

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 goes deeper into why that difference exists for the curious reader.

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) 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; most 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.

What helps

- **Protected loading.** A splint 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