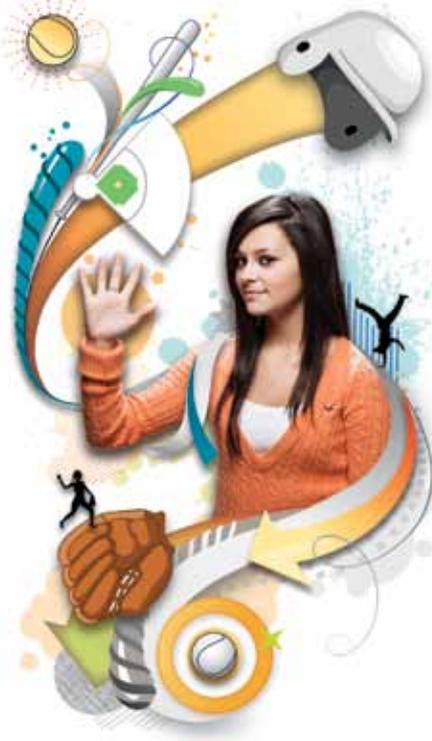




By Allan E. Peljovich, M.D., M.P.H.



Painful Play

Wrist Pain That Doesn't Go Away May be a Triangular Fibrocartilage Complex Tear

Thirteen-year-old Nicole Santacroce made a dive for second base in a competitive softball game and immediately felt a jolt of pain as her hand became twisted in the second base bag. An orthopaedist took an X-ray, which appeared normal, and placed the wrist in a cast for three weeks. Yet the pain persisted. Nicole could barely toss a ball without wincing.

Time alone will not always heal damage to the triangular fibrocartilage complex (TFCC), a segment of cartilage and ligament in the wrist. In fact, this is a common sports injury that is often underappreciated or overlooked, leading to delayed treatment.

The first clue of TFCC is the location of the pain. The wrist is tender at the fleshy spot on the ulnar side (small finger side). The TFCC provides stability and cushioning to the wrist, so just moving the wrist, especially into ulnar deviation, can trigger pangs of pain. There also may be a clicking sound when the wrist rotates. The child may also complain of pain in the wrist doing push-ups or even find pushing up off a chair difficult.

In an initial, conservative approach, a cast provides greater stability for the wrist while the ligament heals. Pain may persist for three or four weeks even when the wrist has healed, but it will ultimately subside.

In some cases, though, the pain never seems to go away completely. Two or three months after the injury, the teenage athlete still cannot perform his or her usual activities without suffering from wrist pain. It is time to take a closer look. A pediatric hand surgeon is the preferred specialist, someone who

understands distinctions between issues that relate to the growth plate and injuries that need intervention in the hand and wrist area.

A magnetic resonance imaging (MRI) study can usually determine if there is injury to the TFCC, another ligament or even the bone. If the TFCC is involved in the setting of persistent pain then surgery can be performed arthroscopically. An arthroscopic examination of the wrist has the highest degree of sensitivity for determining what the injury might be and also allows for treatment in a minimally invasive fashion.

In Nicole's case, an MRI arthrogram clearly showed a tear across the TFCC. Anatomically the TFCC sits like a trampoline suspended from both the radius and the ulnar side of the joint capsule with an attachment into the ulnar head. The peripheral margin of the structure has a good blood supply and can heal if repaired; however, the central trampoline portion, and even the part that attaches to the radius, has no blood supply and cannot heal if sewn together.

If the tear occurs in a portion of the TFCC that has no blood supply, then the surgeon will debride the area, which typically resolves the pain. In most cases of traumatic injury, the damage can be surgically repaired. Occasionally, additional work needs to be done to the ulna bone at the wrist if it is longer than the radius at the level of the wrist. Statistically, there is a greater likelihood of failure of a TFCC repair in an ulna-positive wrist, in which the ulna is taller than the radius. Therefore, during surgery we shorten the ulna in those patients.

The arthroscopic surgery takes less than an hour without the ulna repair and leaves only a 1-inch scar. But the patient must be prepared for a period of healing and rehabilitation. The wrist will be in a cast for three to four weeks with debridement and four to six weeks with surgical repair of a tear. Range of movement or hand exercises can then strengthen the wrist. The pain may take a few months to resolve.



Symptoms of a TFCC Tear

- Pain in the ulnar side of the wrist
- A clicking or popping sound when the wrist is rotated
- Pain when bearing weight on the wrist while trying to lift out of a chair

Ultimately, though, the TFCC repair offers a kind of renewal. "There was hardly any swelling, no bruising and relatively little pain from the surgery. Frankly, we couldn't believe it," said Nicole's mother, Renee. Six weeks later, Nicole's cast came off, and she began physical therapy. By the spring, she expected to be back at her usual spot on the softball diamond, getting in shape for her upcoming high school softball career. **E**

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