



ACTINIC KERATOSES - ALSO KNOWN AS SOLAR KERATOSES

What are the aims of this leaflet?

This leaflet has been written to help you understand more about actinic keratoses. It tells you what they are, what causes them, what can be done about them, and where you can find out more about them. Another name for 'actinic keratoses' is 'solar keratoses', but for convenience we shall use only the term 'actinic keratoses' in this leaflet.

What are actinic keratoses?

Actinic keratoses are areas of sun-damaged skin found predominantly on sun-exposed parts of the body, particularly the forearms, backs of the hands, face, ears, bald scalp and the lower legs. They may also occur on the lips. The terms actinic and solar are from Greek and Latin, respectively, for 'sunlight-induced', and the term keratosis refers to thickened skin. Actinic keratoses may be unsightly, sometimes they can itch, but generally are harmless. There is a very small risk that the patches could progress into a form of skin cancer called [squamous cell carcinoma](#). Nonetheless, patients who have actinic keratoses are more at risk of all types of skin cancer compared to someone of the same age without actinic keratoses. Patients most at risk are those who have numerous actinic keratosis patches and those on immunosuppressive drugs for accompanying conditions. Actinic keratoses are not contagious.

What causes actinic keratoses?

They are caused by cumulative sun exposure over many years (from sunbathing, sunbed use, outdoor work or recreational activities) and are therefore more common in older people. Fair-skinned, blue-eyed, red or blonde haired individuals, who burn easily in the sun but tan poorly, are at particular risk.

Are actinic keratoses hereditary?

No, but some of the risk factors for developing actinic keratoses do run in families – for example, a tendency to burn easily in the sun rather than tan (skin type), red or fair hair and freckling.

What are the symptoms of actinic keratoses?

They may not trouble you at all but affected skin often feels rough and scaly. Some patients describe them as being itchy or sore.

What do actinic keratoses look like?

Actinic keratoses can be variable in appearance, even one patch differing from another within a single individual. At first they can be hard to see, and are more easily felt, as they may be rough like sandpaper. They may grow to a centimetre or two in diameter. Some are skin coloured, others are pink or reddish brown. They occasionally develop a thick scaly, warty layer. The surrounding skin often looks sun-damaged - blotchy, freckled and wrinkled.

If an actinic keratosis develops into a lump, becomes tender or starts to bleed, then medical advice should be sought as these changes could indicate the early onset of skin cancer (a squamous cell carcinoma).

How are actinic keratoses diagnosed?

Usually the appearance of an actinic keratosis is sufficient to enable the diagnosis to be made, but in cases of doubt, for example if an early skin cancer is suspected, a sample (biopsy) or the whole affected area may be removed surgically under local anaesthetic for microscopic examination in the laboratory.

Can actinic keratoses be cured?

Yes, but others may develop in the future from the surrounding sun-damaged skin.

How can actinic keratoses be treated?

It is advisable to protect the skin from further sun damage (for example, by wearing a hat, long sleeves and a sunscreen with a high sun protection factor).

Occasionally, small actinic keratosis patches may go away on their own, but most will remain. They may be treated if they are unsightly or if they cause new symptoms such as growing quickly, bleeding or forming an ulcer. Patients with numerous actinic keratosis patches and those on immunosuppressive drugs should be assessed for treatment as they are also at risk for skin cancer.

Treatments used for actinic keratoses include the following:

- Freezing with liquid nitrogen (Cryotherapy). This is an effective treatment which does not normally leave a scar, but it can be painful. (See Patient Information Leaflet on [Cryotherapy](#))
- Surgical removal. This requires a local injection into the affected skin with anaesthetic, after which the actinic keratosis can be scraped off with a sharp spoon-like instrument (a curette), or it can be cut out and the wound closed with stitches. Surgical removal leaves a scar, but provides a skin sample that can be analysed in the laboratory to confirm the diagnosis.
- Creams. In some cases a cream or gel can be prescribed for use at home. These may include 5-fluorouracil, imiquimod or Ingenol mebutate gel and are especially effective if there are several patches. However, they often cause a lot of temporary inflammation (redness and soreness) of the treated areas. Diclofenac and retinoic acid are other drugs in cream or ointment form that are helpful when applied to milder actinic keratoses. These treatments often cause less side effects.
- Photodynamic therapy. A special light is shone onto the affected areas after a special cream has been applied; the light activates a chemical in the cream which then treats the actinic keratosis patch. This treatment is only available in certain hospitals (see Patient Information Leaflet on [Photodynamic Therapy](#)).
- Laser treatment may be useful particularly for actinic keratosis on the lips.

Self care (What can I do?)

Protecting your skin from the sun will help reduce the number of new actinic keratoses you get and may also reduce the risk of getting a sun-induced skin cancer. You should be extra cautious in the sun by following these recommendations:

- Protect yourself from the sun between 11am to 3pm when the sun is at its strongest.
- Wear protective clothing - hats, long sleeves, long skirts or trousers.
- Apply a sunscreen regularly to exposed skin before going into the sun, using a sun protection factor of 30 or above and one which is able to block both UVA and UVB light. Re-apply the sun cream according to the manufacturer's recommendations, especially if sweating or after swimming, when you are out in the sun.
- Protecting your children from the sun in the same way may reduce their risk of developing actinic keratoses.
- Avoid artificial sunlamps, including sunbeds and UV tanning cabinets.
- Be skin aware - examine your own skin every few months and see your doctor if you notice something new. If an actinic keratosis starts to develop into a lump or starts to bleed, then visit your GP. These symptoms can indicate that it has changed into a skin cancer (a [squamous cell carcinoma](#)). Early treatment is usually curative.
- Patients who actively avoid sun exposure should have their vitamin D levels checked and monitored. You may be advised to take a vitamin D supplement by your GP.

Vitamin D advice

The evidence relating to the health effects of serum Vitamin D levels, sunlight exposure and Vitamin D intake remains inconclusive. Avoiding all sunlight exposure if you suffer from light sensitivity, or to reduce the risk of melanoma and other skin cancers, may be associated with Vitamin D deficiency.

Individuals avoiding all sun exposure should consider having their serum Vitamin D measured. If levels are reduced or deficient they may wish to consider taking supplementary vitamin D3, 10-25 micrograms per day, and increasing their intake of foods high in Vitamin D such as oily fish, eggs, meat, fortified margarines and cereals. Vitamin D3 supplements are widely available from health food shops.

Where can I find out more about actinic keratoses?

References:

British Association of Dermatologists' guidelines for the care of patients with actinic keratosis

[British Journal of Dermatology \(2017\) 176, pp20–43](#)

Web links to detailed leaflets:

www.skincarephysicians.com/actinickeratosesnet

For details of source materials used please contact the Clinical Standards Unit (clinicalstandards@bad.org.uk).

This leaflet aims to provide accurate information about the subject and is a consensus of the views held by representatives of the British Association of Dermatologists: individual patient circumstances may differ, which might alter both the advice and course of therapy given to you by your doctor.

This leaflet has been assessed for readability by the British Association of Dermatologists' Patient Information Lay Review Panel

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