

How Wounds and Scars Heal

Every cut, graze and surgical incision heals through the same remarkable, predictable sequence, and every one leaves a **scar**, because healed skin is repaired, not perfectly regrown. Understanding how wounds heal explains why a fresh scar is red and firm before it fades, why a healed wound is never quite as strong as the skin it replaced, and why things like smoking and diabetes matter so much. This page explains, in plain language, how skin mends and scars settle; for the curious, it then goes deeper into the biology of repair and why scars behave as they do.

What a wound is and how skin heals

A wound is simply a break in the skin's protective barrier. Healing it happens in overlapping steps: first the bleeding stops and a clot/scab forms; then the area becomes inflamed (red, warm, a little swollen) as clean-up cells move in; then the body fills the gap with new tissue and pulls the edges together; and finally, over months, that new tissue is reorganised and strengthened into a scar.

A surgically closed incision (edges stitched neatly together) heals faster and with a finer scar than a wound left open to fill in from the bottom up, but both follow the same underlying process.

How scars form and mature

A scar is the patch the body lays down to close a wound. Fresh scars are typically raised, firm, red or pink because they are full of new blood vessels and disorganised collagen. Over the following months to a year, the scar remodels: blood vessels regress and the collagen reorganises, so a mature scar becomes flatter, paler, softer and less noticeable. This is why you should judge a scar at a year, not at a month.

Two honest truths about scars: they never regain the full strength of the original skin (about 80% at best), and how a scar turns out depends partly on you (wound care, not smoking) and partly on factors you can't control (genetics, skin type, where on the body it is, and tension across the wound).

What helps a wound heal well

- **Keep it clean and protected**, and follow your dressing/wound-care instructions; infection is a major derailier.
- **Don't smoke.** Nicotine narrows blood vessels and starves the wound of oxygen, one of the strongest controllable risks for wound breakdown.
- **Eat well.** Adequate protein, vitamin C and zinc, and good blood-sugar control if diabetic, supply the raw materials.
- **Protect the scar while it matures:** minimise tension, and shield a new scar from the sun (which can darken it permanently) for the first year.

See also

- [How bone heals and remodels](#) – the same repair phases, in bone
- [Smoking and musculoskeletal healing](#) – why smoking is so damaging to healing
- [How tendons work and heal](#) – repair-by-scar in another tissue