

# Topical 5-Fluorouracil Made Easy?

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The population of patients with innumerable actinic keratoses (AKs), basal cell carcinomas, and squamous cell carcinomas, as well as the antecedent revolving door for cryosurgery, curettage, excision, and Mohs micrographic surgery visits, comprises a challenging cohort in whom effective and convenient preventative measures are much needed. Herein, issues surrounding the use of a combination of 2 well-known topical agents, 5-fluorouracil and calcipotriol, for chemoprevention and AK field therapy are provided.

## What is the recent research behind 5-fluorouracil cream 5% combined with calcipotriol ointment 0.005% for actinic keratoses?

Cunningham et al published a randomized double-blind study in which 131 patients with actinic keratoses (AKs) were assigned to either 5-fluorouracil (5-FU) cream 5% combined with calcipotriol (calcipotriene) ointment 0.005% twice daily to the face, scalp, and arms for 4 days, or 5-FU 5% combined with petrolatum applied in the same fashion. There was an 87.8% versus 26.3% mean reduction in the number of AKs and less severe pain, crusting, and ulceration in the study cohort compared to the 5-FU plus petrolatum group.

The same study also investigated immune parameters in these patients and found that the study group preferentially displayed activated thymic stromal lymphopoietin and a CD4 T cell-mediated reaction, among other effects. In prior studies, thymic stromal lymphopoietin has been shown to be upregulated in barrier-defective skin, displays antitumor activity, and is enhanced by topical calcipotriol application based on its original indication for psoriasis.

## How do these study results impact patient care?

In a perfect world, every patient could tolerate and afford chemopreventative measures such as 5-FU cream, apply it diffusely to sun-exposed skin, and experience no severe irritant reactions and/or social pariah status. We all know that this product is effective, and we all overprepare patients to use it, knowing that they will call our offices panicked and fearful that they are allergic to or are becoming infected by this cream.

Although further study clearly is needed to determine the optimal application amount, duration of use, and vehicle mix, this new compound utilizing 2 topicals that

## Resources for Patients

American Academy of Dermatology Actinic Keratosis Overview  
<https://www.aad.org/public/diseases/scaly-skin/actinic-keratosis>

American Academy of Family Physicians Actinic Keratoses Information  
<http://www.aafp.org/afp/2007/0901/p672.html>

are familiar to us—5-FU cream approved for AKs and early squamous cell skin cancers and calcipotriol ointment (though available only in cream in the United States currently) for psoriasis—is an encouraging step. Home therapy for AKs and possibly early nonmelanoma skin cancers that is more tolerable, of shorter duration, and in turn more effective than the current options would lessen the burden of treating these lesions surgically or rescheduling 5-FU patients often for irritation reaction education.

## How do patients respond to this regimen?

In my own anecdotal experience, this regimen has been well received by patients and often is covered by most insurances when written as 2 separate prescriptions (both in cream vehicle). They still report some irritation, but I prefer to utilize it segmentally instead of treating all sun-exposed areas at once (ie, treat one side of the face/scalp twice daily for 4 days, then the other, or even divide it into smaller segments once the prior segment has healed). This combination, in addition to, for example, adding nicotinamide 500 mg twice daily to a patient's skin cancer chemopreventative sequence, is in my opinion a novel but safe, effective, and well-tolerated field therapy recommendation.

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### SUGGESTED READINGS

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