



What are actinic keratoses (AKs)? Actinic keratoses are typically pink, rough, scaly spots or bumps that appear on sun-exposed areas of the skin. The crust or scale can be picked off, but will re-grow since the underlying lesion persists. They usually develop after the fourth decade of life, but can appear earlier depending on sun exposure and skin color.

What causes AKs? The cells of the outermost skin layer, called keratinocytes, become abnormal as a result of repeated, prolonged exposure to the sun. Fair-skinned people are especially susceptible to this type of sun damage. It is small amounts of cumulative sun damage over a lifetime that results in AKs. Therefore, they can appear even if there has not been any recent substantial sun exposure.

Why should AKs be treated? Actinic keratoses are not considered to be skin cancers. However, if left untreated, a certain percentage of the thicker or more persistent lesions will transform into squamous cell carcinoma (skin cancer) over time. Because of this, the standard of care is to remove AKs as they develop. The overall risk of progression to skin cancer is estimated at less than 1%. It is especially a concern in patients who are immunosuppressed or have had a lot of cumulative sun exposure.

How are AKs treated? Treatment of actinic keratoses requires destruction of the defective keratinocytes. New, undamaged skin can then form from the deeper skin cells which have escaped sun damage.

- **Cryotherapy** - The most common technique used to remove AKs is to freeze them with liquid nitrogen. This causes blistering and the formation of a scab that normally falls off in 1-2 weeks. The abnormal cells are shed and the healed skin is smooth. The skin's final appearance is usually excellent, however, scarring or discoloration of treated areas can sometimes occur.
- **Shave biopsy** - In some cases, we can not be sure whether the growth has transformed into skin cancer or not. Your doctor may prefer to cut the growth off and send it for microscopic analysis (biopsy). Healing after removal usually takes two to four weeks, depending on the size and location of the lesion. Hands and legs heal more slowly than the face. Once again, scarring or discoloration can result.
- **Topical chemotherapy** - When there are too many AKs to treat individually, the topical application of 5-fluorouracil (5-FU) may be recommended. This chemotherapeutic agent is applied on the sun-damaged areas for 3-4 weeks. After several days, the treated area starts to get inflamed, raw, and crusted. It often looks worse than it feels. At this point, the medication is stopped and the skin is allowed to heal. The damaged cells are destroyed and healthier skin grows in its place. 5-FU is most effective at removing AKs from the face. Results are more disappointing when it is used on the hands, forearms, legs or back.

- **Topical immunomodulation** - Another useful treatment is a cream called imiquimod (Aldara). This drug stimulates the immune system to destroy abnormal skin cells. It is applied to the areas once a day, 3 times a week for 4-16 weeks. As with 5-FU, the treated sites can become red and sore.

How can I prevent AKs from developing? Unfortunately, sun damage is permanent. Once AKs have developed, new lesions may appear even without further sun exposure. That being said, it is never too late to begin protecting yourself from the sun. You should avoid excessive sun exposure, but you do not have to deprive yourself of the pleasure of being outdoors. Reasonable sun protection with hats, clothing and sunscreen should be your goal.

For more information about actinic keratoses go to:
www.skincarephysicians.com/actinickeratosesnet