

# FIXING PITCHES

WITH TOMMY JOHN SURGERY,  
ATHLETES WITH ELBOW INJURIES  
CAN BE AS GOOD AS NEW



BY DR. MARK GALLAND

Every season, baseball fans lament the loss of some of their favorite pitchers to elbow injury. It is so common an occurrence that it is no longer a surprise – many fans seem to expect that one or more of their favorites will eventually fall prey to “Tommy John.” The doctors call it a UCLR – ulnar collateral ligament reconstruction. Baseball players and fans call it Tommy John surgery, named after the Los Angeles Dodgers pitcher for whom the procedure was first performed in 1974. It is one of the most significant advancements in sports medicine.

Approximately one out of every nine pitchers who made an appearance in a Major League game this season has had Tommy John surgery. This injury is not only a concern of major leaguers – the majority of these injuries occur at the high school level. In fact, more high school baseball players sustain this injury and require surgery than all professional and collegiate baseball players combined. Consider that for a moment ... these injuries are occurring right now, on your hometown diamonds, and to young athletes that you know. The reasons are myriad – poor mechanics, elevated pitch counts, too many innings pitched, inadequate off-season rest and training ... the list is practically endless. The classic story is one in which a pitcher is throwing a slider and feels a sudden onset of pain and a “pop.” Sometimes the onset of pain is sudden, but in most cases, it is a gradual process of persistent pain on the medial (close to the body) side of the elbow. Athletes who develop this condition

have pain in the elbow during and after throwing activities. They may also develop numbness and tingling in the hand due to stretching of the nearby ulnar nerve at the elbow.

A consideration of the anatomy of the ligament may help you to understand. The ulnar collateral ligament (UCL) is on the medial (the side of the elbow that’s next to the body) side of the elbow. It is a thick band of ligamentous tissue that forms a triangular shape along the medial elbow. It has an anterior bundle, posterior bundle, and a thinner, transverse ligament.

The UCL is the main source of stability for the elbow during throwing. It can be damaged by overuse and repetitive stress, such as the throwing motion. If it does not heal correctly, the elbow can be too loose or unstable. Surgical treatment is designed to restore stability of the elbow during throwing. This is successful in returning the pitcher to the mound 85% of the time.

Amazingly, the surgical procedure hasn’t changed much since it was pioneered by Frank Jobe for Tommy John in 1974. A tendon is removed from the patient’s wrist and grafted into the elbow – woven in a figure-eight pattern through tunnels drilled in the humerus and ulna bones – recreating the normal anatomy of the ligament.

The procedure is not unlike that done for reconstructive knee surgery of the anterior cruciate ligament (ACL) that has revived the careers of many pro football players; it is sometimes referred to as the “ACL of the elbow.”

Before the breakthrough, baseball saw top pitchers such as Sandy Koufax retire with elbow problems referred to simply as “dead arm.” A torn ligament was the end of the line for these pitchers, or for a lucky few, a ticket to the broadcast booth or the coaching staff.

Though the surgical procedure has undergone only minor refine-

ments, the major advancements have come in the post-operative rehabilitation, increasing the success rate from about 60% a decade or so ago. The surgery requires a full year of rehabilitation and typically another year of pitching before returning to pre-injury form. During the recovery process, the body must convert a tendon into a ligament, (a ligament connects bones, stabilizing a joint, while a tendon attaches muscle to the bone). It is very weak immediately after the surgery and the rebuilding process must be gradual.

Many note an increase in velocity after the process is complete. The reasons are yet unclear. Hard work and physical maturation of the athlete are primary considerations. Some coaches believe emotional maturity is a factor. I have had more than one pitching coach tell me "I've seen guys come back better workers because now they've had a wake-up call."

As the success rate of the surgery increases, so does the number of cases. Ten years ago, doctors were more likely to recommend



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rest for a partial ligament tear. The numbers now favor surgery. The non-surgical success rate of healing partial tears is lower than initially believed. With "conservative" treatment, players can be hampered by

the injury for two or three years as they rest the injury, then try to return. We have learned from these "failures," and now recommend and perform reconstruction soon after diagnosis. This aggressive approach is counter to most surgeons' way of thinking. Contrary to popular belief, most surgeons are conservative and reluctant to "rush" to operative treatment. Most tongue in cheek espouse the credo "There's nothing that can't be made worse with surgery." With ever-increasing success rates, many pitchers can expect to return to play with the same skill as prior to the injury, so that many in today's game view the once career-ending injury as just another line in the media guide. ■

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