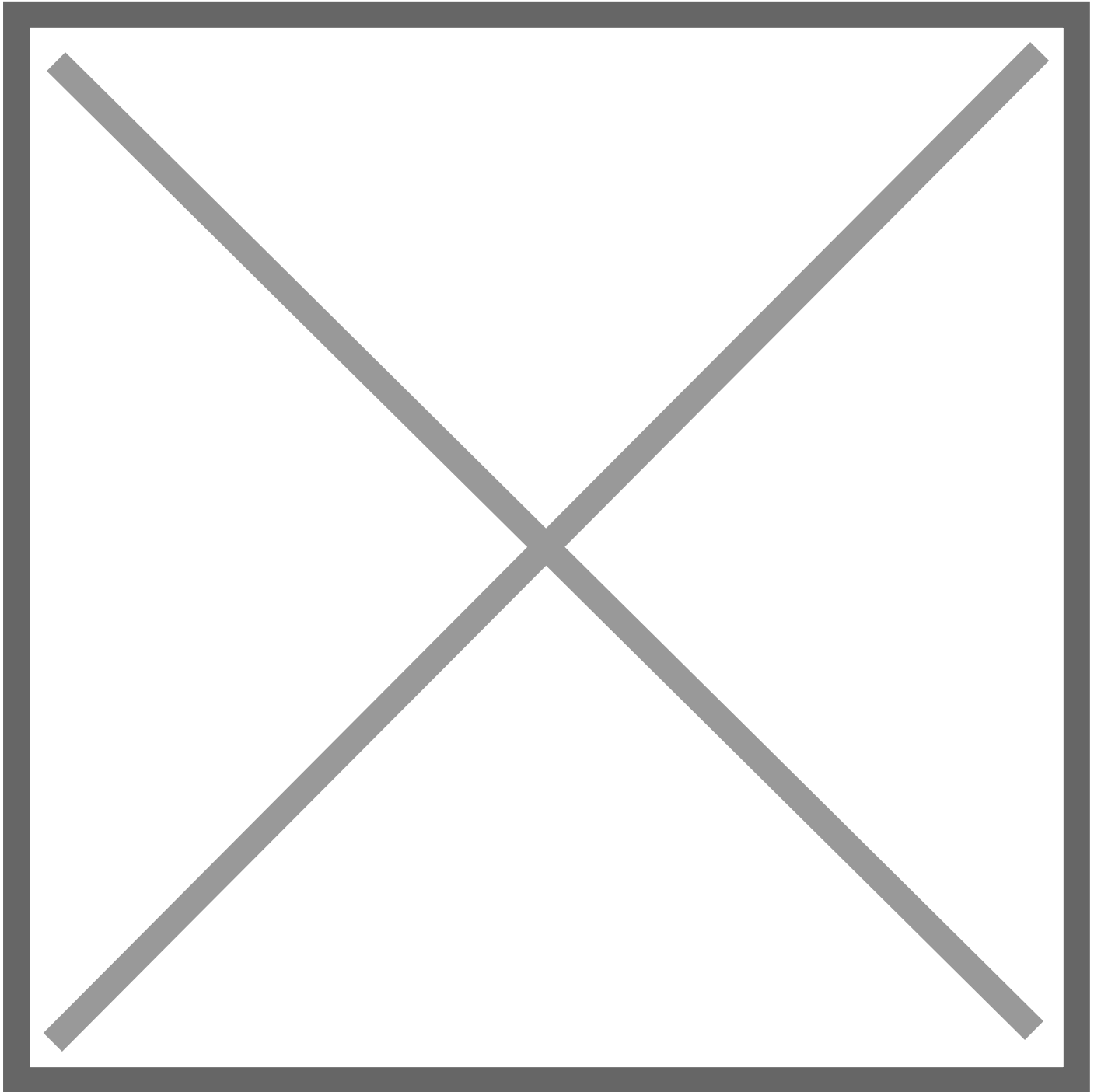


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Eczema and Stress: What's the Link?

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Eczema is a chronic inflammatory skin disease that can be challenging to live with. Affecting over 31 million Americans, it is a prevalent condition presenting in seven different forms; contact dermatitis, atopic dermatitis, seborrheic dermatitis, dyshidrotic eczema, nummular eczema, and stasis dermatitis. The main characteristics of the disease include:

- An impaired epidermal barrier function - leading to dry skin
- Inflammatory infiltration - causing symptoms such as itching, dry skin, inflamed skin, rough/scaly skin patches, swelling, and weeping/crusting of the skin
- Extensive pruritus (itching)
- Symptomatic flares and remissions

The intense and often unrelenting itching of eczema causes patients to scratch, which in turn leads to additional problems related to broken skin. Scratching, or the pain associated with it, may temporarily relieve the symptom of itching, but also makes eczema worse. People with chronically itchy skin are more likely to experience problems with sleep, depression, and anxiety, and the itch-scratch cycle can be difficult to manage.

The cause of eczema and exacerbations remains poorly understood. However, researchers believe genetics, external triggers, and psychological stress all play a role.

The Link Between Eczema and Stress

Dr. Mark Levenberg, FAAD, a Board-certified dermatologist, and Medical Director, US Medical Affairs, at Pfizer advises that "stress has been shown to have a scientific link, through a variety of mechanisms, to impact our immune system and skin barrier, which may contribute as an exacerbating factor to eczema."

When you encounter a stressful situation, the body has a physiological reaction, often referred to as the 'fight or flight' response. Originally a survival mechanism, it can lead to the body reacting to every day stress such as work pressures or family problems. During this physiological response, stress hormones, like cortisol, are released. When released in large amounts (for instance, when enduring ongoing, chronic stress), cortisol suppresses the immune system and increases inflammation throughout the body. This increase in inflammation extends to the skin worsening eczema symptoms.

Dr. Levenberg goes on to discuss the vicious cycle that stressors can cause. "Stressors are likely to affect our health in general, and skin in particular, in a variety of different ways. Different types of stressors can lead to other kinds of stress, as well. For example, eczema's hallmark symptom is the itch, which may cause an individual to have difficulty sleeping, which could also contribute to anxiety, creating a vicious cycle of multiple stressors on a patient."

Research also suggests that stress makes it harder for your skin to recover from damage. This prolonged healing time can then induce further stress — contributing to the endless vicious cycle of stress and eczema.

The Added Burden of Comorbidities

The presence of comorbidities also contributes to the stress and eczema exacerbation cycle. Dr. Levenberg states that "some patients with eczema also suffer from co-morbidities, such as anxiety, depression, autoimmune diseases, or other atopic diseases, like asthma, hay fever or food allergy. These associated conditions create their own stress and underlying chronic inflammation, and can contribute to a patient's eczema." In fact, more than 20% of adults with eczema also have asthma, and they have a two to four times increased risk of having allergic

rhinitis and food allergy.

In addition to atopic co-morbidities, studies show that over 30% of people with atopic skin disease suffer from mental disorders such as anxiety and depression. Psychosocial stressors such as; the stigma faced when people assume rashes are 'contagious,' fear of showing inflamed skin at a hair salon or swimming pool, or the financial strain of disease management, all contribute to the anxiety associated with eczema. Anxiety and depression can be common triggers in some individuals that can cause eczema to flare up, which then creates further stress, leading to more eczema exacerbations.

Managing Eczema and Stress

"One of the biggest barriers in managing stress and eczema is to be able to clearly recognize what the stressor is," states Dr. Levenberg. "A specific stressor(s) is often challenging to identify or even change, and so a more general approach to stress reduction may be more helpful. Seek interventions that are known to lower stress and increase relaxation, such as; modifying lifestyle factors, managing emotions, getting adequate rest/sleep, eating a healthy diet, and regular exercise, to name a few." Even one night of sleep loss can increase inflammation.

"It is also essential to have a support group or friends and family for positive social relationships," says Dr. Levenberg. According to studies, positive social interaction can play just as an important role as diet and exercise when it comes to health. In the current pandemic, it may be harder to achieve social support. However, it is essential to still ensure people stay in touch with their friends and family network in a safe, socially distanced, or virtual manner. Research shows that being socially isolated can increase the risk of inflammation to the same extent as being physically inactive in the adolescent years.

When asked about new research developments regarding eczema and stress, Dr. Levenberg discusses an interesting finding. "Some research has shown that people with eczema who receive psychological therapy along with standard medical care, have greater improvements in their skin condition than those who just received standard medical care."

The link between emotional stress and eczema is multi-faceted and still not fully understood. However, research highlights that stress is a significant contributor to eczema through its effects on immune response and skin barrier function, supporting the need for therapeutic strategies aimed at anxiety and stress reduction.³

References:

1. Eczema Symptoms & Causes | National Eczema Association. National Eczema Association. <https://nationaleczema.org/eczema/>. Published 2020. Accessed November 9, 2020.
2. Bieber T. Atopic Dermatitis. *New England Journal of Medicine*. 2008;358(14):1483-1494. doi:10.1056/nejmra074081
3. Steinhoff M, Suárez A, Feramisco J, Koo J. Psychoneuroimmunology of Psychological Stress and Atopic Dermatitis: Pathophysiologic and Therapeutic Updates. *Acta Dermato Venereologica*. 2012;92(1):7-15. doi:10.2340/00015555-1188
4. Rinaldi G. The Itch-Scratch Cycle: A Review of the Mechanisms. *Dermatol Pract Concept*. 2019;90-97. doi:10.5826/dpc.0902a03
5. Treatment for Itchy Skin | Itch Relief | Itchy Scalp Remedies. National Eczema Association. <https://nationaleczema.org/eczema/itchy-skin/>. Published 2020. Accessed November 9, 2020.

6. Yosipovitch G, Tran B, Papoiu A et al. Effect of Itch, Scratching and Mental Stress on Autonomic Nervous System Function in Atopic Dermatitis. *Acta Dermato Venereologica*. 2010;90(4):354-361. doi:10.2340/00015555-0890
7. Eczema Prevalence, Quality of Life and Economic Impact. National Eczema Association. https://nationaleczema.org/research/eczema-facts/#identifier_1_6880. Published 2020. Accessed November 9, 2020.
8. Beki? S, Martinek V, Talapko J, Majnari? L, Vasilj Mihaljevi? M, Škrlec I. Atopic Dermatitis and Comorbidity. *Healthcare*. 2020;8(2):70. doi:10.3390/healthcare8020070
9. Mullington J, Simpson N, Meier-Ewert H, Haack M. Sleep loss and inflammation. *Best Practice & Research Clinical Endocrinology & Metabolism*. 2010;24(5):775-784. doi:10.1016/j.beem.2010.08.014
10. Yang Y, Boen C, Gerken K, Li T, Schorpp K, Harris K. Social relationships and physiological determinants of longevity across the human life span. *Proceedings of the National Academy of Sciences*. 2016;113(3):578-583. doi:10.1073/pnas.1511085112

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