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finding their way into skincare too. So could good bacteria be a new best friend for your face?

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It's no secret that probiotics are great for a healthy gut; they help with digestion, the absorbtion of vital nutrients and the prevention of bloating and constipation. But what you might not know is that they have also been found to help tackle acne, skin sensitivity, rosacea and even eczema.

Early research into the topical use of these healthy bacteria has produced promising results, so skincare companies are already adding them to their active ingredients lists.

Aurelia Probiotic Skincare founder Claire Vero was one of the first. She created the brand three years ago, after applying probiotics to her own skin to calm redness and sensitivity and being impressed by their effectiveness. The Aurelia range contains bifidobacteria to boost the skin's barrier function and defences.

"The goal is to help your skin regain its **Probiotics have been found to** natural balance - much like probiotics help tackle acne, skin sensitivity, do for your gut," Claire explains.

A possible link between levels of gut bacteria and skin health is already being investigated. In a 2012 Australian study at the Murdoch Children's Research Institute, infants who developed eczema before they turned one were found to have had a less diverse collection of gut bacteria

when they were seven days old than infants without the skin condition. Meanwhile, Korean researchers have found that when used in conjunction with standard acne treatments, probiotics from food or supplements may speed up acne clearance, while also increasing patients' tolerance of acne treatment with antibiotics. Recent US research suggests probiotics can help control rosacea flare-ups and symptoms, while initial studies of topical probiotics for acne have shown they may help reduce the number of active skin lesions.

It makes sense that good bacteria might help fight the bad ones behind acne and rosacea. In the long term, they might also have a positive impact on skin hydration, sun damage and wrinkles. There is certainly a proven link between chronic low-grade inflammation and irritation and collagen breakdown and pigmentation, so it seems logical that anything that reduces irritation could help prevent problems such as wrinkles and age spots further down the line.

But for best results, should we be consuming probiotics or simply slathering them on our faces?

The answer, it seems, is both. When applied to the skin, certain strains of probiotic may have a soothing, calming and strengthening effect on the surface layers - the ones we particularly rely on at this time of year to protect skin from cold temperatures, harsh winds and rain. Probiotics appear to send direct messages to skin cells, telling them to stop their release of inflammatory mediators; in other words, their use could result in less inflammation, less redness, less irritation and, in the long term, less premature ageing. Topical application of probiotics also rebalances the skin's acid-

alkaline pH levels and can help to hydrate it.

The trouble is, research into this area is still in the early stages. And in any case, with so many different strains of healthy bacteria, it can be hard to know which are best for the skin and just how much we should be applying.

Art Pellegrino, vice-president of R&D at Elizabeth Arden and part of the team behind Superstart – a first-step probiotics treatment that aims to balance skin pH, boost its barrier function and help

anything you put on your skin to work more effectively – takes a cautious approach. He says that rather than thinking of probiotics as the next anti-ageing miracle ingredient, we should view them as playing a role in skin health – even if we do not yet know how significant that role is. "We know that they work to strengthen the skin to make it as healthy as possible and we are only just beginning to discover their role in preventing outbreaks, sensitivity and ageing," explains Art. "It's an exciting area of research for beauty."

Clinique has also embraced the possibilities that probiotics appear to offer and is due to add them to its ground-breaking and best-selling Redness Solutions range this year, starting with the Daily Relief Cream and Makeup SPF15.

So while the jury is still out on just how effective probiotics might be in the fight against skin ageing, one thing is certain: in future we are likely to be seeing a lot more of them in our skincare products.

