PATIENT INFORMATION LEAFLET

ACTINIC KERATOSES

WHAT ARE THE AIMS OF THIS LEAFLET?

This leaflet has been written to help you understand more about actinic keratoses. It describes what they are, what causes them to develop, how they can be treated and where you can find out more information.

WHAT ARE ACTINIC KERATOSES?

Actinic keratoses (also known as solar keratoses) are areas of sun-damaged skin. They usually occur on parts of the body that are exposed to the sun. This includes the forearms, back of the hands, face, ears, and any scalp areas without hair (e.g., as a result of balding). They may also occur on the lips. The terms *actinic* and *solar* are from Greek and Latin respectively, meaning 'caused by sunlight'. The term *keratosis* refers to thickened skin.

WHAT CAUSES ACTINIC KERATOSES TO DEVELOP?

Actinic keratoses are caused by sun exposure over many years. This includes sunbathing, sunbed use, outdoor work, or recreational activities, and living in a country with a sunny climate. Phototherapy or ionising radiation may also contribute to their development. They occur more commonly in older people and fair skinned, blue eyed, red, or blonde-haired individuals, who burn easily in the sun. Actinic keratoses are not contagious.

WHAT DO ACTINIC KERATOSES LOOK AND FEEL LIKE?

Actinic keratoses can be variable in appearance. They may simply feel rough or scaly, looking like dry skin. They are often pink but can be skin- coloured or red. A change in texture of the skin may be noticed before a colour change. They can grow to 1-2 cm in diameter and occasionally develop a thicker lumpy layer. The surrounding skin often looks sun-damaged (blotchy, freckled and wrinkled). There are usually several actinic keratoses in the same area of sun-exposed skin; they rarely occur alone.

Actinic keratoses often do not cause any trouble but can be itchy or sore. If left untreated for many years, there is a very small risk that an actinic keratosis can progress into a form of skin cancer called a squamous cell carcinoma. People affected by many actinic keratoses are also at a higher risk of developing other types of skin cancer, compared to someone of the same age who does not have any actinic keratoses.

If an actinic keratosis develops into a lump or horn, grows very quickly, becomes tender, forms an ulcer, or starts to bleed, it is important to seek medical advice. These changes could indicate the early onset of skin cancer. People at a higher risk include those with multiple actinic keratoses, and those on immunosuppressive drugs, for example organ transplant patients.

ARE ACTINIC KERATOSES HEREDITARY?

No, but some of the risk factors for developing actinic keratoses do run in families – for example, those who tend to burn easily in the sun rather than tan, have red or fair hair, blue eyes, and freckles. People with albinism or xeroderma pigmentosum are also at increased risk.

HOW ARE ACTINIC KERATOSES DIAGNOSED?

Usually, the appearance of actinic keratosis is sufficient to enable the diagnosis to be made by a doctor who manages skin problems, for example a GP or dermatologist. In cases of uncertainty, a sample (biopsy) or the whole affected area may be removed surgically

under local anaesthetic for examination under a microscope in the laboratory.

CAN ACTINIC KERATOSES BE CURED?

Actinic keratoses can be treated but tend to recur over time. Their presence indicates there is sun damage to the skin and so, whilst an individual actinic keratosis can be cured, the affected individual is at risk of developing more in the future.

HOW CAN ACTINIC KERATOSES BE TREATED?

Some actinic keratoses may go away without treatment, especially if they are small and if the skin is protected from the sun. Moisturisers can be used for scaly patches. There are several treatments available, and the options can be discussed with your healthcare professional. Treatment will depend on the number and location of the actinic keratoses, and other factors which will differ between people. Some individuals may choose not to treat actinic keratoses and just self-monitor their skin.

Treatments that your doctor can provide for actinic keratoses:

- *Creams (topical treatments):* Several types of cream or gel can be prescribed for use at home. These include 5-fluorouracil or imiquimod which are effective treatments. However, they often cause temporary redness and soreness of the treated areas. Diclofenac and tirbanibulin are other topical creams/gels licensed for treatment of actinic keratoses.
- *Freezing with liquid nitrogen (cryotherapy):* This is an effective treatment which does not normally leave a scar but may make the treated area lose its natural pigment permanently. Cryotherapy can be painful.
- *Surgical removal: This i*nvolves an anaesthetic (numbing) injection into the affected skin, 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 examined in the laboratory to confirm the diagnosis.
- *Photodynamic Therapy (PDT):* A special wavelength of light is shone onto the affected areas after a medicated cream has been applied. The light activates a chemical in the cream which then treats the actinic keratosis. This can be uncomfortable.
- *Laser treatment:* An ablative laser device can be used to destroy the top layer of skin patch allowing new skin to appear.

PDT and laser therapy are only available in certain clinics.

HOW CAN I PROTECT MY SKIN?

Protecting your skin from the sun will help reduce the number of new actinic keratoses and will reduce the risk of developing skin cancer. Practice good sun protection by following these recommendations:

- Protect your skin with clothing. Ensure that you wear a hat that protects your face, neck and ears, and a pair of UV protective sunglasses.
- Make use of shade between 11am and 3pm when it is sunny.
- It is important to avoid sunburn, which is a sign of damage to your skin and increases your risk of developing skin cancer. However, even a tan is a sign of skin damage, and should be avoided.
- Use a 'high protection' sunscreen of at least SPF 30 which also has high UVA protection. Apply sunscreen generously 15 to 30 minutes before going outdoors, and make sure you reapply frequently and straight after swimming or towel drying.
- Keep babies and young children out of direct sunlight.

- The British Association of Dermatologists recommends that you tell your doctor about any changes to a mole or patch of skin. If your GP is concerned about your skin, you should be referred to see a consultant dermatologist or a member of their team.
- No sunscreen can offer you 100% protection. They should be used to provide additional protection from the sun, not as an alternative to clothing and shade.
- Routine daily sun protection is rarely necessary in the UK for people of colour, particularly those with black or dark brown skin tones. However, there are important exceptions to this. For example, sun protection is important if you have a skin condition such as photosensitivity, vitiligo or lupus, or if you have a high risk of skin cancer, especially if you are taking immunosuppressive treatments (including those who have had an organ transplant) or if you are genetically predisposed to skin cancer. In more sunny climates, you should follow our standard sun protection advice.
- 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 that appears abnormal. If actinic keratosis starts to develop into a lump or starts to bleed, then visit your GP promptly. These symptoms can indicate that it has changed into skin cancer. Early treatment is usually curative.
- You may like to consider taking supplements of nicotinamide (vitamin B3) 500mg twice daily. There is some evidence that this can reduce the risk of actinic keratoses and skin cancer. Nicotinamide is available in health food shops and rarely causes any side effects.

People who actively avoid sun exposure should have their vitamin D levels checked and monitored. Your GP may advise you to take a vitamin D supplement.

Vitamin D advice

The evidence relating to the health effects of serum vitamin D levels, exposure to sunlight and vitamin D intake, is inconclusive. People who are avoiding (or need to avoid) sun exposure may be at risk of vitamin D deficiency and should consider having their serum vitamin D levels checked. If the levels are low, they may consider:

- taking vitamin D supplements of 10-25 micrograms per day
- increasing intake of food rich in vitamin D such as oily fish, eggs, meat, fortified margarine, and cereals.

WHERE CAN I GET MORE INFORMATION ABOUT ACTINIC KERATOSES?

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

https://onlinelibrary.wiley.com/doi/full/10.1111/bjd.15107

Web links to other relevant sources:

https://www.aad.org/public/diseases/skin-cancer/actinic-keratosis-symptoms

https://www.dermnetnz.org/topics/actinic-keratosis

https://www.skinhealthinfo.org.uk/support-resources/patient-support-groups/

Please note that the British Association of Dermatologists (BAD) provides web links to additional resources to help people access a range of information about their treatment or skin condition. The views expressed in these external resources may not be shared by the BAD or its members. The BAD has no control of and does not endorse the content of external links.

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

BRITISH ASSOCIATION OF DERMATOLOGISTS

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PRODUCED | MAY 2007
UPDATED | MAY 2010, SEPTEMBER 2013, NOVEMBER 2016, DECEBER 2020, JANUARY 2024
NEXT REVIEW DATE | JANUARY 2027