

# Topical solution may be less toxic option for patients with noncancerous skin growth

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Seborrheic keratosis is the most common noncancerous skin growth in adults seen by doctors in everyday practice. While it can look like skin cancer, seborrheic keratosis is not thought to be caused by sun-related exposure, in fact, the cause is unclear. It typically presents as a brown or black growth on the face, chest, shoulders, or back.

Currently, the most commonly employed treatment of seborrheic keratosis is [cryosurgery](#), the local application of intense cold to destroy unwanted tissue. The procedure has a number of post-operative side effects ranging from scarring and blistering to pigment change most notable in dark skin types.

To better understand the biological consequences of cryosurgery on pigment cells in the skin and the potential for new approaches that can potentially overcome these limitations, a team of researchers at the George Washington University (GW) School of Medicine and Health Sciences compared the toxicological impact of cryosurgery with an FDA-approved topical 40 percent hydrogen peroxide solution (A-101) for the treatment of seborrheic keratosis, in human skin equivalents derived from darker skin types. The findings were recently published in the *Journal of the American Academy of Dermatology*.

"Given the common nature of these growths and the frequency with which patients seek treatment for them, we wanted to clearly demonstrate at the cellular level the degree of injury, and most importantly, pigmentary changes, from both the gold standard

cryosurgery and a newly approved approach, A-101 topical solution," said Adam Friedman, MD, associate professor of dermatology at the GW School of Medicine and Health Sciences and senior author of the study. "A-101 was found to be less cytotoxic, or toxic to living cells, and less damaging to melanocytes, the cells in the skin that make pigment, than cryosurgery."

In order to predict the toxicological impacts of cryosurgery and the A-101 treatment, the team evaluated skin architecture, metabolic activity, and cytotoxicity, with emphasis on melanocytes. The results of the study show that cryosurgery is a more cytotoxic [treatment](#) than A-101 for seborrheic keratosis, which suggests that A-101 could be a safer option for removal of seborrheic keratosis that reduces the risk of post-operative pigment change.

"There is ongoing clinical work evaluating the safety of this solution in darker skin types," said Friedman. "Another important take away from this study is to also recognize how damaging even a small amount of cryotherapy, a five-second freeze time, can be to human skin. These findings should be considered when using for the broad array of [skin](#) diseases for which cryosurgery is warranted.

**More information:** Stephanie Kao et al, An ex-vivo evaluation of cytotoxicity and melanocyte viability after A-101 hydrogen peroxide topical solution 40% or cryosurgery treatment in Seborrheic Keratosis lesions, *Journal of the American Academy of Dermatology* (2018). [DOI: 10.1016/j.jaad.2018.03.034](https://doi.org/10.1016/j.jaad.2018.03.034)

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