

Keloid

A keloid (also called a keloid scar) is an overgrowth of a scar, after the skin has been damaged. It is an abnormal type of wound healing, which results in a large, soft growth where the skin has been damaged. It is particularly common in people with dark skin.

What is a keloid?

Keloid is an overgrowth of the scar tissue that develops around a wound, usually after the wound has healed. It expands far beyond the original scar. Rather than stay in a straight line, for example, after a surgical incision, it spreads outwards.

Who gets keloid scars?

Keloid scars are more common in people with darker skins, especially Afro-Caribbean races. The peak age is 10–30 years and keloids are less common in the elderly or babies. Studies of African people have shown that 6–16 out of a hundred develop keloids. Half of people with keloids will have other members of the family who have also developed keloids.

What causes keloid scars?

Science hasn't yet managed to explain why some people go on to develop keloid scars after their skin is damaged, and others don't. But we have a pretty good idea of how it happens.

Keloid scars are an overgrowth of skin after a cut or injury that is larger than the original wound. They can also occur after surgery, done by doctors – for example, after ear reduction surgery (where there is a surgical scar behind the ears) or for surgical removal of a suspicious skin growth.

Keloid scars form because the normal process of scarring, that we all have, goes into overdrive:

- Normally when the skin is damaged, fresh skin is laid down to heal the damage but then the damaged area you see gradually fades away (the medical term for this process is 'involution').
- In a keloid scar too much collagen is laid down in the skin after the damage has happened. It heals 'too much'.
- Then, instead of simply fading away, the scar tissue just stays where it is.
- No one quite knows why this happens. It seems to be unique to humans: other animals do not get keloid scars.

How does a keloid form?

Keloid typically starts to develop about three months after the original skin damage although it can take up to a year. The first thing you will probably notice is that rubbery scar tissue starts growing beyond the borders of the original damage.

Do keloid scars itch?

It may become tender, itchy, and painful or produce a burning sensation. Sometimes keloid develops without any apparent skin injuries, although most people can identify a cause.

Growth continues for a few weeks to a few months. The growth is usually slow but occasionally there is rapid enlargement over a few months. Once they stop growing most keloid scars remain the same size or get smaller.

Typical areas keloids develop

- Behind the ears after ear piercing.
- On the breastbone after chickenpox, acne, or an injury.
- On the side of the shoulder (deltoid) after a vaccination.

Keloid growing over a joint can restrict movement. In time, the original red colour changes to brown or becomes pale.

What do keloid scars feel like?

- They are usually smooth, slightly shiny, firm skin growths.

- When they are growing they can feel itchy, prickly or sore.
 - Once they have stopped growing they are not usually painful.
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What do keloid scars look like?

The image below shows a woman's ear affected by keloid scarring:



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How does a doctor diagnose a keloid scar?

- There is no particular test for a keloid scar. It is diagnosed from the clinical story (a slow-growing overgrowth of a scar, usually in a dark-skinned person), with the scar growing beyond the location of the original skin damage.
- Occasionally a keloid scar can mimic other skin tumours.
- Very rarely, a skin tumour like a dermatofibroma or a soft tissue sarcoma can be mistaken for a keloid scar, or vice versa.
- In that case, a biopsy will need to be taken by a specialist. A [biopsy](#) is a procedure where a sample of tissue is taken for further analysis.
- The biopsy will be looked at under a microscope and a specialist (histopathologist) will be able to see the typical microscopic features of a keloid scar: a swirling nodular pattern of collagen fibres.
- **Note:** a biopsy is hardly ever necessary because the history - ie the patient's story - and the appearance of the skin growth are very typical of a keloid scar

How to treat keloid scars

Many patients ask for their keloid scar to be 'cut out' (surgically excised). This is hardly ever successful and in fact can result in an even bigger keloid scar coming back. Keloids must never be cut out by a GP or by anyone who isn't medically qualified. They should only be treated by a specialist doctor such as a dermatologist or a plastic surgeon.

Even then, most doctors will be very guarded in what they promise: how well a keloid scar responds to treatment can be unpredictable; many scar treatments are a matter of trial and error.

How to reduce keloid scars without surgery

- One of the most common methods is injecting steroid (triamcinolone acetonide) and local anaesthetic into the keloid scar itself. The injections are done with a tiny needle, but can be a bit sore. This is called 'intralesional corticosteroid injection treatment':
 - The steroids and anaesthetic can help to stop the proliferation of the skin cells in the keloid scar (what are called fibroblasts).
 - Approximately one injection is given a month, for 4-6 months.
 - One of the side-effects of too many steroids in the skin can be that the skin gets thin and easily damaged.
- Although the standard treatment is an injection of steroid into the keloid, other injection options now include bleomycin, verapamil, hyaluronic acid and hyaluronidase, botulinum toxin, and collagenase.
- Other treatment options include cryotherapy (using freezing temperatures), [laser](#), radiofrequency ablation, radiation, and shock-wave therapy.
- Sometimes putting steroid ointment on, under a dressing, can dampen down a keloid scar. A tape that is impregnated with steroids is prescribed by dermatologists. They are helpful in children, who may not be able to tolerate steroid injections.

Removing the keloid by surgery is not usually an option as the keloid will often recur after the surgery.

How to prevent keloid scars

Once someone has had a keloid scar, it is vital to preventing keloids that they avoid piercings, tattoos and ideally any surgery unless essential. Steer clear too of unnecessary procedures such as cosmetic surgery, especially in those areas of the body that are prone to keloids. If you get acne, you should make sure it is treated effectively at an early stage so the spots do not scar. If you are identified as being at risk of keloid and need an operation, your surgeon may offer you dressings, steroid injections or other treatments to reduce the risk of keloid developing.

Further reading

- [Davidson S, Aziz N, Rashid RM, et al](#); A primary care perspective on keloids. *Medscape J Med*. 2009;11(1):18. Epub 2009 Jan 20.
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- [Keloid and hypertrophic scar](#); DermNet.

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Authored by: Dr Laurence Knott	Peer Reviewed by: Dr Krishna Vakharia, MRCP	
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