CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

How Ligaments Work and Heal

Ligaments are the joint's straps — tough bands that tie bone to bone, hold joints in line, and quietly tell your brain where the joint is in space. When a ligament is overstretched or torn (a "sprain"), the joint can feel loose or give way. One of the most useful things to understand about ligaments is that **where a ligament lives decides whether it can heal**: some, like the collateral ligaments at the side of the thumb or elbow, mend on their own; others, like the small but vital ligaments *deep inside* the wrist, famously do not. This page explains, in plain language, what ligaments do and how they heal — then, for the curious, goes deeper into why that difference exists.

What a ligament is and what it does

A ligament is a short, strong band of mostly **collagen** running from one bone to another across a joint. It does two jobs: it is a **check-rein** that stops the joint moving too far or in the wrong direction, and it is a **sensor** — packed with nerve endings that feed back the joint's position and movement (a sense called proprioception). That sensing is why a joint with a damaged ligament can feel unstable or untrustworthy even when it looks normal.

How ligaments heal (and why some don't)

A sprained ligament heals much like other tissues — bleeding and inflammation, then new collagen laid across the gap, then slow remodelling and strengthening over months. **Many ligaments heal well this way**, especially with a period of protection (a splint or brace) and graded return to load.

But not all. A ligament's ability to heal depends heavily on **where it sits**:

- Ligaments **outside** the joint capsule (like the **collateral ligaments of the thumb or elbow**) have a good blood supply and can form a healing bridge — these often recover without surgery.
- Ligaments **inside** the joint (like the **scapholunate ligament** deep in the wrist) sit bathed in joint fluid, which prevents a healing clot from forming across the torn ends. These tend **not** to heal, and when stability matters they are usually **repaired early or reconstructed** surgically rather than left alone.

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What helps

- **Protected loading.** A splint or brace that allows controlled movement guides healing collagen to align, while preventing the over-stretch that would re-injure it.
- **Rehabilitation for the sensors, not just the strap.** Because ligaments provide position sense, balance and proprioception exercises are a key part of recovery and of preventing re-injury.
- **Strengthening the surrounding muscles**, which share the job of stabilising the joint.
- **Time.** Ligament remodelling runs for many months; a "healed" sprain keeps gaining strength well after it stops hurting.

See also

- How tendons work and heal — ligament's close cousin (bone-to-bone vs muscle-to-bone)
- How cartilage works — what an unstable joint can wear out
- How bone heals and remodels — the bone these straps anchor into

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