injury is Little Leaguer's Elbow, which is swelling or fracture of the growth plate in the elbow, caused by frequent throwing. Stress to growth plates requires rest, anti-inflammatories, and physical therapy to prevent permanent damage.

Prevention

Appropriate protective gear, such as shoulder or elbow pads, can help prevent traumatic injuries. As for overuse injuries of the shoulder and elbow, young athletes can prevent injuries by correcting throwing mechanics, following pitching guidelines for various age groups, increasing arm and rotator cuff strength and resting until pain resolves. Seemingly irrelevant, but very important, is improving strength in the core (abdominal) and leg muscles. Much of the power and control involved in throwing comes from the core and legs, and when these body parts are weak, the shoulder and elbow use excessive stress and awkward motion to throw.

For more information

Parents and coaches of young athletes who complain of persistent pain, aching, swelling or tenderness should make sure they see their physician.

For more information on prevention and treatment for youth sports injuries, visit the Stop Sports Injuries website, provided by the American Orthopaedic Society for Sports Medicine and the American Academy of Orthopaedic Surgeons, among other organizations, at www.stopsportsinjuries.org. This online resource also offers pitching guidelines and recommendations particular to specific sports and age groups.

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