



Skin

Skin bacteria: THE GOOD, THE BAD AND THE BALANCE

THE BACTERIA BUZZ IS SWEEPING THE SKINCARE COMMUNITY. HERE, SYNERGIE SKIN FOUNDER TERRI VINSON REVEALS WHY.

With the importance of gut bacteria on overall wellbeing now being universally recognised, researchers are turning their attention to the bacteria that lives on the skin's surface.

The consumption of oral probiotics to promote health and balance gut bacteria has significantly increased over the last decade. Cosmetic chemists like myself now see this translating to topical skincare with clinical data supporting the positive impact of cosmeceutical prebiotic and probiotic products on the control and defence of the epidermis.

Up to one billion bacteria inhabit every square centimetre of our skin and there is huge diversity in distinct species of bacteria, both harmful and beneficial. These microbes secrete chemicals which are scanned by the skin's immune system to monitor the health of our skin barrier and the state of bacterial balance.

Traditionally it was recommended to destroy all the so-called 'bad' bacteria on the skin. However, scientists now realise that our skin needs a certain amount of these bad guys to help our immune system work efficiently. The trick is to maintain

diversity and to strike the balance with beneficial bacteria dominating the bad. When all is in balance, the skin microbiome provides the first line of defence against inflammation, which is the basis of all skin disorders, even ageing.

The skin is our largest organ and our biggest barrier. The diversity and quantity of our skin microbiome should remain stable over time. However, external factors such as antibiotics, pollution, poor nutrition, excessive hygiene, antibacterial gels, harsh preservatives and other undesirable skin products can disrupt the balance. What happens when the bad guys take over? The excess pathogenic bacteria produce inflammatory by-products called cytokines. These chemicals disrupt the protective barrier function of our skin and lead to inflammation and skin conditions such as excessive dryness, premature lines, sensitivity, rosacea, acne, eczema, psoriasis and allergy.

New research is delivering promising results for treating the skin with topical prebiotics and probiotics to ensure the skin microbiome is balanced. One 2017 study (Seite S

et al) found a significant reduction in dermatitis flareups following the application of a probiotic ointment. Similar studies have confirmed these results and further research is showing positive outcomes for other inflammatory skin conditions such as acne, eczema and psoriasis.

In terms of skincare, the ideal formulations contain a combination of probiotics with prebiotics. Prebiotics provide 'food' for the beneficial bacteria living on your skin whilst inhibiting overgrowth of the harmful bacteria. It provides a nutritional source for the beneficial bacteria only to ensure there is a positive balance between the good and bad bacteria for optimal skin health. I like to use the garden metaphor: probiotic bacteria are the seeds that grow and flourish on the skin and the prebiotic is the fertiliser providing the food to

enable the garden to grow whilst inhibiting the weeds.

There is a common myth that adding live probiotic bacteria to skincare formulations will be highly effective. Unfortunately, the chemical and packaging environment of a skincare product, both serums and moisturisers, is inhospitable to supporting the growth of beneficial bacteria. It is better to use a fermented lysate of a probiotic. These are the structural components and metabolites of the bacteria that actually create the beneficial effect. Lysates can remain active in the formulation unlike the whole bacteria.

So, how do probiotics benefit the skin? A common probiotic extract which is supported by clinical data is Bifidobacterium lysate. The lysate of this probiotic has been shown to stimulate the immunity of the

skin and protect it from irritation and stress. An in vivo study of 20 volunteers showed that skin treated with the probiotic lysate of Bifidobacterium and a known skin irritant exhibited a 50 per cent reduction in inflammation versus the untreated control. Gueniche et al studied the effect of Bifidobacterium lysate for treating sensitive and reactive skin in vivo. They concluded that topical application of the lysate significantly reduced skin sensitivity after an eight week trial versus control. There was a reduction in stinging, water loss and barrier dysfunction. In vitro tests also indicate that Bifidobacterium lysate may reduce skin sensitivity by reducing reactivity of the nerve cells on the skin.

It has been discovered that our skin makes and metabolises hormones and peptides, which can be



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directly influenced by skin bacteria. According to a 2016 study, the skin microbiome can influence other body systems and even our brain chemistry and emotions! Just like the gut flora, the impact of skin bacteria is more than skin deep. So let's keep those little guys healthy and in balance!

Studies clearly demonstrate that topical prebiotic nutrition combined with probiotic lysates do provide measurable skin benefits. Maintaining a balanced skin microbiome is crucial for skin health and it is clear to me that every skin type will benefit from reducing inflammation and improving barrier function. Prebiotic/probiotic combination products should be an essential addition to all skin regimens. **CBM**