



Managing Gut Health to Enhance Skin Quality

Bridging functional medicine and aesthetic science, consultant ophthalmic and oculoplastic surgeon Miss Rachna Murthy describes how her Microbial Mantle™ approach targets the gut-skin axis to strengthen the body's natural defences, optimise healing, and extend the healthspan of the skin



In regenerative aesthetics, the aim is not only to correct visible signs of ageing but to restore the body's intrinsic ability to repair and maintain itself. Over time I have found that supporting gut health is one of the most effective ways to achieve this.

The trillions of microorganisms that inhabit both gut and skin form a complex, symbiotic defence network. When in balance, these communities regulate inflammation, modulate immunity and preserve barrier integrity. When microbiome balance is disturbed by stress, antibiotic exposure, poor diet or overuse of harsh topicals, the consequences often manifest as redness, sensitivity, breakouts or premature ageing.

My clinical framework, known as the Microbial Mantle™ protocol, evolved from this understanding. It recognises the gut and skin as interconnected ecosystems and seeks to restore equilibrium before aesthetic correction begins.

Understanding the gut-skin axis

I often describe the microbiome as a rainforest: a living ecosystem teeming with diversity, in which every element contributes to balance and resilience. When this internal rainforest flourishes, our outer environment – the skin – reflects its health. When it becomes depleted, the skin's defences falter.

Both gut and skin are active interfaces with the external world, hosting diverse microbial populations that communicate through metabolic and neuro-immune pathways. Studies increasingly link intestinal dysbiosis to acne, rosacea and eczema, while short-chain fatty acids such as butyrate, produced by gut bacteria, strengthen epithelial junctions and reduce systemic inflammation.¹⁻⁵

From a regenerative perspective, maintaining microbial balance supports fibroblast activity, collagen renewal and vascular stability – core processes in skin repair and rejuvenation.⁶⁻⁸ By

recalibrating the gut-skin axis, we can improve the biological environment in which regeneration takes place.

The regenerative biology of the microbiome

Understanding these systemic interactions is vital, because the regenerative potential of the skin depends on the health of its microbial partners. The microbiome influences far more than local skin health. Its metabolites regulate oxidative stress, mitochondrial function and baseline immune activity – processes central to tissue repair, collagen synthesis and ageing.⁸⁻¹⁰

Short-chain fatty acids such as butyrate and propionate act as signalling molecules that enhance keratinocyte differentiation and modulate fibroblast behaviour, promoting extracellular matrix renewal. By reducing reactive oxygen species and supporting mitochondrial biogenesis, these metabolites create a metabolic environment conducive to regeneration rather than degeneration.^{4,5}

Emerging research also links probiotic and postbiotic supplementation with measurable improvements in dermal architecture. Controlled studies have demonstrated increases in collagen density, skin elasticity and hydration, along with reductions in wrinkle depth and transepidermal water loss.^{11,12} Such findings highlight how microbial modulation can influence not only visible appearance but also the biological age of the skin.

In this context, maintaining a balanced microbiome becomes an essential element of regenerative and longevity medicine – supporting the body's ability to heal, adapt and resist the inflammatory changes that underpin ageing.

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Integrating microbiome care in practice

Each consultation begins with a broad assessment that includes not only medical and aesthetic history, but also diet, stress and antibiotic use. Understanding these influences is essential to interpreting skin behaviour. Digital skin imaging provides a baseline for redness, porphyrins and texture changes.

Treatment is then structured through three coordinated stages:

- 1. Barrier reset:** Hypochlorous-based sprays such as Purifeyes are used to calm inflammation and rebalance the skin microbiome.^{9,10} Because the formula is eye-safe, it can be applied to peri-ocular and nasal areas, which are often disrupted in conditions such as rosacea and dry-eye disease.
- 2. Microbial support:** Oral and topical formulations combining *Lactobacillus* strains with micronutrients, such as those in the AWvi Skin Biotic system, help promote microbial diversity.^{6,7} The companion cleanser, containing the prebiotic inulin, and an active moisturiser reinforce the skin barrier.^{4,5}
- 3. Gut optimisation:** For patients with autoimmune or inflammatory tendencies, I often recommend a short course of Symprove (probiotics) and live probiotics such as Dr Ohhira and Myota to reseed the gut, followed by maintenance through dietary fibre, fermented foods and hydration.^{1-3,8}

These measures are supported by omega-3 and vitamin D supplementation, vitamin C antioxidants, and strict daily SPF use.^{11,12} Once the barrier is stable, light-based or injectable treatments can be introduced with improved tolerance and longevity of effect.

Clinical experience

Two recent cases illustrate how rebalancing the microbiome can transform inflammatory skin conditions and improve the tolerance and longevity of aesthetic outcomes.

The first involved a professional actor with papulopustular rosacea and associated ocular sensitivity. Her occupation required frequent heavy make-up use, which compounded barrier dysfunction and inflammation. At presentation, digital skin analysis demonstrated diffuse erythema across the cheeks and eyelids, with increased porphyrin activity consistent with microbiome disruption. She also reported dryness, stinging, and episodic eye irritation.

A one-week break from using make-up was advised to remove potential triggers, followed by introduction of a microbiome-supportive routine: a hypochlorous spray (Purifeyes) twice daily, along with twice daily use of prebiotic cleanser and active cream containing inulin (AWvi Active Cleanser and Active Cream), and oral Lactobacillus supplementation (AWvi Skin Biotic).

The emphasis was on restoring microbial equilibrium and barrier function before any procedural treatment. Within

several days, the patient reported a noticeable reduction in burning and tightness; by four weeks, follow-up imaging confirmed a measurable reduction in erythema and surface roughness. Her ocular symptoms also improved, likely reflecting the shared mucocutaneous microbiome of the eyelid margin. No systemic antibiotics or light-based therapies were required.



Rosacea and ocular rosacea before and one month after using AWvi skin biotic AM, Active Cleanser AM & PM, Active Cream AM & PM, Purifeyes Spray AM & PM.

The second case concerned a 34-year-old marketing executive with persistent hormonal acne. She had received multiple courses of oral antibiotics over the previous year with little sustained benefit. The patient described cyclical flares, stress-related exacerbation, and bloating - features suggestive of gut dysbiosis. Management began with cessation of antibiotics and active topicals to allow the skin barrier to recover. The same gut-skin protocol was initiated, alongside advice on a vegetable-rich, anti-inflammatory diet, hydration, and stress regulation.

Improvement was observed within two

weeks, with reduction in papules and post-inflammatory erythema. At eight weeks, the patient reported fewer cyclical breakouts and a more even tone. Low-level blue-light therapy was introduced at

this stage to modulate residual sebaceous activity. Follow-up photographs documented sustained clearance, and the patient was able to remain off systemic medication.



Top line shows acne before and one month after using AWvi skin biotic AM, Active Cleanser AM & PM, Active Cream AM & PM, Purifeyes Spray AM & PM. Bottom line shows results after two months.

These cases highlight several important principles: firstly, that addressing microbial imbalance can rapidly down-regulate cutaneous inflammation, even in chronic conditions; secondly, that a healthy barrier improves comfort and reduces the need for aggressive interventions; and finally, that patients often experience broader wellbeing benefits - better sleep, digestion and mood - when systemic inflammation is reduced.

By re-establishing equilibrium within the gut-skin axis, both patients achieved measurable improvements in inflammation and resilience, with sustained benefits over time and minimal procedural input.

Restoring balance for long-term skin health

Managing gut health offers a powerful route to improving skin quality and resilience. Through a combination of barrier support, targeted microbiome care and nutritional optimisation, we can reduce inflammation, enhance repair and prolong the results of aesthetic interventions.

As aesthetic practitioners, our work increasingly intersects with regenerative medicine and functional health. Patients are seeking approaches that not only deliver visible improvement but also strengthen their body's ability to maintain those results naturally. Integrating microbiome support into clinical practice represents a shift from intervention to prevention - from chasing symptoms to cultivating stability.

When we correct microbial imbalance,

By restoring the gut-skin connection, we are supporting both healthspan and aesthetics

we are influencing the skin's entire biological environment: reducing oxidative stress, improving mitochondrial function, and restoring a balanced immune response. This internal harmony translates externally into stronger tissue architecture, better healing, and more predictable responses to in-clinic treatments.

As research advances, we may soon match probiotic strains and prebiotic actives to individual skin phenotypes,

hormonal profiles or immune patterns - making microbiome modulation as routine as SPF or antioxidant use in maintaining long-term skin health.

Longevity in aesthetics is not measured solely by how long treatments last, but by how well the skin continues to function over time. By restoring the gut-skin connection, we are supporting both healthspan and aesthetics - helping patients not simply to look well, but to be well.

Disclaimer:

Miss Murthy is the creator of the Microbial Mantle™ protocol and the co-developer of Purifeyes®, a hypochlorous-based spray referenced in this article.



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