

# Scars and stretch marks



Scars form when the skin recovers from an injury. They do not generally pose any medical problem, but may be a cause of distress for some people.

Not all injuries result in a conspicuous scar. Whether or not a disfiguring scar will form is influenced by a number of factors including the severity of injury to the skin and its location on the body. Your age and ethnicity also affect the likelihood of scar formation.

## What causes scars?

Scars are areas of fibrous tissue that replace normal skin as a result of the natural process of wound healing. Scars are made up of collagen, the same protein found in healthy skin. In healthy skin, collagen fibres are arranged in a basket weave formation, whereas collagen fibres inside scar tissue tend to align in one direction creating a dense, inelastic structure. Scar tissue differs from normal skin in a number of ways including its altered texture and appearance, and the absence of sweat glands and hair follicles.

### Different types of scars

#### Hypertrophic scars

Wound healing usually leaves a pale, flat scar on the skin. However, hypertrophic scars arise from overproduction of collagen, producing a thick scar that is raised above the level of surrounding skin. The processes that initiate hypertrophic scar formation are not fully understood. Hypertrophic scars

are more likely to develop if the wound gets infected or if there is a lot of tension on the healing wound. These types of scars may subside over time.

#### Keloids

Keloids are raised, hyper-pigmented scars that grow beyond the confines of the original injury and are considered a more serious form of hypertrophic scarring. Keloids appear as firm hard growths and although they are completely harmless, they can be a cosmetic problem and may be itchy or painful in some people. While most people never develop keloids, some get them after only minor injuries. Keloids may occur on any part of the body, but the upper chest and shoulders are the most common sites. Unfortunately, keloid scars do not disappear over time.

Possible triggers of keloid scarring:

- surgery
- injury
- acne
- body piercings
- burns
- spontaneous formation in some people

Hypertrophic scars	Keloids
Raised scars	Enlarged scars that grow beyond the size of the original injury
Affect around 40–70% of surgical scars	Affect around 10–15% of wounds
Remain stable or may reduce over time	Do not reduce over time
Occur at any age	Tend to occur in people aged 10–30 years
	More common in people with darker skin
	More prevalent in some families

#### Prevention of keloids

You have a greater risk of keloid scarring if:

- you have developed a keloid before
- members of your family have developed keloids
- you have dark skin.

If you are at risk, avoid deliberate wounds to the skin such as tattoos, piercings, unnecessary elective or cosmetic surgery, and seek effective treatment for acne to minimise inflammation.

## Patient information – Scars and stretch marks



## Treatment of hypertrophic scars and keloids

There is no cure for hypertrophic scars and keloids, but a range of treatment options are available to improve the appearance of the scars and reduce itchiness. These measures are helpful in at least some people, though treatment success may vary depending on the type and severity of scarring.

Talk with your doctor about options for you.

## Possible treatments for hypertrophic and keloid scars

- Silicone gel sheets and silicone-based ointments
- Pressure dressings
  - Requires long-term treatment
- Corticosteroid injections into the scar
  - Aims to flatten and soften the appearance of the scar
  - Treatment is repeated at 4- to 6-week intervals
- Laser treatment
  - Requires multiple treatment sessions
- Cryotherapy
  - Freezing with liquid nitrogen to stop keloid growth
- Radiotherapy
  - Only suitable for treatment of severe scarring
  - Possible long-term side effects
- Surgical removal
  - There is a risk of keloids growing back after surgery, possibly larger than the original one.

## Stretch marks

Stretch marks are narrow streaks or lines on the skin. They are initially red or purple in colour but eventually fade to white or silver and become considerably less noticeable.

The most well-known type of stretch marks are the ones that may occur on a woman's body during pregnancy (striae gravidum), but stretch marks actually affect a wide variety of people and can occur in any situation where the skin is continuously and progressively stretched. Stretch marks develop as a result of hormonal changes, physical stretch, and structural changes to the skin.

Stretch marks can be associated with:

- pregnancy
- rapid weight gain (breast, abdomen, thighs)
- overweight and obesity
- adolescent growth spurts (lower back, thighs, buttocks, knees, calves, breasts)
- body building (shoulders, buttocks).

Stretch marks may also occur from prolonged use of oral or topical corticosteroids and in association with Cushing's syndrome or Marfan's syndrome.

Risk factors for developing stretch marks include a positive family history, high body mass index and childhood obesity, weight gain during pregnancy or as a result of a medical condition, surgery (eg, the use of tissue expanders) and some medications.

You can reduce the risk of stretch marks forming by maintaining a healthy weight and avoiding any rapid changes in weight. In pregnancy aim for a steady gradual weight gain. In pregnancy there is no significant evidence to support the use of topical creams, lotions, ointments or oils to prevent stretch marks. However, this may be because the studies performed were not large enough. There is some suggestion that massaging the cream or lotion into the skin (rather than the particular preparation) may help to reduce stretch mark formation.

## Treatment of stretch marks

Treatment of stretch marks is most likely to be effective in the early stages. Once stretch marks have faded to white (striae alba), they may become more difficult to treat. Currently, there is no product that can be applied to the skin that will eliminate stretch marks, but moisturising oils and lotions may be able to reduce their severity.

A variety of treatments have been advocated to improve the appearance of stretch marks, including laser therapy, topical retinoids and exfoliation, as well as regular use of moisturizing oils, ointments and creams. **Important: topical/oral retinoids or Vitamin A creams should not be used during pregnancy or breastfeeding.**

Moisturisers provide an emollient, skin softening effect, as well as increasing the water holding capacity of the skin's outer layer, and an occlusive action that provides a layer of oil on the surface to prevent water loss and thereby improve skin hydration. Keeping the skin hydrated through the use of moisturisers may help to reduce the appearance of scars and stretch marks.

## Further information

## DermNet NZ

[www.dermnetnz.org](http://www.dermnetnz.org)

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