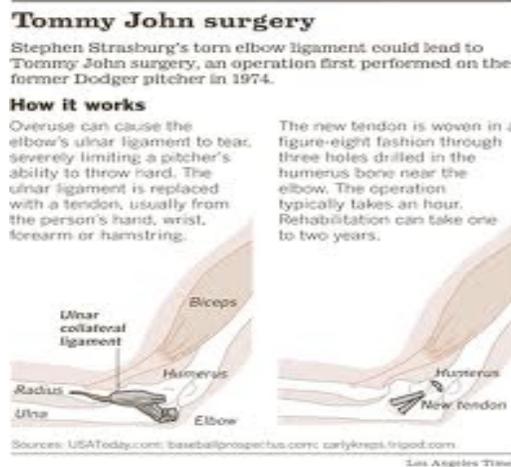
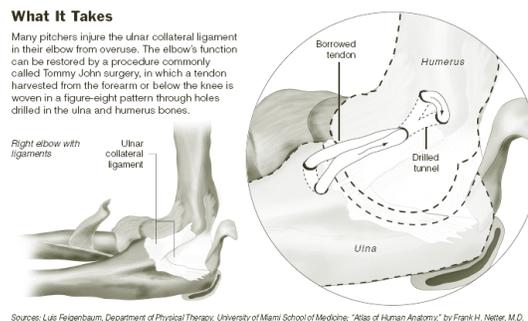


One of today's surgical procedures is on the rise. The "Tommy John" procedure is becoming more popular, especially among younger baseball players. Named after the successful major league pitcher, the surgery involves replacement of the ulnar collateral ligament in the medial (inside) elbow with tendon material from some other part of the body (often from the forearm, hamstring, hip, knee or foot of the patient). Since no muscles are cut into, this allows for a faster recovery time. However, post-operatively, the body requires a period of time to accept the transfer and to establish blood supply to the new tissue.



The focus and purpose of a rehabilitation program is to provide gradual stress in a progressive manner on the transferred material to allow the tendon to adapt to the forces that the original UCL was capable of tolerating. Wolf's Law states that tissue strength is directly proportional to the stresses placed upon them during their development. The operative words here are "their development". All athletes go through a development process as they learn new skills, condition themselves and learn the mechanics of pitching. So it is with rehabilitation. It must be a progression of simple to complex movements before one can jump back onto the path of competition.



The good news is that this process can begin within the first week post-surgery. The bad news is that approximately one year is needed overall for the transferred tissues to assume their new function completely. When Dr. Frank Jobe first did the surgical procedure on Tommy John he rated his chances of a full return at 1 out of 100; today that opportunity for a full recovery has risen above 90%. The usual length of time for recovery in professional pitchers being one year and perhaps six months for position players.

This surgery is one with few complications but there is a risk of damage to the ulnar nerve during the actual procedure.

How does the UCL become injured? Simple, it becomes stretched, frayed or torn through the repetitive stress of the throwing motion. The risk of injury is fairly high due to the high amount of tensile stress placed on the ligament during a hard throw. Interestingly enough, R.A. Dickey of the Toronto Blue Jays is currently enjoying a great deal of success despite having no UCL in his pitching arm. The major reason leading to the UCL becoming injured is correlated with the number of pitches thrown. The greatest risk lies in the volume of total throws.



In younger athletes, who have an open growth plate, the force on the inside of the elbow during throwing is more likely to cause the elbow itself to fail than the ulnar collateral ligament. This injury is often termed “Little League Elbow” and can be serious but does not require reconstructing the UCL.

Rehabilitation after Tommy John surgery is broken into various phases, each with a specific goal to be achieved. When goals are met, they athlete progresses or moves on to yet another stage until a “return to throwing program” begins. Here is where as a parent, you should realize the importance of proper teaching techniques over specific numbers of throws (volume) and distances (intensity). The watchful eye of the pitching instructor is paramount to a successful return to the field. Careful monitoring and patience by the pitching instructor and attention to detail by the healthcare practitioner along with frequent checks by the physician will return the athlete to the mound and field primed for success and continued advancement of their career.

Note in the chart the effect of aging on the UCL ligament and how injury incidence parallels the career path of many pitchers. With the wear and tear of the UCL comes a definite drop in velocity and effectiveness. Just another case for mechanics, strength and a plan!

Tommy John Component Aging Curve

