

Module 1756

Scars and stretch marks

From this module you will learn:

- The causes of scars and stretch marks
- Evidence for efficacy of treatments
- Strategies for prevention
- Advice and support pharmacists can provide

August

Clinical: Skin

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*Online only for Update Plus subscribers

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There's no denying that today's society places a lot of importance on how we look. As a consequence, scars and stretch marks can be devastating for some people, seriously affecting quality of life and even causing social withdrawal and serious mental health problems. They are an extremely common problem. It would be a rare person who had no scars anywhere on their body, and indeed it could be said that even the belly button is a type of scar. Most people have at least three scars on average. Estimates suggest that 65 per cent of women and 35 per cent of men feel self-conscious about scarring.

Causes of scars

Scarring occurs as part of the body's natural wound healing process. Although the type and amount of visible scarring may vary widely, the underlying processes are essentially the same and are due to an acute increase in collagen production in response to an injury. This extra collagen congregates in the damaged area, where it contributes to the growth of a new, permanent patch of skin over a period of about three months. There is a corresponding increase in blood supply, so the area appears red and raised.

Over time, the excess collagen starts to break down, smoothing out the scar tissue while the blood supply normalises, reducing the redness. After about two years of gradual fading, the scar tends to remain fixed and is unlikely to reduce further. The extent and type of scarring will depend on the site and depth of the original wound, how it is managed in the acute stages, and the amount of collagen produced. Scar tissue tends to regain about 70 to 80 per cent of the original skin strength.

An estimated 51 per cent of scars are due to surgery, including emergency, elective and cosmetic surgery as well as mole removal. Everyday cuts and scrapes account for 34 per cent of scarring, while 15 per cent are due to more serious trauma.

In most cases, the injury results in what is known as a common scar, which tends to differ in appearance to the surrounding skin by being lighter and shinier. Though raised



The type of scarring depends on the type of wound and how it is managed in the acute stages

slightly, common scars tend to be relatively flat, with no hair follicles or sweat glands. The likelihood of a problematic scar (see *Problematic scars*, p2) forming is thought to be 20 times higher in African skin, 10 times higher in Asian skin, and five times higher in Hispanic skin compared with lighter Caucasian skin tones.

Causes of stretch marks

Stretch marks (striae) are similar to scars in that they can be the cause of much distress, are extremely common and may also be due to changes in collagen. They are most commonly the result of rapid stretching of the skin, which results in tearing of internal skin tissues as collagen stores struggle to keep up with the quick expansion.

Stretch marks develop in up to 90 per cent of pregnancies, and may also result from the rapid growth spurts experienced in puberty or during

periods of rapid weight gain. More rarely, they develop in the absence of rapid growth as a consequence of medications - such as long-term topical or oral corticosteroid treatment - or conditions that reduce collagen production such as Cushing's syndrome.

Stretch marks most commonly appear on the abdomen, breasts, hips, thighs, flank and buttocks as parallel lines of thin, glossy skin that is reddened and may be itchy or inflamed. They fade over time to become silvery or pinkish, depending on skin tone. Older women are less likely to develop stretch marks in pregnancy, and they are also less likely in Caucasian skin. When they are caused by a lack of collagen rather than stretching, they may be wider and larger, and can appear in less typical areas such as the face. Stretch marks are generally harmless, though in rare, severe cases they can ulcerate or tear. ▶

Problematic scars

Wound healing can be very variable and difficult to predict. The majority of wounds result in common scars, though some may develop into variants, which can be more problematic.

● **Keloid scars** have an appearance of firm, hard lumps and are particularly common after wounds to the upper chest and shoulders. It is not yet known why some wounds produce keloids while others do not. They may form after minor injuries, burns, insect bites and acne spots and are more common in darker skin tones.

Keloid scars can appear quickly after healing or develop over several months, and can spread to become larger than the original wound. Though they can look alarming, they are harmless, and do not act as precursors to skin cancers. Unfortunately, keloid scars can be very persistent and difficult to treat; even after surgical removal, they tend to regrow.

● **Hypertrophic scars** are much thicker than common scars and occur when there is a lot of tension on a wound site. Although they result from an overgrowth of collagen, they do not spread beyond the boundaries of the original wound. They can continue to thicken for up to six months after healing. They generally do not require treatment and will settle and flatten with time, usually after about two to five years. In some cases, they can cause restricted movement.

● **Atrophic scars** have a pitted or indented appearance. Acne is a common cause, as well as chicken pox. They may also be caused by injuries that result in damage to underlying fat. Ice pick scars are atrophic scars with a deeper pitting and sharper, steeper sides.

● **Contracture scars** develop where a wound crosses a joint or skin crease at right angles, and the scar tissue that develops then contracts and

Case study Self-conscious about stretch marks

Elizabeth is in her 20s and gave birth to her first baby three months ago. She is anxious about going on holiday next month. She is very self-conscious about her stretch marks – she says they make her feel like an abnormal freak and is worried about the reaction of the other people on the beach if she wears a bikini.



A friend has told her about some sort of oil that will get rid of them and she asks whether it will work in time for her holiday.

What advice can you give?

Firstly, it is important to reassure Elizabeth. Her stretch marks are a normal part of childbirth and extremely common – it is unlikely that she will be the only one on

the beach with them, and other people will probably not notice.

They will probably fade on their own with time, but it is unlikely that they will be significantly better before her holiday.

Despite the impressive claims on some products, there is no guarantee that any of them will work, especially in such a short time period.

Elizabeth should ensure she applies sunscreen regularly, paying particular attention to the affected areas.

If she is still feeling self-conscious, she may wish to try a camouflage cosmetic product. Some are waterproof and can stay in place for up to three days, so they could be a useful short-term solution for her holiday.

pulls the surrounding tissue. Burn-type injuries may be most likely to lead to contracture scars. They can limit mobility and cause pain, tightness and physical discomfort.

Prevention and treatment

While there is no foolproof, guaranteed way to prevent a visible scar from forming, good woundcare is advisable in the acute stages of an injury. Basic first aid may help scar prevention:

- keep the injury clean; where possible, wash the area with mild soap and water
- after cleaning the wound, cover it with a non-adherent dressing, which should be changed daily
- keep the wound moist by applying petroleum

jelly. This can prevent the formation of scabs, may quicken the healing process and reduce the risk of scarring

● once healed, apply a sunscreen (minimum SPF30) and avoid exposure to sunlight; this may help prevent discolouration of the scar tissue.

There is a general lack of good quality, robust evidence about treating and preventing scars and stretch marks. This is in part due to the wide variability and unpredictable nature of scar formation, both between people and even in different wounds on the same person, as well as the uncontrolled nature of everyday cuts and scrapes and long-term healing of scars. Additionally, they may erroneously be seen simply as a cosmetic problem, therefore of low research priority.

Despite this, there is a wealth of products on pharmacy shelves or on the internet that are marketed as reducing the appearance of scars and stretch marks. People who are self-conscious may be anxious to find a miracle product that will make their scars and stretch marks disappear quickly, but no products have been consistently proven to work in high quality trials. Use of these products is based mainly on theory, anecdote and wishful thinking.

Silicone has gained some attention as both a potential treatment for existing scars and as a preventative during wound healing. It is available in either gel or as a flexible, self-adhesive sheet, both of which should be applied to intact skin. Limited comparative data suggest there is little difference between the two formulations, though from a compliance point of view the gel may be preferable to many patients due to ease of use.

A Cochrane review found weak evidence for silicone gel sheeting as prophylaxis for the

Identifying problematic scars



Keloid



Hypertrophic



Atrophic



Contracture

development of abnormal scars in high risk individuals. They found some evidence of benefit in both the thickness and colour of existing hypertrophic and keloid scars. However, the only available evidence was of poor quality, so firm conclusions about silicone's effectiveness cannot be drawn.

Another Cochrane review found no high quality evidence to support the use of topical products to reduce the appearance of stretch marks. The evidence found in the review included trials assessing popular treatments such as cocoa butter, vitamin E and olive oil. Using a good emollient may be useful in keeping skin supple during pregnancy, but there is no evidence that keeping skin moisturised will prevent or reduce stretch marks.

Treatment of atrophic scars can either include filling the pitted scarred areas to raise them to the level of surrounding skin, or resurfacing techniques. Filling is most useful where only small areas are affected, and may include the use of grafted skin cells, fat, a polysaccharide matrix or collagen.

Resurfacing techniques are more useful for larger areas of scarring. These aim to ablate the upper skin layers, encouraging skin regeneration and promoting collagen production. Traditional resurfacing methods such as dermabrasion and chemical peels have fallen out of favour somewhat, due to a lack of efficacy and risks to both patients and the clinicians providing the treatment.

Laser therapy is becoming a more popular resurfacing option because it can be more precise, controlled and less risky to both surrounding skin and operators. Unfortunately, there are no published controlled trials assessing its efficacy.

The pharmacist's role

Pharmacies are often a first port of call for those seeking first aid advice, therefore it is important that pharmacy staff are able to reinforce the principles of good woundcare at the time of injury.

Pharmacists can also play a useful role in advising on treatment options. Patients may have high expectations following media coverage or word of mouth, and it is important that the pharmacist can explain the evidence limitations and manage their expectations to avoid disappointment. No treatment is guaranteed, and scars and stretch marks rarely disappear completely.

References are available on the next page

EXPERT Q&A

Email our skin conditions expert with further questions on this month's topic: asktheexpert@updateplus.co.uk

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Practical Approach

Is this an ankle inversion?

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5-Minute Test

Update module 1756: Scars and stretch marks

Sign up to take the test, get the answers marked online and download a log sheet to help with your CPD.

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Picture Quiz

What do you know about oral lichen planus?

Test your knowledge of this skin condition that can also occur in the mouth.

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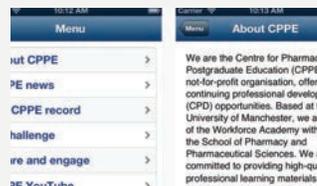


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Tips for your CPD entry on scars and stretch marks

Reflect Which skin types are more likely to form problematic scars? How do keloid and hypertrophic scars differ? How effective are the available treatments?

Find out more about stretch marks and their treatment on the NHS Choices website tinyurl.com/scars2

Plan This article discusses scars and stretch marks and contains information about different types of scars and how they are caused as well as the effectiveness of available treatments. Advice pharmacists can give about scar prevention and a case study are included.

Read the information about keloid scars on the British Association of Dermatologists (BAD) website tinyurl.com/scars4

Act Read the Update article and the suggested reading (below). Update Plus subscribers can access a 5-Minute Test and a pre-filled CPD logsheet at chemistanddruggist.co.uk/mycpd.

Find out about skin camouflage from the BAD website tinyurl.com/scars5

Find out about local consultants for skin camouflage and the products available that could help customers

Read more about scars on the NHS Choices website, which includes information about other treatments such as corticosteroid injections, surgery and pressure dressings tinyurl.com/scars1

Evaluate Are you confident in your knowledge of the different types of scars and their treatment? Could you give advice to patients about scar prevention and the effectiveness of treatments?

5-Minute Test

1. On average, most people have at least three scars.

True or false?

2. About 65 per cent of women and 35 per cent of men feel self-conscious about scarring.

True or false?

3. Scars form due to an acute increase in collagen production in response to an injury.

True or false?

4. Scar tissue tends to regain about 50 to 60 per cent of the original skin strength.

True or false?

5. An estimated 51 per cent of scars are due to everyday cuts and scrapes.

True or false?

6. People of Asian and African origin are less likely to suffer from problematic scar formation than those of Caucasian origin.

True or false?

7. Older women are more likely to develop stretch marks in pregnancy than younger women.

True or false?

8. Keloid scars have a pitted or indented appearance.

True or false?

9. Applying sunscreen and avoiding exposure to sunlight may help prevent discolouration of the scar tissue.

True or false?

10. Keeping skin moisturised has been shown in trials to prevent or reduce stretch marks.

True or false?

ONLINE

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