

Researchers pioneer new eczema treatment

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Eczema is the most common and stubborn skin disease in the world, but a study led by Dr. Donald Leung of the University of Colorado Anschutz Medical Campus is offering new hope for those with atopic dermatitis.

Leung, MD, medical director of the Clinical and Translational Research Center of the Colorado Clinical and Translational Sciences Institute (CCTSI) and head of the Division of Pediatric Allergy & Immunology at National Jewish Health, is working with Dr. Richard Gallo at University of California San Diego on a bacteria-infused [cream](#) that counter-acts [harmful bacteria](#) in a patient's [skin](#).

"The [beneficial bacteria](#) actually make natural antibiotics that kill staph aureus, the bad bacteria on the skin," Leung said. "We know that eczema patients don't have the [good bacteria](#) on their skin that's needed to kill staph aureus. Our research has also shown that their skin immune system is also ineffective at eradicating staph aureus, so there is a double whammy plaguing these patients."

Patients in the study apply the cream twice a day. Researchers then analyze their skin DNA to see if the bad bacteria have been reduced. The goal is to eliminate the bad bacteria on the skin altogether. The cream helps to restore the natural balance of bacteria on the skin, which will help improve the skin barrier required to keep harmful bacteria out.

Leung has been studying—and treating—atopic dermatitis for 30 years. Twenty percent of children and 10 percent of adults have it. And without effective treatment options, patients may suffer a lifetime of painful,

itchy and often infected skin. The majority of these patients develop a problem with staph infections and receive treatment with antibiotics. As a result, many patients develop antibiotic resistant bacteria on their skin, which can be very dangerous.

"Think of the good bacteria sort of like a probiotic for the skin," said Leung.

It may seem counterintuitive to apply bacteria to skin that is frequently plagued by bacterial infections, but the hope is that by applying good bacteria in a cream to eczema patients' skin, a healthy bacterial balance will be restored. Researchers hope that using the microbiome cream will offer a long-term solution where other treatments fall short.

Powerful antibiotics are commonly prescribed for eczema but they kill good bacteria on patients' skin along with the bad. Creams containing corticosteroids are also often prescribed to eczema [patients](#), but can come with harsh side effects. Patients usually can't tolerate them for long periods of time.

Leung said in addition to strengthening the skin by using the good [bacteria](#) to restore a healthy microbiome, the study could also ultimately help people with antibiotic resistant [staph infections](#) such as MRSA who are running out of treatment options.

Provided by CU Anschutz Medical Campus

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