CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION — IN DEPTH

Ulnar Collateral Ligament Injury (Tommy John Injury)

Ulnar collateral ligament (Tommy John) injury: repetitive valgus stress during throwing strains the ligament on the inner side of the elbow.

Kieran Hirpara

What you're feeling

If you throw a lot (baseball, javelin, or any sport with hard overhead throwing), you may notice an ache or pain on the inner side of the elbow. It often comes on at the moment of maximum effort, just before your arm whips forward to release. Many throwers describe it as a deep, nagging soreness right over the bony bump on the inside of the elbow.

The other common clue is that your throwing changes. You lose a bit of speed, your throws lose their usual accuracy or "pop," or you simply can't throw as hard or as long as before. Sometimes the pain builds up gradually over a season; occasionally a single throw causes a sharp pain or a "pop" and the elbow suddenly feels unstable or useless.

Some people also notice tingling, numbness or pins-and-needles running into the ring and little fingers. That happens because a nerve passes right behind the inner elbow, and swelling or instability in that area can irritate it.

What's actually happening

A strong band of tissue called the **ulnar collateral ligament (UCL)** sits on the inner side of your elbow. Its job is to stop the elbow from gapping open on the inner side when force pushes it that way, a movement called **valgus**. Throwing puts enormous, repeated stress across exactly this ligament. Each hard throw stretches it a little, and over thousands of throws the ligament can slowly fray, thin out and weaken. Less often, a single violent throw tears it.

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When the UCL is damaged it can no longer hold the elbow firmly, so the joint becomes a fraction loose under throwing loads. That looseness is what causes the pain, the loss of velocity and command, and sometimes the nerve symptoms. This is the same injury made famous as **"Tommy John,"** named after the first baseball pitcher to have it surgically reconstructed and return to throwing.

It's worth knowing that this is overwhelmingly a throwing-athlete injury. For people who don't do repetitive overhead throwing, a damaged UCL rarely causes problems in everyday life, because ordinary activities don't load the ligament the way pitching does.

What we can do about it

At our clinic, Dr Kieran Hirpara guides your care from the first referral through to a tailored treatment plan. We start with a thorough assessment to understand the extent of your injury and your goals. For long-standing issues, we usually try non-operative care first and consider surgery only when that has not helped enough.

The right treatment depends on how badly the ligament is damaged, and also on whether you need to return to high-level throwing.

Non-surgical treatment comes first for partial or low-grade tears, and for anyone who doesn't need to throw competitively. This means a period of rest from throwing, then a carefully staged rehabilitation programme that rebuilds strength in the forearm, shoulder and core, corrects throwing mechanics, and brings you back to throwing gradually through a structured "throwing program." Injections of substances such as platelet-rich plasma (PRP) are sometimes offered to encourage healing, but the evidence that they help is still uncertain.

Surgery is considered when the ligament is completely torn, or when good rehabilitation hasn't allowed a committed thrower to get back to the mound. There are two main operations:

- **UCL reconstruction ("Tommy John surgery").** The damaged ligament is rebuilt using a tendon graft, usually taken from your own forearm or leg, threaded through small bone tunnels to recreate a new, strong ligament. This is the long-established, proven operation for throwers.
- **UCL repair with an internal brace.** In selected younger athletes whose ligament has pulled cleanly off the bone at one end (rather than frayed throughout), the surgeon can stitch the ligament back and reinforce it with a strong tape. This tends to allow a faster return to throwing, and is reserved for the right kind of tear.

In both operations the surgeon also checks the nerve on the inner elbow and protects or moves it if it is being irritated.

What to expect

For most throwers who have surgery, the outlook is genuinely good: the large majority return to their previous level of throwing, though it takes patience. Reconstruction (Tommy John) typically means a staged recovery over roughly a year or more before competitive throwing, while a repair with internal brace in the right patient

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can be quicker. Either way, the comeback is driven by a long, structured rehabilitation program, not by the operation alone; rushing back is the main reason for setbacks.

Recovery is not guaranteed to be universal: a small number of athletes don't return to the same level, and the nerve symptoms or the graft sometimes need ongoing attention. But with a clear diagnosis, the right choice of treatment, and committed rehab, the results for this injury are among the most rewarding in sports surgery.

When to see someone

- **Inner-elbow pain when you throw**, especially if it keeps coming back or is getting worse over a season.
- A **drop in your throwing velocity, accuracy or stamina** that you can't shake off with rest.
- A sudden **"pop" or sharp pain on the inner elbow** during a throw, after which the arm feels weak or unstable.
- **Numbness, tingling or weakness** in the ring and little fingers.
- **Inner-elbow pain in a young or growing thrower:** a child's growth plate can be injured by the same throwing stress and needs prompt assessment.

In more depth

This section goes further than you need for your own treatment decisions. Ulnar collateral ligament injury is worth the extra reading because the operation everyone has heard of — Tommy John surgery — is no longer the only real option, and the newer alternative trades a different currency: not outcome, but time.

RECONSTRUCTION IS THE ESTABLISHED OPERATION, AND ITS RESULTS ARE CONSISTENT

Reconstruction replaces the torn ligament with a tendon graft, usually palmaris longus taken from the patient's own forearm. Across **6,671** patients, most surgeons used a palmaris autograft in a figure-of-eight configuration via the modified Jobe technique, and the **revision rate with allograft appeared higher than with autograft** — though the authors note this may reflect the smaller allograft literature rather than a true difference [1].

At medium-term follow-up across **1,104** patients, reconstruction produced good patient-reported and clinical outcomes with low complication and revision rates, and baseball players reported high rates of return to play at pre-injury level along with career longevity [2]. Return-to-play rates sit between **80% and 90%**, with most athletes back in full competition at **12 to 18 months** [3].

THE ALTERNATIVE IS FASTER, AND THAT IS THE ENTIRE ARGUMENT

Where the ligament has avulsed from one end and the tissue itself is of good quality, it can be repaired rather than replaced — increasingly with an internal brace augmenting the repair.

The difference is the timeline. Augmented repair offers return to sport at an average of **6 months**, with high rates of return to play in appropriately selected candidates, against the **12 to 18 months** that reconstruction

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demands [4]. A 2025 review found repair rising in popularity and reported it as safe and effective, with low complication rates and high return-to-sport rates [5].

For a high-school or college athlete with a defined competitive window, halving the time out is not a minor consideration — it can be the difference between a season lost and a career altered. But "appropriately selected" is carrying real weight in that sentence: repair depends on an avulsion pattern with healthy remaining ligament, which is a minority of injuries and is determined by imaging and by what is found at surgery, not by preference.

NOT EVERY TEAR NEEDS AN OPERATION

Treatment depends on the tear. **Low-grade partial tears are managed non-operatively**, with reconstruction reserved as the standard for complete tears [3]. The ligament is loaded almost exclusively by the valgus stress of overhead throwing, which is why a partial tear can be compatible with ordinary daily activity indefinitely and only declares itself when throwing resumes.

REVISION DOES NOT REPRODUCE THE FIRST RESULT

If a reconstruction fails, expectations for a second should be set lower. Revision reconstruction is a rare procedure with **outcomes that are not as promising as primary reconstruction**, where diagnosis, technique and rehabilitation all become more demanding [6].

That asymmetry is the strongest argument for getting the first operation and its rehabilitation right — including completing a rehabilitation programme that feels disproportionately long for a ligament that has already been replaced. The graft has to remodel into a ligament, and that process runs on biological time rather than on how the elbow feels.

REFERENCES

1. Hones KM, Simcox T, Hao KA, Portnoff B, Buchanan TR, Kamarajugadda S, et al. Graft choice and techniques used in elbow ulnar collateral ligament reconstruction over the last 20 years: a systematic review. J Shoulder Elbow Surg. 2024;33(5):1185-99.
2. Davey MS, Hurley ET, Gaafar M, Galbraith JG, Mullett H, Pauzenberger L. Ulnar collateral ligament reconstruction of the elbow at minimum 48-month mean follow-up demonstrates high rates of return to play with low complication rates. J ISAKOS. 2021;6(5):290-4.
3. Carr JB, Camp CL, Dines JS. Elbow ulnar collateral ligament injuries: indications, management, and outcomes. Arthroscopy. 2020;36(5):1221-2.
4. Spears TM, Luchinni P, Camp CL, Bowman EN. Current concepts in the surgical management of elbow medial ulnar collateral ligament injuries. J Am Acad Orthop Surg. 2024;33(13):703-10.
5. Puga TB, Box MW, Pautler B, Perleberg T, Poffenbarger M, Riehl JT. Elbow ulnar collateral ligament repair: a systematic review of trends and outcomes. JSES Rev Rep Tech. 2025;5(4):960-7.
6. Bruce JR, ElAttrache NS, Andrews JR. Revision ulnar collateral ligament reconstruction. J Am Acad Orthop Surg. 2018;26(11):377-85.

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