

## Yoga Therapy in Treating Dermatological Conditions

According to the International Yoga Federation, about 300 million people practice yoga worldwide<sup>1</sup>. The benefits of Yoga which combines physical postures, breathing exercises, and meditation or mindfulness has encouraged physicians and therapists to recommend the practice of Yoga to their patients. According to Dr. Sheila Jalalat, as the popularity of Yoga increases more patients are inquiring about the benefits of yoga in managing their dermatologic disorders<sup>2</sup>. Researchers are just beginning to study the link between dermatological diseases and the practice of Yoga. This paper will highlight the connection between stress and how it manifests itself on the skin. It will discuss how Yoga Therapy can be used in treating conditions such as skin cancer, psoriasis, eczema, hives, rashes, acne, rosacea, and atopic dermatitis. With rising demand, it's critical that Yoga Therapists know how to work with students and patients who suffer from various skin conditions.

Dr. Hansaji of The Yoga Institute discusses various variables that contribute to skin issues, including pollutants in the environment, allergies, the clothes we wear, and how we sleep. However, the main contributing factor to skin disorders, according to Dr. Ronald Brancaccio of the Skin Institute of New York is stress<sup>3</sup>. The link between neuroimmunological pathways and skin inflammation, particularly the interactions between the brain and skin that underpin many dermatological illnesses, is now well understood<sup>4,5</sup>. There are two biological systems that are affected by the stress response.

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<sup>1</sup> <https://www.yogitimes.com/article/unstoppable-trend-yoga-infographic-business>

<sup>2</sup> Sheila Jalalat, MD. Yoga for Dermatologic Conditions. *Cutis* 2015;95:E23-E25.

<sup>3</sup> <https://www.everydayhealth.com/eczema/can-yoga-help-relieve-eczema-atopic-dermatitis-symptoms/>

<sup>4</sup> Arck PC, Slominski A, Theoharides TC, et al. Neuroimmunology of stress: skin takes center stage. *J Invest Dermatol.* 2006;126:1697-1704.

<sup>5</sup> Recognizing the mind-skin connection. Harvard Health Publications Web site. [http://www.health.harvard.edu/newsletter\\_article/Recognizing\\_the\\_mind-skin\\_connection](http://www.health.harvard.edu/newsletter_article/Recognizing_the_mind-skin_connection). Published November 1, 2006. Accessed March 31, 2015.

(1) The hypothalamic-pituitary-adrenal axis, which controls adrenocorticotropin-endorphin, and cortisol release.

(2) The sympathoadrenal medullary system, which controls catecholamine release. The body releases catecholamines in response to emotional or physical stress. Catecholamines are responsible for the body's "fight-or-flight" response. Dopamine, adrenaline, and noradrenaline are all catecholamines.

Psychological stress can release adrenaline, which increases your heart rate, elevates your blood pressure and boosts energy supplies. Cortisol, which is the primary stress hormone, increases glucose in the bloodstream, enhances your brain's use of glucose and increases the availability of substances that repair tissues. These chemical reactions can manifest itself on the skin in many different forms such as hives or rashes.

Hives, also known as urticaria, are raised welts on the skin. They can itch and sometimes sting. They are usually red, pink, or flesh-colored. Hives can be caused by an allergic reaction to a medication, a food, or a reaction to an irritant in the environment. According to an article in The International Journal on the Biology of Stress, salivary cortisol responses to acute stress vary between allergic and healthy individuals<sup>6</sup>. The study addressed stress experiences and emotion regulation in allergic and non-allergic adults. Allergics scored higher on emotion suppression, had higher pre-stress concentrations of plasma oxytocin and exhibited a stronger salivary cortisol response to stress than healthy people. The research outcomes indicate that allergic individuals cope less efficiently with acute stress but may

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<sup>6</sup> L. M. Glenk, O. D. Kothgassner, A. Felnhöfer, J. Gotovina, C. L. Pranger, A. N. Jensen, N. Mothes-Luksch, A. Goreis, R. Palme & E. Jensen-Jarolim (2020) Salivary cortisol responses to acute stress vary between allergic and healthy individuals: the role of plasma oxytocin, emotion regulation strategies, reported stress and anxiety, *Stress*, 23:3, 275-283, DOI: 10.1080/10253890.2019.1675629

benefit from adaptive emotion regulation strategies such as reappraisal. A yoga mudra represented by the earth element which can help with hives is Prithvi. It is present in biological tissues such as bones, skin, hair, and nails. Prithvi helps us overcome conditions like inflammation by reducing the fire within our bodies. It is supposed to help with skin coloring, allergies, and scarring. It is recommended to meditate using the Prithvi mudra for 10 minutes after an initial hive breakout.

It has also been found that many skin conditions contain a *mental health* aspect. An example is atopic dermatitis which is exacerbated by stress. Approximately 31.6 million people in the United States have some form of eczema<sup>7</sup>. Atopic dermatitis is the most prevalent type of eczema which causes itching, and produces red patches on your face, arms, and legs. While it is most common in young children, an estimated 18 million adults are also affected by this skin condition<sup>8</sup>. The rashes flare up, go away, and then return. Although this cycle is known as a skin condition, it is classified as a *psychophysiological disorder*<sup>9</sup> in which stressful events preceded the onset of “itching” in over 70% of patients who suffer from atopic dermatitis<sup>10</sup>. Although there is no treatment for this type of skin disease, Yoga Therapy may be able to help. In an article from The Frontiers In Human Neuroscience, it was found that yoga and meditation reduced inflammation, which is beneficial to persons who suffer from inflammatory skin conditions such as eczema<sup>11</sup>. Adults who participated in a three-month yoga and meditation retreat reported lower levels of anxiety and depression, as well as an increase in plasma levels of an anti-inflammatory protein known as interleukin-10 and a decrease in plasma levels of a pro-

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<sup>7</sup> <https://nationaleczema.org/research/eczema-facts/>

<sup>8</sup> <https://www.webmd.com/skin-problems-and-treatments/eczema/eczema-basics>

<sup>9</sup> Morren MA, Przybilla B, Bamelis M, et al. Atopic dermatitis: triggering factors. *J Am Acad Dermatol.* 1994;31:467-473.

<sup>10</sup> Faulstich ME, Williamson DA. An overview of atopic dermatitis: toward a bio-behavioural integration. *J Psychosom Res.* 1985;29:647-654.

<sup>11</sup> *Front. Hum. Neurosci.*, 26 June 2017 | <https://doi.org/10.3389/fnhum.2017.00315>

inflammatory protein known as interleukin-12. People with eczema have a weak skin barrier and are more susceptible to the effects of stress on skin immune cells. The uttanasana posture in yoga stimulates blood circulation in the face, neck, and head. It aids in the relaxation of facial muscles and the balancing of hormones which support good skin.

Acne is a skin condition that occurs when the hair follicles become clogged with oil and dead skin cells. This can cause whiteheads, pimples, and blackheads. It is the most common skin condition, affecting over 80% of the global population. Fish pose in yoga stimulates the thyroid gland and helps it work efficiently. Hormones are regulated by the thyroid gland, and hormonal imbalances can lead to acne. This asana also emphasizes deep breathing, which raises the body's oxygen levels. Higher oxygen levels in the body will lower stress, boost metabolism, and increase immunity. In addition, a healthy thyroid promotes wound healing, which aids in the repair of acne and pimple scars.

Skin Pigmentation is a term that refers to the process of coloring. The color of one's skin is affected by skin pigmentation disorders. Melanin is a pigment that gives skin its color. Melanin production is affected when these cells become damaged or diseased. Hormones can be elevated by stress, which also cause skin discoloration. A gentle spinal twist asana is thought to stimulate the adrenal gland, allowing it to operate properly and reduce stress, which can help even out overall skin tone.

Psoriasis is a skin disease that causes dry, red, itchy scaly patches, most commonly on the knees, elbows, trunk and scalp. The Varun Mudra is said to help those suffering from Psoriasis as it counteracts dryness by increasing the water element within the body. It is recommended to meditate using the Varun Mudra for a minimum of 10 minutes. One small study of psoriasis patients found that those who

listened to mindfulness meditation tapes while undergoing standard phototherapy (psoralen plus UVA) healed faster than those who underwent phototherapy treatment alone<sup>12</sup>.

Rosacea is a skin disorder that produces flushing and visible blood vessels in the face. Small, pus-filled lumps may also appear. These signs and symptoms may appear and disappear for weeks to months. Rosacea is more common among white middle-aged women. Doing cobra pose in yoga makes breathing easier. In cobra pose, one stretches and opens both the heart and lungs. As more oxygen gets taken in, circulation increases which aids in the removal of toxins and the scavenging of free radicals throughout the body. This assists in improving skin disorders like premature aging, acne, and rosacea. The cobra asana also helps with hormone regulation.

Melanoma is a kind of skin cancer caused by uncontrolled growth of melanocytes (the cells that give the skin its tan or brown color). Most melanoma cells still make melanin, so melanoma tumors are usually brown or black. But some melanomas do not make melanin and can appear pink, tan, or even white. Director of the Clinical Yoga Therapy Program at Osher Center for Integrative Medicine says that deep belly breathing helps cancer patients rid itself of gaseous chemical and can bring as much as seven times more oxygen into the lungs as shallow breathing. A 47-year-old woman recently joined the Shala as a case study for melanoma cancer. She got into a motorcycle accident when she was younger, which resulted in fractures throughout her body. Plates had to be implanted in various parts of her body. One of the inserted plates was found in the humoral area of her right arm. This is also where the melanoma skin cancer was discovered. She underwent surgery to remove the cancer and her skin was being

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<sup>12</sup> Kabat-Zinn J, Wheeler E, Light T, et al. Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy (UVB) and photochemotherapy (PUVA). *Psychosom Med.* 1998;60:625-632.

monitored every six weeks. At her most recent check-up 3 skin samples were obtained and analyzed. She is currently awaiting the results and hopes the cancer is not spreading. She suffers from anxiety and nightmares of the cancer returning. The first several protocols have focused on breathing exercises such as abdominal breathing to reduce stress and alternate nostril breathing to help create balance. Asanas and exercises have focused on creating mobility where her plates are located as she has tended to become rigid in those areas. Restorative postures are used as a method for to her to relax and create acceptance.

We learned that stress plays a role in skin conditions and although our bodies are well-equipped to deal with acute stress, persistent stress can exhaust our systems and lead to sickness over time. As a result, we require cost-efficient and effective stress-reduction strategies. Madan Kataria a physician from Mumbai India who is the founder of laughter yoga says that “When you start laughing, your chemistry changes, your physiology changes, your chances to experience happiness are much greater”. “Laughter Yoga is nothing more than prepping the body and mind for happiness.” There are currently over 5,000 laughter clubs worldwide (200 in the USA). Jeffrey Briar a student of laughter yoga who runs daily laughter sessions says, “I can laugh myself out of stress in as little as 20 seconds.” In a recent article, it was found that “Laughter yoga reduces the cortisol response to acute stress in healthy individuals”<sup>13</sup>. In this study, they investigated whether a single laughter yoga session could help deal with acute stress. Although laughter yoga did not change how stressful a situation was perceived, it reduced the amount of stress hormones that were released in response to the situation. Laughter yoga might be a cheap and easily-to-implement add-on to more traditional stress reduction techniques.

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<sup>13</sup> Maria Meier, Lisa Wirz, Philip Dickinson & Jens C. Pruessner (2021) Laughter yoga reduces the cortisol response to acute stress in healthy individuals, *Stress*, 24:1, 44-52, DOI: [10.1080/10253890.2020.1766018](https://doi.org/10.1080/10253890.2020.1766018)

As the number of people suffering from skin disorders rises, it's more vital than ever for Yoga Therapists to understand how they can help these clients. We learned how Yoga Therapists can provide a variety of stress-relieving techniques to help those who suffer from eczema, hives, psoriasis, acne, rosacea, and melanoma. As Yoga Therapists we understand how breathing exercises can help lower the heart rate and relax the nervous system of someone who is suffering. Examples include abdominal breathing and Sitali Breath. When a person is stressed, asanas can assist someone in lowering their heart rate and feeling grounded. Examples include the various warrior poses and corpse pose. Meditation can assist a person in focusing and limiting distractions, resulting in a positive mindset and reduction of stress hormones. Examples can include positive self-affirmations, visualization, and silent meditation. Although approaches differ from person to person, a yoga therapist can customize a program to achieve the best possible outcomes.

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