

Sun effects on skin reveal eczema therapy clues

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Human skin structure. Credit: Wikipedia

Exposure to sunlight releases a compound from the skin that can alleviate symptoms of eczema, research has found.

The molecule – called [nitric oxide](#) – works by dampening inflammation, which causes the itchy [skin](#) lesions associated with the condition.

New therapies

Scientists say their findings pave the way for new therapies that mimic the effects of the sun's rays.

These could eventually help patients avoid light [therapy](#), which can have damaging side effects on the skin, including raising cancer risk.

Skin tests

Tests on healthy volunteers found that exposing a small patch of skin to UV light triggers nitric oxide to be released into the blood stream.

Further lab studies found that the chemical activates specialised [immune cells](#) called regulatory T cells, which act to dampen ongoing inflammation.

"Our findings suggest that nitric oxide has powerful anti-inflammatory properties and could offer an alternative drug target for people with [eczema](#)," says lead researcher Dr Anne Astier.

Disease improvement

In patients with eczema, the number of these cells in their blood following [light therapy](#) directly correlates with disease improvement, the University of Edinburgh team found.

Researchers say their findings could lead to new therapies for eczema, which affects around one in five children and one in 20 adults in the UK.

Side effects

People with severe eczema are often prescribed tanning lamps to help manage their symptoms, but these can cause skin burning, accelerated aging and increased risk of cancer.

The study is published in the *Journal of Allergy and Clinical Immunology*.

"It is clear that the health benefits of sunlight stretch far beyond vitamin D and we are starting to fill in these blank spaces," says Professor Richard Weller.

More information: Cunjing Yu et al. Nitric oxide induces human CLA+CD25+Foxp3+ regulatory T cells with skin homing potential, *Journal of Allergy and Clinical Immunology* (2017). DOI: [10.1016/j.jaci.2017.05.023](https://doi.org/10.1016/j.jaci.2017.05.023)

Provided by University of Edinburgh

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