Healthy Skin From Within

Chris D. Meletis, ND (with permission from cpmedical.net, access pin: 587556)

Considered the largest human organ, the skin comprises 12-15 percent of our total body weight, has a surface area of 1-2 meters, and varies in thickness from 0.6 millimeters on the eyelids to 3 millimeters on the palms and soles. The skin serves many functions, chief amongst them a physical barrier against the outer world and a retainer of our internal moisture.

The skin is comprised of primarily two layers, the thinner outer epidermis and the thicker underlying dermis, each of which fulfills different functions. The sweat glands, hair follicles and nails originate in a subcutaneous layer; they are epithelial in origin and thus considered “appendages” of the skin.

The skin also plays a major role in homeostasis with temperature regulation, absorption, elimination, biochemical synthesis and sensory reception. Pain, pressure and temperature are perceived through the skin’s sensory organs, while pigmentation molecules (melanin and carotenes) and a vitamin D precursor (cholecalciferol) are produced in the skin as well.

The skin is prone to a variety of health challenges. And similar to the fact that the eyes provide a direct glimpse, even if partial, to one’s vascular and neurological systems (the only location in the body where the nerves and blood vessels can be seen without invasive techniques using an ophthalmoscope), the skin may also be viewed as a barometer of one’s overall health.

Just as we evaluate the health of our pets by the appearance of their coats (a shiny and smooth coat signifies overall well being), the condition of our nails, hair and skin can be reflective of our health as well. The clinician will rely on many different cutaneous signs as a way of collecting clues about a patient’s condition; a person with dry skin and thinning, wiry hair may have thyroid problems while a person who is fatigued with pale, ashen skin may be anemic.

Managing skin conditions requires good detective work; the one-size-fits-all typical treatment of corticosteroids, while helpful at suppressing symptoms, rarely addresses the underlying causes of skin conditions. More importantly, addressing internal conditions that may be responsible for a person’s outward skin appearance is important to prevent recurrence of cutaneous conditions.

Liver and Skin Health

As the body’s primary organ of detoxification, the liver is responsible for processing all endogenous and exogenous chemicals within the body. The liver manages all drugs, toxins, food metabolites and anything else that gains entry into the bloodstream. It accomplishes this primarily through the phase I and phase II enzyme systems. When damaged or saddled with a heavy toxic load, the liver cannot process chemicals with expediency, and poor health, including skin disease, is the result.

Often, the first sign of a liver disorder is a skin condition.
Liver conditions, such as nonalcoholic fatty liver disease, are present in nearly half of those who suffer from psoriasis. Psoriasis, discoid eczema, rosacea and post-adolescent acne can be the result of aldehyde formation from either excess alcohol or other burdens that lead to abnormal liver function, even when liver enzymes may be relatively normal.5

**Healthy Gut = Healthy Skin**

Treatment of skin conditions should always include addressing the gastrointestinal system. Newer research continues to explore the connection between gut health, flora balance and other areas of the body, including the skin. The emerging concept of “leaky gut” demands that we consider this as a possible causative agent in many health conditions, including skin disorders. Likewise, balanced gastrointestinal microbes have a significant role in developing and maintaining the balance between antigenic tolerance and inflammatory responses.6-7

There is much to be considered in the treatment of cutaneous conditions beyond topical therapies. Examining food intolerances, gut health and specific nutrients for select skin conditions can lead to improved treatment outcomes and possible remission of some conditions. I also inform all my patients that without 2 to 3 meaningful bowel movements per day, toxins cannot be optimally eliminated and radiant, healthy skin is often elusive.

**Eczema**

Eczema refers to a group of skin conditions that produce inflamed, irritated pruritic (itchy) skin. Atopic eczema is the most common form; it has an allergic component to it and often occurs along with hay fever (allergies) and asthma. A U.S. population-based survey revealed that 17 percent of those surveyed experienced some form of eczema.8

Eczema is often referred to as “the itch that rashes” meaning allergens irritate the skin causing pruritis, leading to the rash that is eczema.9 Treatment of underlying causes of eczema warrant attention. In addition to environmental allergens and irritants (pollens, detergents, fabrics, etc.), food allergens can play a significant role in eczematosus conditions, and elimination of the offending allergen may markedly improve the condition.10 Identification and removal of food allergies is especially important in poorly responsive eczema where food allergy suspicion is high; even exposure of eczematosus skin to food proteins can be a risk factor for development of food allergies.11

Nutritionally, low levels of zinc and copper are common in children with skin conditions, and this may play a role in the development of allergic or inflammatory skin diseases.12 Zinc deficiency may contribute to eczema in infants due to the relative decreased zinc content in breast milk; this type of eczema is responsive to supplementation.13 Adults can also exhibit eczematosus skin symptoms due to zinc and other nutrient deficiencies.14

These other nutrient deficiencies can often take the form of insufficient essential fatty acid intake and/or low B vitamin levels, including biotin.

Eczema has a gastrointestinal connection as well. Epidemiological data shows that children with eczema, asthma and hay fever have intestinal flora that is different from those without those conditions, and the presence of probiotic bacteria amongst the intestinal microflora system has been shown to have a protective effect against the development of atopic conditions.15
Rosacea

Rosacea presents with inflammation of the cheeks, chin, forehead, eyelids and nose. It involves swelling of the blood vessels just below the skin surface and can appear as redness and swelling or skin eruptions that look like acne. While there is no well-described cause of rosacea, current theories include environmental causes, vascular abnormalities, skin degeneration and microorganisms including Helicobacter pylori.16

H. pylori is a gram-negative bacterium that causes inflammation of the stomach lining and is thought to be responsible for the development of gastric ulcers, which, when left unchecked, can lead to more serious stomach concerns. H. pylori infections are associated with rosacea.17-18

Food sensitivities should also be included in the etiology; in my practice, I have observed both reduction and complete remission of rosacea symptoms after identification and removal of IgG-mediated food sensitivities. Food sensitivities can invoke inflammatory reactions that may provoke a number of different systemic symptoms, including dermatologic reactions.19 Clinical experience has also shown that reducing or eliminating intake of sugars, processed foods, breads and baked goods can improve rosacea.

Psoriasis

Psoriasis occurs when the body’s production of skin cells occurs too rapidly and dead layers of cells accumulate on the skin surface. It is a chronic inflammatory condition marked by hyperproliferative keratinocytes and an inflammatory dermal infiltrate; this occurs from dysregulated innate immunity and cytokine production, tumor necrosis factor alpha (TNFalpha) chief among them.20 The lesions can appear anywhere on the body and appear as thickened, red areas with flaky white patches.

Psoriasis is another condition that, while immunologically complex, can be helped when gastrointestinal and hepatic health is improved.21 For instance, anti-gliadin antibodies, a marker of celiac disease, are found in elevated numbers in cutaneous disorders, including psoriasis; a gluten-free diet can improve psoriasis severity.22 Newer hypotheses about the cause of psoriasis point to the digestive system; patients with psoriasis have structural and functional abnormalities throughout the digestive system.23

Acne

Acne is a typically inflammatory skin condition marked by areas of scaly red skin, comedones, papules, pustules and scarring. Acne is often caused by testosterone’s influence on pilosebaceous units (hair follicle and its associated sebaceous gland) and the subsequent overproduction of oil and resultant infection. One theory posits the beginnings of the connection between intestinal microflora, increased intestinal permeability and their contribution to systemic inflammatory conditions like acne.24

Nutrient deficiency, inadequate antioxidant status and imbalanced intestinal microflora may play a role in acne and its comorbid psychological sequelae.25 Treating the gut by balancing the flora and repairing mucosal integrity (leaky gut) may go a long way toward improving the inflammatory state of acne; likewise, balanced liver function can also lower the inflammatory and toxic burdens, thereby improving skin health.
Nutritional Support for the Skin

A number of nutrients can be used to support skin health, depending on the specific goal. Some nutrients are targeted specifically toward certain skin conditions, while others are used across the board to support overall skin health.

People with eczema can use several nutrients to support skin health, such as probiotics, zinc and essential fatty acids. Probiotics have been shown to improve cutaneous inflammatory conditions. Essential fatty acids (EFAs), especially docosahexaenoic acid (DHA), have produced “significant improvement” in eczema symptoms. Another EFA, gamma-linolenic acid (GLA), has been shown to improve eczematous symptoms as well.

Those with rosacea may consider mastic gum to address stomach issues and H. pylori. Derived from the sap of a Mediterranean tree, Pistacia lentiscus, mastic gum has demonstrated clinical benefit in balancing H. pylori and other organisms. Furthermore, hypochlorhydria (low stomach acid) can allow for the growth of H. pylori and other organisms. Supplementing with HCL can protect against low stomach acid and make the stomach less vulnerable to H. pylori, while cofactors such as vitamins B1 and B6 and the mineral zinc also can support the body’s production of HCL.

The skin of people with psoriasis can often be helped with fumaric acid and Gamma-linolenic acid (GLA). Fumaric acid has been shown to help 50-70 percent of people with psoriasis achieve improvement. GLA is a poly-unsaturated fatty acid that is metabolized into a potent inhibitor of leukotriene B4, a proinflammatory metabolite of arachidonic acid that accumulates in psoriasis lesions.

The anti-inflammatory effect of zinc in acne is so beneficial that its use is warranted, especially in conditions where standard antibiotic therapy is contraindicated. Zinc is an important immune system modulator, and plays a specific role in supporting innate immunity where inflammation is prevalent, as occurs with acne. In my clinical practice, I have often found the use of essential fatty acids and zinc to be helpful.

Of particular importance to the skin is vitamin D. Circulating vitamin D3 (25-hydroxyvitamin D) is converted into 1,25 dihydroxyvitamin D for use locally in the skin where it affects cellular proliferation, differentiation and immunologic regulation. It is through these effects that vitamin D is thought to be of benefit to psoriasis and other skin conditions. Vitamin D’s direct effect on epithelial cells makes it a first line of supplementation for improving the skin and other epithelial cell conditions.

Hyaluronic acid (HA) occurs throughout the body, namely in the skin. It is involved in repair of wounds, regeneration and matrix organization. It serves as a skin lubricant, pulling and holding water in the dermis. It should be considered as part of any plan to improve the health of the skin.

As mentioned earlier in the article, poor liver health is an overlooked reason for unhealthy skin. Therefore, to ensure overall liver health, supplementing with a combination of milk thistle (silymarin), Scutellaria baicalensis root extract, and N-acetyl cysteine can prove especially helpful.
Conclusion

Skin conditions have a significant impact on quality of life since they often affect a person's appearance and therefore can have a negative effect on self-esteem. With long-term persistence, dietary changes, and the use of key nutrients, however, the health of the skin can significantly improve from within.

References: