Eczema Searches Spike 40% Every Winter—New Enzyme Technology Targets Seasonal Bacterial Factor

Emerging science shows Staph aureus overgrowth as a key driver of seasonal eczema

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EMERYVILLE, CA, UNITED STATES, December 12, 2025 / EINPresswire.com/ -- As winter weather arrives and heating systems activate across the country, a predictable health pattern emerges; eczema-related searches spike by up to 40% between November and February, while dermatologists report a consistent surge in patients experiencing seasonal flares.

> The future of eczema care may be formulations that restore both barrier and microbiome. As we learn how Staph aureus drives inflammation, microbiome-focused ingredients become critical”
>
> *Dr. Peter Lio*

For the 31 million Americans with atopic dermatitis, most winter skincare advice focuses on adding moisture. But emerging research reveals what conventional treatments overlook: the skin microbiome and its disruption during cold weather play a critical role in flare severity.
"Cold, dry winter air can weaken the skin barrier, creating the perfect conditions for Staph aureus bacteria to overgrow while protective bacteria decline," explains Dr. Peter Lio, Clinical Assistant Professor of Dermatology & Pediatrics at Northwestern University. "We now understand that this shift in the microbiome can amplify inflammation dramatically, which may help explain why so many patients notice sudden, intense flares as temperatures drop."

The connection between winter conditions and bacterial imbalance extends beyond simple dryness. Cold air dehydrates skin, hot showers strip natural oils, synthetic fabrics cause irritation, and reduced sunlight affects vitamin D levels. Together, these factors compromise both the skin barrier and the microbial ecosystem that protects it.

Research shows that Staph aureus bacteria—present in up to 90% of eczema flare-ups—releases toxins that trigger inflammation and further weaken the barrier. The severity of symptoms correlates directly with the level of Staph aureus present, while beneficial bacteria that help regulate immunity become depleted.

The challenge for patients and practitioners has been addressing Staph aureus overgrowth without disrupting the protective microbiome. Conventional treatments—steroid creams and moisturizers—manage symptoms but not the underlying bacterial imbalance, while broad-spectrum antimicrobials, like hypochlorous acid eliminate both harmful and helpful bacteria.

hypothesis™ launch range

"We're beginning to understand eczema not just as a skin barrier problem, but also a microbial one," says Dr. Lio. "New technologies that help rebalance the skin's bacteria hold real promise for more stable, predictable control, allowing us to truly get to the root of the problem for the first time."

This evolving understanding has led to new approaches that address both barrier function and microbial balance. hypothesis™, the company pioneering precision microbiome technology for eczema, has developed TPZ-01, a breakthrough patented enzyme proven in vitro to kill 99.99% of Staph aureus within five minutes while preserving beneficial bacteria. —a precision approach that differs fundamentally from both conventional eczema treatments and broad-spectrum antimicrobials.

The company's winter eczema guidance reframes seasonal care from symptom management to ecosystem restoration, addressing microbiome balance, barrier repair, gentle cleansing, environmental optimization, and proactive prevention. The complete winter eczema and microbiome guidance is available at www.hypothesis.bio for patients, caregivers, and healthcare providers.

About hypothesis™
hypothesis™ is a science-driven skincare company dedicated to advancing precision eczema care through microbiome-supportive innovation. Its proprietary TPZ-01™ enzyme technology

selectively reduces Staph aureus while preserving beneficial microbes essential to skin health. Founded under parent company Topaz Biosciences, hypothesis™ has achieved unprecedented independent validation as the first skincare brand to earn four major certifications simultaneously: EWG VERIFIED® for Eczema, MyMicrobiome's Microbiome-Friendly Eczema Certification, National Eczema Association (NEA) Seal of Acceptance, and Leaping Bunny Cruelty-Free Certification.

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