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 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 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 the Greek and Latin respectively, meaning 'sunlight-induced'. The term *keratosis* refers to thickened skin.

What causes actinic keratoses to develop?

They are caused by cumulative sun exposure over many years, from sunbathing, sunbed use, outdoor work or recreational activities. They are therefore more common in older people. Fair-skinned, blue-eyed, red- or blonde-haired individuals, who burn easily in the sun, are at particular risk. Actinic keratoses are not contagious.

What do actinic keratoses look and feel like?

Actinic keratoses can be variable in appearance but most often look like a change in colour or texture of a small patch of skin. At first, they may be hard to see, but can simply feel rough or scaly, looking like dry skin. They are often pink, but can be skin coloured or red. They can grow to a centimetre or two in diameter and occasionally develop a thicker warty layer. The surrounding skin often looks sun-damaged (blotchy, freckled and wrinkled).

They often do not cause any trouble, but can be itchy or sore. There is a very small risk that an actinic keratosis can progress into a form of skin cancer,

called a squamous cell carcinoma. People with actinic keratoses are also at higher risk of developing other types of skin cancer, compared to someone of the same age without any actinic keratoses.

If an actinic keratosis develops into a lump, grows very quickly, becomes tender, forms an ulcer or starts to bleed, then medical advice should be sought as these changes could indicate the early onset of skin cancer (squamous cell carcinoma). People most at risk are those who have numerous patches of actinic keratosis and those on immunosuppressive drugs for accompanying conditions.

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.

How are actinic keratoses diagnosed?

Usually the appearance of an 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 doubt, 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?

An individual actinic keratosis can be cured, but many return in future years. People who have developed one actinic keratosis are at risk of developing more in the future. In general terms, the tendency to get actinic keratoses is a long term problem.

How can actinic keratoses be treated?

Some actinic keratoses will resolve without treatment, especially if they are smaller and milder. Others will need treatment, and the choice of correct treatment can be discussed with your doctor. This will depend on the number and location of actinic keratoses, and other important factors which will differ between people.

Self-care:

- Sun protection using sunscreen will help reduce further sun-related damage to skin, and may help improve the actinic keratoses that are present.
- Moisturiser can be used on scaly patches of actinic keratosis.

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 retinoic acid are other drugs in cream or ointment form that are helpful when applied to milder actinic keratoses. Please note that the marketing authorisation for ingenol mebutate has been suspended by the Medicines and Healthcare products Regulatory Agency. Doctors have been instructed to stop prescribing it and consider other treatment options as appropriate.

Freezing with liquid nitrogen (cryotherapy): This is an effective treatment which does not normally leave a scar but may make the area lose its natural pigment. Cryotherapy can be painful. (See Patient Information Leaflet on Cryotherapy)

Surgical removal: This requires an 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.

Photodynamic therapy: A special wavelength of light is shone on to 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 treatment is only available in certain hospitals (see Patient Information Leaflet on Photodynamic Therapy).

Laser treatment

How can I protect my skin?

Protecting your skin from the sun will help reduce the number of new actinic keratoses you get and will reduce the risk of developing a sun-induced skin cancer. You should be extra cautious in the sun 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 11 am and 3 pm when it's sunny.
- It is important to avoid sunburn, which is a sign of damage to your skin and increases your risk of developing a skin cancer in the future. 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 out in the sun and make sure you reapply frequently when in the sun.
- 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 at no cost to yourself through the NHS.
- 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 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 organ transplant recipients) or if you are genetically pre-disposed to skin cancer. Outside of the UK in places with more extreme climates, you may need to follow our standard sun protection advice.
- It may be worth taking vitamin D supplement tablets (available from health food stores) as strictly avoiding sunlight can reduce your vitamin D levels.
- 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 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. **Early treatment is usually curative.**

People 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, 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 find out more about actinic keratoses?

References:

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 for further information:

- 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/

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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