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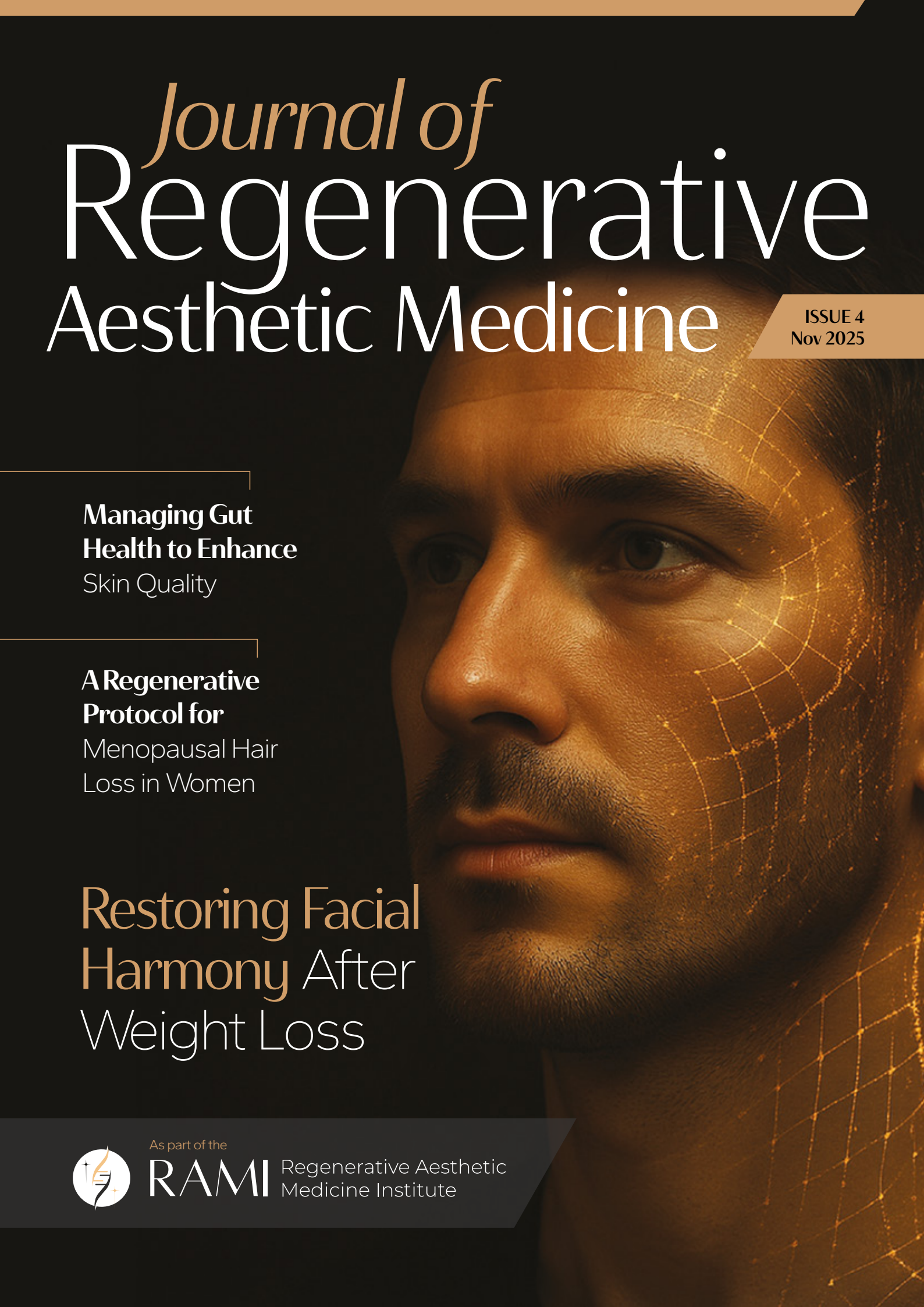

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Welcome to the Journal of Regenerative Aesthetic Medicine

The countdown is on - **RAMCE 2025** is almost here! On **Friday November 8th**, leading voices in regenerative aesthetics will gather in London for a day dedicated to science, evidence and real-world expertise. With just a few tickets remaining, now is the time to secure your place at this year's most anticipated event in regenerative medicine.

This month's issue captures that same sense of momentum - exploring how innovation continues to transform practice. Our **features on hair restoration** bring together expert insights on regenerative approaches that are redefining outcomes for patients experiencing hair loss. From autologous therapies to exosome-rich formulations and energy-assisted stimulation, the field is evolving rapidly, and our contributors share how they are integrating modalities safely and effectively.

We also sit down with **Dr Mayoni Gooneratne**, RAMCE 2025 speaker and a leading specialist in functional health and longevity. In an inspiring conversation, she reflects on what drives her work; from restoring balance at a cellular level to empowering patients to take a proactive role in their long-term wellbeing.

As we approach conference day, the energy and enthusiasm across the field are unmistakable. Regenerative aesthetics is no longer the future - it's happening now.

We look forward to welcoming you to RAMCE 2025 and celebrating another year of progress, purpose and partnership.

And if you've missed this year's event, simply scan the QR code here to register your interest for RAMCE 2026.

See you on **November 8th!**

The Team

RAMI Regenerative Aesthetic Medicine Institute

Follow us on Instagram @ram__institute

Scan this QR code to receive future copies of the Journal of Regenerative Aesthetic Medicine!

Meet our Scientific Committee

Steering the education of The RAM Institute

Our Scientific Committee plays a crucial role in the success and credibility of The RAM Institute. Members oversee all JRAM content and curate the RAMCE programme to ensure everything we produce is cutting-edge and scientifically sound.

Professor Maurizio Cavallini

Professor Maurizio Cavallini is the Chief Medical Advisor at Monteverdi Tuscany in Italy. He graduated in medicine from the University of Milan, and holds postgraduate qualifications in plastic surgery, microsurgery and experimental surgery. A frequent writer and lecturer, Professor Cavallini has authored more than 130 pieces in notable national and international medical journals, as well as publishing books and speaking globally on plastic surgery and aesthetic medicine. He is also the President of the Italian Scientific Society of Aesthetic Medicine - Agora and adjunct professor in the University of Genova in Italy, along with being a fellow of many scientific societies in plastic surgery and aesthetic medicine.

Mr George Christopoulos

Mr George Christopoulos is a plastic surgeon and Assistant Professor of Aesthetic Medicine at the College of Medicine & Dentistry at Ulster University. He has a Master's in Health Care Management and a PhD (Distinction) in the surgical treatment of cancer from the University of Athens. Since relocating to the UK in 2015, Mr Christopoulos has completed a second Master's in Reconstructive Microsurgery (Distinction), and held roles in burns and plastics throughout the UK.

Dr Kate Goldie

With more than 15 years of global experience, Dr Kate Goldie is recognised as one of the leading figures in aesthetic medicine. Having trained more than 7,000 practitioners worldwide, her innovative approach and commitment to excellence have made her a sought-after educator and speaker. Beyond her extensive teaching, Dr Goldie is a respected thought leader, regularly sharing the stage with industry pioneers and contributing to groundbreaking research. Dr Goldie is deeply passionate about advancing the field of regenerative aesthetics and is at the forefront of new developments and innovations.

Dr Lee Walker

Dr Lee Walker is Director and Clinical Lead at the award-winning BCity Clinics in Liverpool, with extensive experience in medical aesthetics since 2001. He chairs the Complications in Medical Aesthetics Collaborative (CMAC) UK and has published widely on blindness, vascular occlusion, facial ageing, anatomy and injection technique. A member of the Royal College of Surgeons in both Scotland and England, he also holds postgraduate qualifications in clinical education. Dr Walker is part of Teoxane's international faculty and serves as an educational consultant for Revance USA.

Get in touch with the committee

Email **info@ram-institute.com** to discuss ideas and receive more information.

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Last Chance to Join RAMCE 2025

November 8th

The countdown is nearly over. On Saturday November 8th, the Regenerative Aesthetic Medicine Conference & Exhibition (RAMCE) will open its doors for a full day of evidence, insight and inspiration – and with only a few tickets left, this really is your final chance to be part of it.

For one exceptional day, practitioners from across the UK and beyond will come together to explore the science and application of regenerative aesthetics. Through four themed sessions – Injectables, Topicals, Combination Approaches and Longevity – delegates will gain a deeper understanding of how regenerative principles are shaping modern practice.

Expect an agenda packed with high-level education and real-world perspective. Each session is designed to help practitioners translate the latest research into meaningful, measurable outcomes for patients; from optimising tissue repair and function to supporting long-term skin and systemic health.

The exhibition area will feature the leading regenerative brands and biotech innovators behind the products and technologies driving the field forward. Meanwhile, networking breaks offer the chance to share experiences, exchange ideas and connect with peers who share a commitment to evidence-led, ethical aesthetics.

RAMCE brings together a community defined by curiosity, collaboration and clinical excellence. Whether you're already working with regenerative modalities or looking to understand how to integrate them into your own approach, this is where regenerative science meets real-world application.

If you haven't yet secured your place, now is the time. Tickets are almost gone, and once they're gone, they're gone.

Scan the QR Code to join us on Saturday November 8th for a day that promises to inform, challenge and inspire.

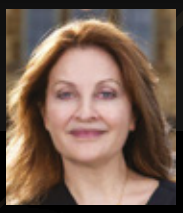
RAMCE brings together a community defined by curiosity, collaboration and clinical excellence

Led by the Best in Regenerative Aesthetics

All RAMCE education is developed and delivered under the guidance of our Scientific Committee - Professor Maurizio Cavallini, Mr George Christopoulos, Dr Kate Goldie and Dr Lee Walker.

Together, they represent some of the most respected figures in regenerative and aesthetic medicine, combining academic depth with extensive clinical experience. Their oversight ensures that every RAMCE session is grounded in evidence, relevance and integrity, offering delegates education of the highest standard.






And if you're reading this after the event, we hope you had an incredible experience: one filled with learning, connection and renewed passion for the future of aesthetic medicine. RAMCE continues to grow each year thanks to the dedication of our delegates, speakers and partners - all united by a shared mission to advance regenerative medicine responsibly and for the benefit of patients everywhere.

Missed out this year? Don't worry, scan the QR code to register your interest for RAMCE 2026. You'll be first to hear when tickets go on sale and stay updated on year-round education through the RAM Institute and the Journal of Regenerative Aesthetic Medicine.



RAMCE 2025 – Saturday November 8th

One day. One community. One vision for the future of regenerative aesthetics.

The exhibition area will feature the leading regenerative brands and biotech innovators behind the products and technologies driving the field forward

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RAMCE 2025 Agenda

Injectables

Precision in Practice: Innovations & Techniques in Injectables | ***Moderator:*** *Dr Kate Goldie*

9:00 → 9:15	**A New Era in Regenerative Aesthetic Medicine** | *RAMI Scientific Committee*
9:15 → 9:35	**Setting the Stage for Injectable Regeneration** | *Dr Kate Goldie*
9:35 → 9:55	**Next-Generation Autologous Therapies: Innovation in Self-Derived Healing** | *Dr Sophie Shotter*
9:55 → 10:10	**The Case for PLLA: Harnessing its Power in Practice** | *Dr Yusra Al-Mukhtar*
10:10 → 10:25	**The Case for CaHA: Exploring its Regenerative Evidence** | *Dr Ciara Abbott*
10:25 → 10:40	**Polynucleotides in Action: Precision Techniques and Protocol Refinement** | *Professor Maurizio Cavallini*
10:40 → 10:50	**Healing in Action: A Case Study on Polynucleotides for Open Wound Repair** | *Dr Amy Law*
10:50 → 11:00	**Panel Q&A** | *A dynamic panel discussion followed by an interactive Q&A*
11:00 → 11:30	**REFRESHMENT BREAK**

Topicals

Skin Deep: Advances in Topical Regenerative Science & Application | ***Moderator:*** *Mr George Christopoulos*

11:30 → 11:50	**What Makes a Topical Regenerative? Science, Signals, and Skin Repair** | *Anna Baker*
11:50 → 12:10	**Exosomes: Current Evidence and Expert Perspectives** | *Dr Raul Cetto*
12:10 → 12:25	**Comprehensive Consultation and Combination Therapies in Hair Restoration** | *Caroline Hall*
12:25 → 12:35	**Case Study: Enhancing Skin Glow with Exosomes** | *Julie Scott*
12:35 → 12:50	**Panel Q&A** | *A dynamic panel discussion followed by an interactive Q&A*
12:50 → 14:00	**LUNCH**

Devices

Synergy in Aesthetics: Integrating Modalities for Enhanced Results | ***Moderator:*** *Professor Maurizio Cavallini*

14:00 → 14:20	**Slowing Down the Need for Surgery with Energy-Based Devices** | *Mr George Christopoulos*
14:20 → 14:40	**The Role of Lasers and Lights** | *Dr John Quinn*
14:40 → 15:00	**Understanding Laser Ablation: From Concept to Clinical Confidence (supported by Cool Laser by Ascelpion, Platinum Sponsor)** | *Sarah McNulty-Bow*
15:00 → 15:15	**Panel Q&A** | *A dynamic panel discussion followed by an interactive Q&A*
15:15 → 15:45	**REFRESHMENT BREAK**

Longevity

Beyond Beauty: Strategies for Healthspan and Ageing Well | ***Moderator:*** *Dr Lee Walker*

15:45 → 15:55	**Framing Longevity in Regenerative Aesthetics** | *Dr Mayoni Gooneratne*
15:55 → 16:15	**Mitochondria & Skin Ageing** | *Professor Mark Birch-Machin*
16:15 → 16:35	**Personalised by DNA: Guiding Regeneration with Genetic Insight** | *Gustavo Torres de Souza*
16:35 → 16:55	**Regeneration Through the Female Lens: Hormonal Health in Longevity Medicine** | *Dr Mayoni Gooneratne*
16:55 → 17:05	**Panel Q&A** | *A dynamic panel discussion followed by an interactive Q&A*
17:05 → 17:25	**The Dark Side of Repair: Identifying and Addressing Common Yet Challenging Complications** | *Dr Lee Walker*
17:25 → 17:45	**Panel Discussion: What's Next in Regenerative Aesthetics? Innovations Shaping the Decade Ahead** | *RAMI Scientific Committee*
18:00 → 23:00	**NETWORKING AFTER PARTY**

The JRAM News Brief

Essential reading on advancements in regenerative science and aesthetic practice

AI, Technology and Regenerative Innovation

KAIST Researchers Develop AI That Can Steer Cell States Toward Desired Outcomes

In October 2025, researchers at the Korea Advanced Institute of Science and Technology (KAIST) announced a breakthrough that could reshape drug discovery, cancer therapy, and regenerative medicine.

A team led by Professor Kwang-Hyun Cho of the Department of Bio and Brain Engineering has developed a generative AI system capable of predicting how cells respond to drugs or genetic modifications, and even identifying the most effective interventions to guide cells toward healthier states.

Published in Cell Systems, the research explains how the technology models the intricate interactions between cells and

This generative AI framework offers a powerful platform for designing methods to induce targeted cell-state changes

drugs using a modular "Lego-block" approach, breaking them down and recombining them to forecast how a cell might behave under previously untested conditions.

At the heart of the research lies the concept of a latent space - a mathematical map often used in image-generation AI to capture the essential features of an object or cell. The team successfully separated the representations of cell states and drug effects within this space, enabling them to recombine these elements and predict the outcomes of untested cell-drug pairs. They then extended the method to estimate how a cell's state would change following specific genetic perturbations.

To validate their model, the researchers applied it to colorectal cancer cells, identifying molecular targets capable of reverting malignant cells toward a normal-like state. Laboratory experiments confirmed these predictions, proving that the AI could guide cells in a desired biological direction.

Professor Cho explained, "Inspired by image-generation AI, we applied the concept of a direction vector - a mathematical tool that enables us to transform cells in a desired direction. This technology allows quantitative analysis of how specific drugs or genes affect cells and can even predict previously unknown reactions, making it a highly generalisable AI framework."

This generative AI framework offers a powerful platform for designing methods to induce targeted cell-state changes, opening new possibilities for precision drug development, intelligent cancer treatments, and regenerative medicine capable of restoring damaged tissues to health.

AI Technology Speeds Skin Regeneration After Cancer Surgery

ROKIT Healthcare has unveiled a new AI-driven skin regeneration platform designed to restore tissue following skin-cancer excision, achieving wound closure in around four weeks. The Korean company introduced the technology at Plastic Surgery The Meeting (PSTM) 2025, held in New Orleans, USA.

Building on its existing diabetic foot-ulcer regeneration programme, the new platform applies artificial intelligence to analyse post-excision defects and produce a patient-specific patch using a 3D bioprinter. Once implanted, the patch promotes tissue growth that mirrors the surrounding skin, supporting faster healing and improved cosmetic outcomes.

According to ROKIT, the system targets complete regeneration of tissue lost to non-melanoma skin cancer and has shown successful results even in older patients, who typically heal more slowly. "This technology significantly accelerates patient recovery and delivers outstanding cosmetic results," said Professor James J. Yoo of Wake Forest University School of Medicine, in a statement released by the company.

FDA Issues New Draft Guidance on Regenerative Medicine Approval Pathways

The US Food and Drug Administration (FDA) has released new draft guidance outlining how developers of regenerative medicine therapies can use its expedited approval programmes while maintaining safety and manufacturing standards.

Published on 20 September 2025, the document - Expedited Programs for Regenerative Medicine Therapies for Serious Conditions - replaces earlier 2019 guidance and provides updated direction for companies developing cell- and gene-based treatments. It explains how products may qualify for the FDA's Regenerative Medicine Advanced Therapy (RMAT) designation, as well as accelerated approval and priority review routes.

The guidance sets out clearer expectations on manufacturing quality, comparability between batches, and long-term safety monitoring; acknowledging that regenerative products often have lasting or one-time effects that require extended follow-up. It also encourages the use of real-world evidence and digital health tools to support regulatory submissions and post-market surveillance.

While primarily focused on therapies for serious or life-threatening conditions, the guidance reflects the FDA's broader commitment to modernising its regulatory framework for regenerative products. This could have implications beyond advanced biopharmaceuticals, as standards for manufacturing, data collection and safety oversight increasingly influence adjacent fields such as aesthetic and functional medicine.

The FDA is accepting public comments on the draft until 24 November 2025.

This technology significantly accelerates patient recovery and delivers outstanding cosmetic results

Skin Regeneration, Wound Healing and Tissue Repair

Platelet-Rich Fibrin-Polymer Composites Show Promise for Advanced Wound Healing

A new review in ACS Applied Bio Materials highlights how combining platelet-rich fibrin (PRF) with natural and synthetic polymers could revolutionise wound care by improving tissue regeneration, infection control, and healing speed.

PRF - a fibrin matrix rich in platelets, growth factors, and cytokines - has long been used in regenerative medicine to promote tissue repair. The review, published in October 2025, explores how integrating PRF with polymers such as chitosan, collagen, hyaluronic acid, polycaprolactone (PCL), and PLGA enhances its stability and therapeutic performance. These polymer scaffolds help regulate the release of PRF's bioactive molecules, sustaining cell recruitment, angiogenesis, and extracellular matrix formation over time.

Researchers emphasise that the physicochemical properties of the composite, including cross-linking density and degradation rate, are key to creating an optimal wound environment. Evidence from preclinical and early clinical studies indicates that PRF-polymer systems accelerate the closure of chronic and acute wounds while helping to reduce inflammation and infection risk.

The authors also note ongoing challenges in standardising preparation methods, scaling up production, and ensuring long-term stability. However,

advances in smart and stimuli-responsive polymers - capable of releasing bioactive factors in response to temperature, pH, or inflammation - are expected to drive further progress.

According to the review, PRF-polymer composites represent a "transformative approach" in regenerative wound care, uniting the biological potency of blood-derived growth factors with the structural precision of biomaterial design.

Application of Antimicrobial Peptides in Wound Dressings Offers New Route for Skin Regeneration

A review article published in Drug Design, Development and Therapy in October 2025 examines how antimicrobial peptides (AMPs) are being incorporated into advanced wound dressings to support healing, control infection and enhance skin regeneration.

The authors summarise decades of research showing that AMPs - short-chain proteins found naturally in organisms from frogs to humans - have broad antimicrobial activity and can also influence tissue repair by modulating inflammation, stimulating collagen deposition and promoting angiogenesis. In the context of wound dressings, AMPs have been embedded into hydrogels, nanofibres, foams and dressings that allow sustained release of the peptide, providing both antimicrobial protection and regenerative support. This dual action is especially relevant for chronic wounds, burns or heavily contaminated lesions where infection and impaired healing go hand in hand.

Among key findings, the review highlights laboratory and animal studies showing that AMP-loaded dressings reduce bacterial load (often by > 99 % in models of Staphylococcus aureus or Pseudomonas aeruginosa), accelerate re-epithelialisation rates (sometimes by 20-40 %), increase angiogenic markers such as VEGF and elevate collagen I and III deposition compared with non-AMP controls. The authors caution that while the antimicrobial efficacy is well-established, translation into human clinical data remains limited, especially regarding long-term outcomes, biocompatibility and comparative cost-effectiveness against standard dressings.

For practitioners and product developers in dermatology and wound care, this review signals that AMP-enhanced dressings offer a promising "two-in-one" approach - both infection control and tissue regeneration - while avoiding live-cell therapies entirely. Because these treatments rely on peptides rather than whole cells, they bypass many of the regulatory hurdles associated with cell therapies. Still, the authors stress the need for standardised peptide sourcing, release-kinetics optimisation, and long-term safety data before widespread clinical adoption.

Antibiotic-Free Silk Hydrogel Accelerates Wound Healing

Chinese researchers have developed a biodegradable hydrogel that promotes faster wound healing through dual antibacterial and antioxidant activity - without the need for antibiotics or metallic additives. The study, published in the International Journal of Biological Macromolecules, describes a silk-derived material that speeds up skin repair in animal models while reducing inflammation and supporting new tissue growth.

The hydrogel, known as PATS, combines silk sericin (a protein extracted from silkworm cocoons) with tetrakis (hydroxymethyl) phosphonium sulfate (THPS), a biodegradable antibacterial compound. These components are bonded within a polyvinyl alcohol and agarose matrix, creating a strong and stable three-dimensional structure. THPS provides antimicrobial activity against Escherichia coli and Staphylococcus aureus, while silk sericin delivers antioxidant protection and promotes cell proliferation.

In tests on rats with full-thickness skin wounds, the hydrogel achieved a healing rate of nearly 86 per cent after 14 days. The treatment reduced inflammation and enhanced both angiogenesis and follicle formation, indicating robust tissue regeneration. Laboratory analyses also showed the material's ability to neutralise free radicals - protecting cells from oxidative stress that can otherwise delay healing.

The authors say the new material offers a sustainable alternative to antibiotic-loaded or metal-based dressings, combining infection control with biocompatibility. They note that the silk by-product used to create the hydrogel could also help reduce industrial waste from the silk-reeling industry.

Recombinant Pure PDGF Improves Aesthetic Outcomes Following RF Microneedling

A prospective, evaluator-blinded, randomised controlled trial published in Journal of Cosmetic Dermatology in September 2025 evaluated the addition of topical Platelet Derived Growth Factor (PDGF) after radio-frequency (RF) microneedling for facial rejuvenation.

Adults aged between 30 and 60 years

According to the review, PRF-polymer composites represent a "transformative approach" in regenerative wound care

underwent a single RF microneedling procedure, then received either standard care (a petrolatum-based emollient) or topical recombinant pure PDGF applied immediately afterward and monitored at 7 and 30 days.

Clinical Global Aesthetic Improvement Scores (CGAIS) improved to a greater degree in the PDGF group versus control at both time-points, and image-analysis software showed PDGF outperformed standard care across six of seven objective parameters such as pore count, pore fractional area, wrinkle coarse area and thickness of the wrinkle mean. Patient-reported outcome measures likewise favoured PDGF, with participants noting reduced discomfort, better hydration and smoother skin. No major adverse events occurred.

The authors state that PDGF has a strong safety profile in therapeutic uses and that this aesthetic application appears to enhance healing and skin quality post-microneedling. They highlight better early skin texture and appearance by day 30 when PDGF is included compared with emollient alone.

For clinicians and aesthetic practitioners, the trial suggests that introducing a growth-factor adjunct such as PDGF may amplify the benefit of energy-device treatments. However, only one session was tested, follow-up was short (30 days) and long-term durability of the effect remains uncharacterised. The authors call for larger studies to define optimal dosing, frequency, patient-selection criteria and cost-benefit relative to other adjuncts.

Cd44 Signalling Identified as Key Pathway in Scar-Less Skin Healing

A review published in Journal of Translational Medicine in September 2025 has highlighted a crucial role for the CD44 receptor - a cell-surface protein involved in communication between cells and their surrounding matrix - in determining whether wounds heal with scarring or true tissue regeneration.

The research highlights immune-cell loss as a potential therapeutic target for restoring skin function and resilience in later life

CD44 acts as the main binding site for hyaluronic acid, a molecule abundant in skin and connective tissue. Through this interaction, CD44 helps to regulate inflammation, fibroblast activity, and collagen organisation - processes that together dictate the quality of wound repair. When CD44 signalling functions optimally, skin tends to regenerate in an orderly, elastic way; when disrupted, the result is often thickened, fibrotic scarring.

The review draws together evidence from animal and in-vitro studies showing that blocking or deleting CD44 delays healing and increases fibrosis, while enhancing CD44 signalling can speed up closure and improve tissue texture. In one cited experiment, wounds treated with high-molecular-weight hyaluronic acid, which binds strongly to CD44, showed around 30% faster closure and 40% more organised collagen alignment compared with untreated controls.

Researchers propose that targeting the CD44 pathway could lead to a new class of regenerative skin treatments. Potential strategies include topical formulations or biomaterial scaffolds designed to activate CD44 receptors, encouraging scar-free healing following injury, surgery, or laser resurfacing.

The authors caution, however, that most data are pre-clinical, and robust human trials are still needed to verify both efficacy and safety. They also note that factors such as age, diabetes, and skin phototype may influence CD44 activity, helping to explain why some people scar more readily than others.

The review underscores CD44's emerging importance as a therapeutic target in wound biology and suggests that refining hyaluronic-acid-based treatments around its receptor interactions could represent a major step toward true regenerative repair.

Loss of Key Immune Cells Linked in Skin Ageing

Researchers have discovered that a gradual loss of specialised immune cells surrounding the skin's capillaries may be a key driver of age-related decline in blood flow and repair. The study, published in Nature in October 2025, shows that restoring these macrophages can rejuvenate microvascular function in ageing skin.

Using advanced live imaging in mice, scientists observed that capillary-associated macrophages become progressively depleted with age, even more rapidly than the capillaries themselves. In both mice and human skin samples, areas lacking these cells showed poorer blood flow and slower recovery from minor vascular damage.

When the researchers experimentally boosted macrophage numbers in older mice using a growth factor called CSF1-Fc, blood flow improved and damaged vessels repaired more efficiently. The findings suggest that maintaining or replenishing these macrophages could help counteract aspects of skin vascular ageing and improve tissue healing.

While the research was conducted primarily in animal models, it highlights immune-cell loss as a potential therapeutic target for restoring skin function and resilience in later life.

Hair, Blood and Systemic Rejuvenation

Researchers Identify Protein That Reverses Blood Cell Ageing

Researchers at the University of Illinois Chicago have identified a protein that appears to play a crucial role in reversing age-related decline in blood-forming stem cells. The study, published in Blood, reveals that levels of platelet factor 4 (PF4) - a protein that helps regulate the proliferation of blood stem cells - decrease with age, leading to dysfunction in the body's ability to produce healthy blood and immune cells.

Hematopoietic stem cells, which reside in the bone marrow, are responsible for generating all blood and immune cells. In youth, these stem cells can flexibly produce both myeloid cells (including certain immune cells and red blood cells) and lymphoid cells (such as T and B cells). With age, however, they become biased toward the myeloid lineage, reducing immune resilience and increasing susceptibility to disease.

Led by Associate Professor Sandra Pinho of the Department of Pharmacology and Regenerative Medicine, the UIC team found that platelet factor 4 acts as a molecular signal telling blood stem cells to stop dividing once they have produced enough progeny. As PF4 levels fall with age, these cells proliferate more frequently, accumulating mutations that can contribute to inflammation, blood cancers, and cardiovascular disease.

When the researchers supplied platelet factor 4 to older mice, they observed a reversal of these ageing effects: the animals' blood and immune cells began to resemble those of much younger counterparts. The same rejuvenating effect was seen in aged human bone marrow samples treated with PF4 in the lab.

"It rejuvenated the ageing of the blood system," said Pinho. "It's clear evidence that it's possible to reverse, intrinsically, certain age-associated disorders." While PF4 alone is unlikely to serve as a universal anti-ageing therapy, Pinho noted that it could become an important component in broader rejuvenation strategies aimed at preventing or treating age-related diseases of the blood and immune system.

Exosomes From Platelet-Rich Plasma Show Hair-Growth Potential in Mice

A study published in Regenerative Therapy reports that exosomes isolated from platelet-rich plasma (PRP) enhanced hair regeneration in a mouse model while protecting hair-follicle stem cells from oxidative stress in vitro. The PRP used

to produce these exosomes was prepared from whole blood donated by healthy human volunteers.

Researchers found that PRP-derived exosomes increased proliferation and migration of hair-follicle stem cells, reduced apoptosis under oxidative stress, and restored markers of pluripotency (SOX2, OCT4) and follicular identity (CD34, K15). In C57BL/6 mice, repeated subcutaneous injections led to faster hair regrowth within 14 days, with a higher number of follicles in the growth phase and thicker dermal layers on histological analysis.

Mechanistically, the study showed that PRP-exosomes upregulated SIRT1, a key longevity regulator, which deacetylated the transcription factor FoxO3a, activating antioxidant enzymes such as superoxide dismutase (SOD) and catalase (CAT). This pathway helped counter oxidative stress - a known factor in hair loss - and supported follicle regeneration.

Although these findings remain preclinical, they add to evidence that PRP-derived exosomes could represent an evolution of traditional PRP therapy by concentrating and refining its regenerative components. In the UK, the Medicines and Healthcare products Regulatory Agency (MHRA) permits the use of PRP where it is autologous - prepared and re-injected for the same patient during a single treatment session - but allogeneic or donor-derived PRP products remain outside the current regulatory framework.

The strategy could complement the brain's limited natural repair mechanisms and help restore function after stroke or neurodegenerative damage

Stem Cells, Neuroregeneration and Developmental Models

New Stem Cell Approach Could Aid Regeneration

A new study from the University of Barcelona has outlined a stem cell-based strategy that could enhance neuronal regeneration and neuroplasticity following brain injury or neurodegenerative disease. Published in the International Journal of Molecular Sciences, the research shows that combining stem cell therapy with the production of brain-derived neurotrophic factor (BDNF) significantly improves the maturation and activity of human neurons grown in the laboratory.

Led by Professor Daniel Tornero and researcher Alba Ortega from the Faculty of Medicine and Health Sciences and the Institute of Neurosciences (UBneuro), the study found that neural progenitor cells modified to overexpress BDNF formed more mature and active neuronal networks without disrupting their normal organisation. The approach integrates the growth factor directly into the therapeutic cells, strengthening their regenerative potential.

Using a microfluidic chip system, the team demonstrated that BDNF-producing cells could attract axons - the projections that enable neuron-to-neuron communication - by creating a concentration gradient that guided their growth. This is the first time such an effect has been observed in neurons derived from human stem cells.

According to the researchers, the strategy could complement the brain's limited natural repair mechanisms and help restore function after stroke or neurodegenerative damage. The group plans to extend the work to animal models of ischaemic stroke to explore its clinical potential.

Lab-Grown Embryo Models Generate Early Blood Cells, Pointing to New Routes for Regenerative Medicine

Researchers at the University of Cambridge's Gurdon Institute have created human embryo-like structures from stem cells that self-organise into early developmental stages and generate blood-forming cells, according to findings published in Nature in October 2025.

Formed without eggs or sperm, these stem-cell-derived models mimic key phases of early human embryogenesis, including the appearance of hematopoietic progenitors that eventually form blood and immune cells.

The discovery could reshape how scientists study the origins of blood development and genetic disease, providing a controllable model to investigate processes that normally occur in the womb.

It also offers new possibilities for testing drugs, studying miscarriage and developmental disorders, and exploring the creation of patient-specific blood cells for therapy. Because the method does not rely on donated embryos, it could also ease some ethical and regulatory constraints surrounding human developmental research.

Although the models cannot form a foetus and are not considered true embryos, they represent a major advance in the ability to observe and manipulate early human biology. Future research will aim to verify whether the blood-like cells behave as genuine hematopoietic stem cells and whether this system could one day inform regenerative or transfusion medicine.

Market, Safety and Regulatory Landscape

Global Platelet and Plasma Market Set for Strong Growth

The global platelet and plasma market is forecast to expand strongly over the next decade, driven by continued innovation in regenerative medicine and rising demand for blood-derived therapies, according to a new report from The Insights Partners.

Recent analyses predict that the platelet-rich plasma (PRP) segment alone will grow from around USD 730 million in 2025 to over USD 1.3 billion by 2030, reflecting an average annual growth rate of more than 12 %. This acceleration is linked to improvements in plasma separation, growth factor concentration, and point-of-care preparation - technologies that are making procedures faster, safer, and more consistent across surgical, orthopaedic, and aesthetic settings.

Industry leaders including Zimmer Biomet, Arthrex, Terumo BCT, Grifols, and Baxter International are expanding clinical validation programmes and global distribution to capture a share of this high-growth sector, as regenerative therapies become an increasingly integral part of mainstream practice.

Regenerative Dermatology Market Expands as Chronic Wounds and Skin Substitutes Drive Growth

A new market analysis published by Precedence Research in October 2025 forecasts sustained growth in regenerative medicine for dermatology, driven by rising demand for advanced wound care, scar management and aesthetic restoration.

The report estimates that the global regenerative medicine in dermatology market was valued at several billion dollars in 2024, with North America accounting for around 48% of total revenue. The sector is projected to maintain steady expansion through the next decade, fuelled by an ageing population, higher rates of diabetes and vascular disease, and increasing clinical use of regenerative treatments in both medical and cosmetic settings.

Skin substitutes represented roughly 35% of all regenerative dermatology products sold in 2024, while chronic wound applications - including diabetic ulcers and burns - made up around 40% of total market share. Bioengineered scaffolds and platelet-rich plasma (PRP) therapies were identified as the fastest-growing product categories, with adoption rising across orthopaedics,

wound healing and aesthetic rejuvenation.

Analysts note that the market's momentum reflects the growing overlap between clinical and aesthetic practice, as technologies developed for reconstructive purposes increasingly migrate into elective procedures such as hair restoration and skin regeneration. However, regulatory frameworks remain fragmented across regions, and the report stresses the need for stricter quality controls and consistent evidence to support broader integration into mainstream care.

Case Of Skin Necrosis After Exosome Injections Prompts Renewed Warnings Over Unapproved Treatments

A published case of severe skin necrosis following the injection of an exosome-based product has reignited debate about the safety of unregulated regenerative treatments. The incident, which occurred outside the UK, involved the use of a human cord blood-derived exosome formulation marketed for skin rejuvenation - a type of product that is not licensed for injection use in the UK.

The case, published in the Journal of Cosmetic Dermatology, described a 38-year-old man who developed ulceration and tissue death on both cheeks three days after receiving intradermal injections of a lyophilised exosome product manufactured in South Korea. Despite medical care and laser treatment, the patient was left with atrophic scarring and hyperpigmentation.

In a follow-up correspondence in the same journal, a group of dermatologists noted that while vascular injury was the most likely cause, other mechanisms such as infection, immune reaction, or mechanical vascular damage could not be ruled out. They also highlighted that products made from cord blood-conditioned media carry a risk of immune responses and, unlike dermal fillers, have no reversal agent if vascular compromise occurs.

In the United Kingdom, no exosome-based injectable product is currently authorised for medical or cosmetic use. Under UK medicines law, any product containing human-derived material - including exosomes from cord blood or stem cells - is treated as a medicinal or advanced therapy product. Such products cannot be legally injected outside a licensed clinical trial or approved therapy.

The case and commentary together highlight growing international concern about the cosmetic use of unregulated exosome injectables and the need for stricter oversight and safety testing before clinical adoption.

Regenerative Treatments Using Exosomes and Conditioned Media Show Measurable Gains in Skin Elasticity and Pigmentation

A systematic review published in Stem Cell Research & Therapy in September 2025 has found that treatments based on extracellular vesicles (EVs) and conditioned media (CM) may significantly improve skin elasticity, hydration and pigmentation, though further high-quality trials are needed to confirm long-term safety and reproducibility.

The review analysed 19 clinical studies involving 624 participants. Twenty-one per cent investigated EVs, including exosome formulations, while 79 per cent examined cell-free conditioned media derived from cultured stem or blood cells. Across studies, mean participant age was about 49 years, and women comprised more than 80 per cent of subjects.

Statistically significant improvements were reported in multiple skin parameters: a 27 per cent rise in elasticity ($p < 0.05$), more than 20 per cent increase in hydration ($p < 0.05$), and over 10 per cent reduction in wrinkle depth ($p < 0.05$). Some formulations also reduced melanin levels by roughly 10 per cent after eight weeks, with stronger effects in younger participants.

Most of the formulations reviewed were human-derived, including those from adipose tissue, umbilical cord, amniotic membrane and blood-cell secretome sources, though some used non-human biologics such as Lactobacillus plantarum or bovine milk exosomes. No serious adverse events were reported, with side effects limited to temporary redness or mild swelling, especially when used with microneedling.

The authors, from Iran University of Medical Sciences, concluded that EV- and CM-based therapies are emerging as promising non-invasive options for aesthetic and regenerative dermatology but warned that variations in cell source and preparation make direct comparisons difficult. Standardised manufacturing and clear regulatory frameworks are required before routine clinical adoption.

It should be noted that human-derived exosomes are not authorised for cosmetic or therapeutic use in the UK, where the Medicines and Healthcare products Regulatory Agency (MHRA) classifies them as unlicensed medicinal products.

Statistically significant improvements were reported in multiple skin parameters

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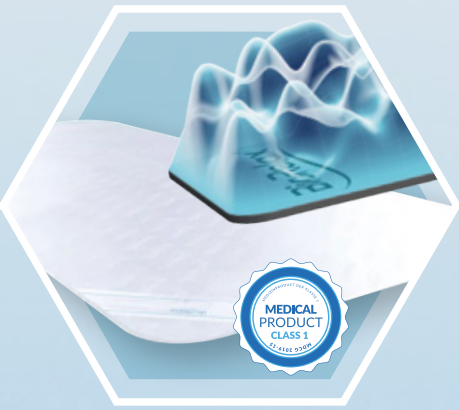

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Restoring Facial Harmony After Weight Loss

Advanced nurse practitioner and prescriber Anna Kremerov demonstrates how a regenerative, collagen-stimulating strategy can deliver natural, durable rejuvenation for patients with facial deflation after weight loss

Significant weight loss, while beneficial to overall health, can result in profound alterations to facial structure. Rapid reduction of subcutaneous fat and soft tissue support commonly leads to pan-facial hollowing, skin laxity, and contour changes that contribute to a prematurely aged appearance.[1,2] Traditional rejuvenation approaches

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often relied on hyaluronic acid (HA) fillers alone, providing immediate volumisation but requiring frequent maintenance and offering limited stimulation of underlying tissue biology.[3]

In recent years, regenerative aesthetic medicine has advanced with the introduction of collagen-stimulating fillers such as poly-L-lactic acid (PLLA), calcium hydroxyapatite (CaHA), and polycaprolactone (PCL)-based products.[4-6] These agents not only replace lost volume but also activate fibroblasts to promote neocollagenesis and elastogenesis, thereby improving dermal quality and offering longer-lasting outcomes.

In this case, I selected Ellansé (polycaprolactone microspheres in a carboxymethylcellulose carrier gel) as the foundation treatment. Its dual mechanism provides both immediate volumetric correction and progressive collagen stimulation, with evidence supporting safety, efficacy, and multi-year longevity depending on formulation.[7,8] For this patient, who was seeking natural yet durable rejuvenation after weight loss, I considered this approach well suited to her presentation and treatment goals.

My method reflects a regenerative-first philosophy: using Ellansé for global restoration while reserving HA fillers for delicate areas (tear troughs, perioral rhytids) where precision and reversibility are paramount. This strategy is consistent with contemporary practice, which often combines biostimulatory products for structure and dermal health with HA for fine contouring to achieve natural, harmonised results.[9]

Patient presentation

The patient was a 53-year-old female who attended my clinic following significant and rapid weight loss - she had lost 2.5 stone in just a few months. She expressed concern that this had left her face looking hollow, tired, and prematurely aged. Specifically, she disliked the deepening of her nasolabial folds, the downturn of her oral commissures, thinning of her lips, perioral rhytids, and hollowing under the eyes. Her main goal was to restore facial balance in a way that looked natural, leaving her refreshed rather than "done".

The clinical effects she described are well recognised in the literature. Studies have shown that weight reduction accelerates facial ageing changes through deflation of deep and superficial fat compartments, descent of soft tissues, and worsening of skin laxity.[10-12] Patients often report looking older despite feeling healthier, creating a strong psychosocial motivation to seek restorative aesthetic treatments.[13]

Clinical assessment

On examination, I noted generalised mid- and lower-face volume loss, early jowl formation, and blunting of the mandibular contour. There was clear perioral tissue deflation, lip thinning, and rhytids, as well as tear trough hollowing.

Dynamic assessment confirmed that loss of mid-face support was a key driver of the tired appearance, with secondary effects on the lower face and perioral region.

These findings are consistent with published analyses of post-weight loss facial changes, which highlight mid-face hollowing and mandibular definition loss as particularly impactful on perceived ageing.[14] This comprehensive static and dynamic analysis informed the treatment planning process, ensuring that structural restoration of the mid-face was prioritised before addressing more superficial concerns.

Treatment plan options

I discussed several treatment options with the patient, including:

- Hyaluronic acid (HA) filler volumisation
- Collagen-stimulating dermal fillers
- Surgical lifting

Given her desire for natural but long-lasting rejuvenation without surgery, I recommended a regenerative-focused plan. This involved using a collagen stimulator as the cornerstone of treatment to restore global support, combined with HA fillers for precision correction in areas where fine contouring and reversibility were important, such as the tear troughs and perioral region.

This tailored, combination approach is supported in the literature, which emphasises the value of addressing both structural restoration and dermal quality in post-weight loss patients.[15,16]

Rationale for chosen products

In planning treatment for this patient, I selected Ellansé to address the broad facial changes associated with rapid weight loss.

Its dual action offered immediate volumetric correction alongside progressive collagen stimulation, helping to restore structure and improve skin quality over time.[17,18] For patients who are seeking durable results and wish to reduce the frequency of repeat treatments, I find this regenerative effect particularly valuable.

To complement this, I incorporated MaiLi hyaluronic acid fillers. MaiLi Precise (G' 140 Pa) was used in the tear troughs, where softness and accuracy were essential, while MaiLi Define (G' 200 Pa) was chosen for the perioral region to correct rhytids and refine lip definition. HA fillers provided the level of precision, predictability, and reversibility needed in these delicate areas.[19]

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Regenerative aesthetic medicine has advanced with the introduction of collagen-stimulating fillers

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for targeted contouring, I was able to achieve a balanced result that met the patient's wish for natural, long-lasting rejuvenation.

Treatment protocol

Before treatment, I carried out a full consultation, obtained informed consent, and completed 2D and 3D clinical photography. The patient was advised to avoid alcohol and NSAIDs for 24 hours prior to the procedure. Skin was prepared with chlorhexidine under aseptic conditions.

For global restoration, I used Ellansé M, the two-year formulation within the Ellansé range. In my experience, this is an ideal product for patients seeking a longer-lasting biostimulating correction rather than temporary volumisation alone. A total of 6ml was delivered via cannula techniques to enhance safety and minimise downtime. Product was placed strategically in the mid- and lower face to rebuild volume, restore contour, and support areas affected by deflation.

For precision correction, I incorporated hyaluronic acid fillers from the MaiLi range:

- **MaiLi Precise:** approximately 1ml placed in the tear troughs, where its softer rheological behaviour allowed smooth integration and reduced the risk of visibility or irregularity.
- **MaiLi Define:** 4-5ml used in the perioral region to soften rhytids and refine lip definition, with its firmer rheology providing the necessary structure while maintaining flexibility in dynamic areas.

Needle techniques were used in the perioral and lip regions to maximise accuracy, while cannula delivery was preferred for structural areas to reduce the risk of vascular events.

Treatment followed a top-down sequencing approach, beginning with mid-face support before addressing the lower face and perioral concerns. This ensured that foundational restoration was achieved first, with refinements layered in afterwards to achieve natural and harmonised results.

I observed a notable restoration of mid-face volume, with improved projection and support contributing to a fresher overall appearance

Aftercare and review plan

Following treatment, I provided the patient with standard aftercare instructions. She was advised to avoid touching or applying pressure to the treated areas for several hours, and to refrain from strenuous exercise, alcohol, and exposure to extremes of heat or cold for 24-48 hours. I also explained the importance of monitoring for any unexpected symptoms, including vascular compromise, and provided clear guidance on when and how to contact me if concerns arose.

A review appointment was scheduled for two weeks post-procedure to assess initial outcomes and ensure there were no complications. I also planned to reassess the collagen stimulation response at four months, with the option of hyaluronic acid touch-ups at 9-12 months if required. Looking forward, the longer-term plan may include adjunctive treatments such as polynucleotides, medical-grade skincare, or energy-based devices to further enhance skin quality and maintain results.

Results

At follow-up, I observed a notable restoration of mid-face volume, with improved projection and support contributing to a fresher overall appearance. The jawline appeared more defined, and early jowling was softened. Nasolabial folds and perioral rhytids were visibly reduced, and the lips had regained balance and contour without appearing overtreated. Tear trough hollowing was corrected subtly, giving the patient a less tired and more rested expression.

The results appeared harmonious, with smooth transitions between treated and untreated areas, reflecting the regenerative effect of Ellansé combined with the precision of MaiLi fillers.

Before and two years after treatment with Ellansé and MaiLi dermal fillers

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The patient reported feeling "like myself again", highlighting that friends and family had commented she looked well-rested and refreshed, rather than "done". She expressed that the outcome aligned exactly with her goal of natural enhancement and emphasised the boost to her self-confidence.

The patient said, "After my weight loss, my face looked hollow and tired. This treatment has brought my face back to life. I feel so much more confident, fresher, more radiant, and most importantly, still like myself."

Key learning points

This case illustrates how a regenerative strategy can be highly effective in patients presenting with facial deflation following weight loss. By combining full-face collagen stimulation with targeted HA correction in high-precision areas, natural and durable outcomes can be achieved. Practical takeaways include:

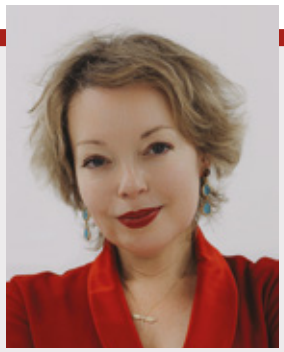
1. **Think long-term:** Collagen stimulators such as Ellansé provide both immediate correction and progressive neocollagenesis, making them well suited for post-weight loss patients.
2. **Use HA selectively:** Hyaluronic acid fillers are best reserved for delicate areas requiring immediate precision, softness, and reversibility, such as the tear troughs and perioral region.
3. **Sequence globally, refine locally:** Address mid-face support and structural restoration first, then move on to superficial lines and fine detail to maintain overall harmony.

Reflections

This case reflects my broader philosophy in regenerative aesthetics: to move beyond simply replacing lost volume and instead harness treatments that actively improve the quality and resilience of facial tissues over time. In patients who have undergone significant weight loss, the challenge is not only structural support but also the restoration of harmony between skin, soft tissue, and underlying architecture.

Collagen-stimulating fillers such as Ellansé provide a unique advantage in this setting, offering both immediate restoration and progressive neocollagenesis that enhances outcomes in the months following treatment. When paired thoughtfully with rheologically appropriate HA fillers, it is possible to achieve results that appear subtle, natural, and enduring.

Ultimately, this approach reduces the treatment burden for patients by limiting the frequency of interventions, while maintaining flexibility to refine results with adjunctive therapies as needs evolve. I believe that regenerative strategies such as this will continue to define best practice in aesthetic medicine, particularly for patients seeking natural longevity rather than short-term correction.



Anna Kremerov is an Advanced Nurse Practitioner, Independent Nurse Prescriber, and Clinical Director of Anna Medical Aesthetics - a multi-award-winning clinic recognised for its natural, regenerative approach to facial rejuvenation. With over 25 years of healthcare experience, a Master's degree in Advanced Clinical Practice, and a Level 7 qualification in Aesthetic Medicine, Anna unites scientific precision with an artistic understanding of balance and individuality.

Her practice and teaching philosophy centre on a holistic, full-face approach, integrating regenerative injectables, skin health optimisation, and evidence-based protocols to restore harmony and confidence. A dedicated educator and mentor, Anna trains medical professionals to approach aesthetics with curiosity, integrity, and respect for each patient's unique anatomy and character.

Her ongoing commitment to excellence and education has earned national recognition, and she currently serves as a judge for The Aesthetics Awards.

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Clinic Research

Combination Therapy with Exosomes, Wharton Gel Complex and Microneedling *for* Female Pattern Hair Loss

Dr Catherine Fairris reports on a case series of five women with androgenetic alopecia, highlighting positive clinical outcomes and patient satisfaction

Androgenic hair loss in women is a common condition that significantly affects quality of life. Various treatment modalities have been explored, with microneedling of the scalp combined with the application of purified enriched animal-derived exosome therapy emerging as a promising approach.

Exosome extracellular vesicles' mechanism of action involves dermal papilla proliferation, growth factor upregulation, suppression of proinflammatory cytokines and Wnt/β-catenin signalling pathway, with emerging evidence indicating that they can increase hair density, thickness and the anagen to telogen ratio.[1,2,3]

ALLSKIN|MED HAIR (Cantabria Labs, Spain), a range of dermatological hair and scalp care professional-use products, utilise Wharton Gel Complex® - a highly purified bioactive hydrogel of natural glycosaminoglycans and growth factors, which are natural components of the hair follicle dermal papilla and whose expression is associated with the hair growth cycle.[4-8]

Wharton Gel Complex has been reported to help promote and support the sustained growth of human hair follicles by activating the Wnt/β-catenin signalling pathway, along with upregulating TGFβ2 and activating the hair follicle stem cell niche and to increase hair thickness, density and strength.[9,10,11]

Exosomes and Wharton's Gel Complex are different bioactive technologies that potentially have complementary mechanisms of action. Based on this rationale I have evaluated the use, in my medical aesthetic practice, of a combined regimen of microneedling of the scalp with the application of exosomes and ALLSKIN|MED HAIR Booster Vial (1.5% Wharton's Gel Complex in sterile saline), along with the home use of the ALLSKIN|MED HAIR Lotion (1.0% Wharton's Gel Complex with caffeine and melatonin) in female patients with female pattern hair loss (or androgenic alopecia).

Androgenic hair loss is a common condition characterised by gradual thinning of hair, especially at the crown and top of the scalp, while maintaining the frontal hairline

This case series reports on the tolerability and efficacy observed in five female patients diagnosed with androgenic alopecia treated with this protocol.

Introduction and methodology

This is a small case series of five patients who attended our clinic; they had all expressed concern about and exhibited a degree of hair thinning without an underlying reversible physiological cause. The likely diagnosis in all these cases was androgenic hair loss, with all patients reporting a degree of widening of their central parting line or increased visibility of the scalp in general.

Understanding Female Pattern Hair Loss

Androgenic hair loss (AGA) in women, also called female pattern hair loss (FPHL), is a common condition characterised by gradual thinning of hair, especially at the crown and top of the scalp, while maintaining the frontal hairline. It is influenced by genetic predisposition and hormonal factors, particularly androgens like dihydrotestosterone (DHT).[12,13,14]

Key features of Female Pattern Hair Loss (FPHL) include:

1. Gradual thinning of hair mainly at the central scalp.
2. Widening of the part line due to hair miniaturisation.
3. No complete baldness, unlike male pattern baldness.
4. Increased hair shedding in some cases.
5. Preserved frontal hairline in most women.

Causes:

- Genetics: Family history plays a key role.
- Hormonal changes: DHT sensitivity can lead to miniaturisation of hair follicles.
- Ageing: Often starts after menopause due to declining oestrogen levels.
- Medical conditions: Conditions like polycystic ovary syndrome (PCOS) can contribute.

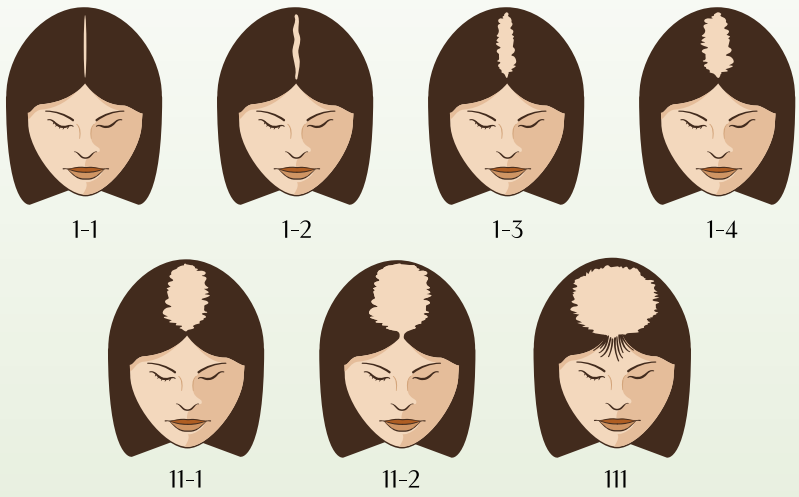

Image from: Ludwig E. Classification of the types of androgenetic alopecia (common baldness) occurring in the female sex. British Journal of Dermatology (1977) 97) 247.[15]

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Treatment rationale

Exosomes

Exosomes are nanosized extracellular vesicles (30-150 nm) secreted by various cell types, and stem cells, including mesenchymal stem cells (MSCs). They play a pivotal role in intercellular communication by transporting proteins, lipids, and nucleic acids, including mRNAs, thereby influencing numerous physiological processes such as tissue regeneration, immune modulation, and angiogenesis.[16]

Clinically, exosomes are primarily derived from cultured MSCs. The isolation and purification processes are critical to ensure the safety and efficacy of exosome-based therapies. Standardisation and scalability remain challenges in the widespread clinical application of exosomes.[17] Exosomes released from human MSCs have been shown to facilitate cutaneous wound healing by promoting collagen synthesis and angiogenesis.[18]

We started evaluating E50 Exosomes (STEMON Co. Ltd, Korea) in our medical aesthetic practice, as they are reported to be purified, enriched, and standardised exosomes using a proprietary process known as Entr technology. E50 hair exosomes are collected from salmon testes cells and then cultivated in embryonic stem cell media. The use of salmon cells and the process are claimed to ensure that E50 exosomes have low levels of free radicals and impurities.[19]

There is emerging evidence that exosomes derived from MSCs or stem-like cells can modify the pathogenic processes of androgenetic alopecia (AGA) and that exosome treatments increase hair density, thickness, and anagen-to-telogen ratio in animal and early human models of hair loss. The mechanisms of action reported are summarised below:[20-22]

- The promotion of dermal papilla cell activity, proliferation, and survival.
- Upregulating growth factors (VEGF, IGF-1, KGF) essential for hair follicle regeneration.
- Suppressing pro-inflammatory cytokines (e.g., TNF-α, IL-6) linked to perifollicular inflammation.
- Reactivation of the Wnt/β-catenin pathway, which is central to initiating and maintaining the anagen phase.

Wharton Gel Complex

Wharton Gel Complex (Cantabria Labs, Spain) is a patented bioactive hydrogel of natural glycosaminoglycans (high and low molecular weight hyaluronic acid (HA), sulfated glycosaminoglycans, chondroitin sulfate (CS), dermatan sulfate (DS), keratan sulfate (KS), heparan sulfate (HS)) and growth factors (TGF-β, IGF-I, FGF 1 and 2).

It has been demonstrated to provide an extracellular matrix substitute that can recruit cells and create an environment that stimulates their natural bioactivity, enabling them to survive and proliferate.[9] It is also known that human hair follicle dermal papilla and hair bulb contain high amounts of GAGs (HA, CS, DS, KS, HS) and their associated proteoglycans (sulphated GAGs attached to core proteins).[23]

Cyclical expression of GAGs and proteoglycans has been reported during the hair growth cycle and is believed to be important to the maintaining the normal growth phase.[24-26] It has been shown to activate the Wnt/β-catenin pathway, upregulate TGFβ2 and FGF10, and to activate the proliferation of the stem cell niche in the hair bulb.[9]

In clinical evaluations of patients with AGA, Wharton Gel Complex has been demonstrated to significantly increase hair thickness and density and to reduce hair loss (as measured by the pull test).[10,11]

We are utilising this ingredient in our clinical practice in the ALLSKIN|MED HAIR booster vial (1.5% Wharton's Gel Complex in sterile saline) and the home-use lotion (1.0% Wharton's Gel Complex with caffeine and melatonin). The range also includes an exfoliating shampoo and an oral supplement.

Microneedling is a well-established, minimally invasive procedure routinely used in skin rejuvenation and scalp and hair regeneration, stimulating tissue repair and assisting with the percutaneous absorption of topical products.[27-29]

The combination approach

E50 exosomes and ALLSKIN|MED HAIR booster, containing Wharton Gel Complex, are different technologies, for which there is scientific and clinical evidence that enables them to be considered substitutes and stimulators of natural processes and substrates that occur in the hair bulb, follicle and hair growth cycle. There is a reasonable scientific rationale that their combined use, with microneedling of the scalp as an in-clinic treatment procedure, can provide a complementary and potentially synergistic effect in treating hair thinning and loss in patients with AGA.

For this reason, we have initiated this combination as a treatment option for patients with female pattern hair loss. We also support the patient with an ALLSKIN|MED HAIR home-use regimen, which includes a scalp lotion containing Wharton Gel Complex and the evidence-based ingredients caffeine and melatonin, a shampoo, and a supplement featuring evidence-based ingredients that can help enhance scalp and hair health.

The treatment protocol and outcome evaluation

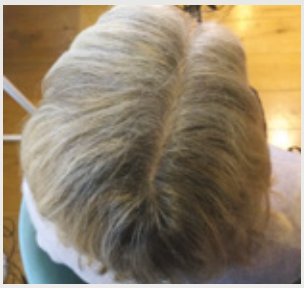
1. **In-Clinic Treatments:** Patients received four microneedling sessions of the scalp at four-week intervals, during which E50 exosomes were administered into the scalp along with the ALLSKIN|MED HAIR Booster.
2. **At-Home Care:** Patients were instructed to use the home-use ALLSKIN|MED HAIR Lotion, Exfoliating

Shampoo and oral supplement Capsules consistently between sessions.

3. **Evaluation:** Standardised scalp photographs were taken at baseline and at the fourth treatment session to assess changes in hair density and scalp health. Patients were also asked to complete a feedback questionnaire designed to gain insight into the tolerability of the treatment and to gain their opinion on the treatment outcome, and to assess overall satisfaction.

Feedback from patients was overwhelmingly positive

Results



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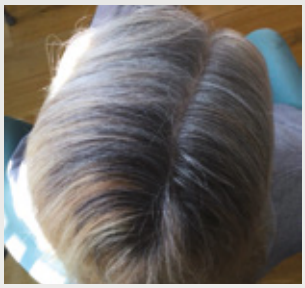

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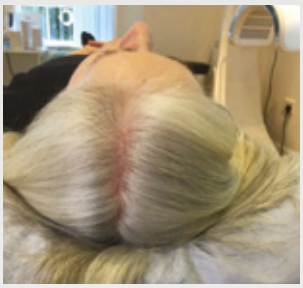

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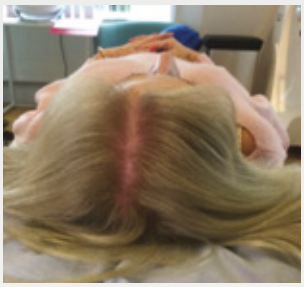

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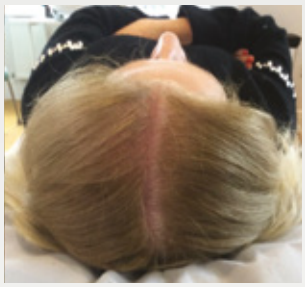

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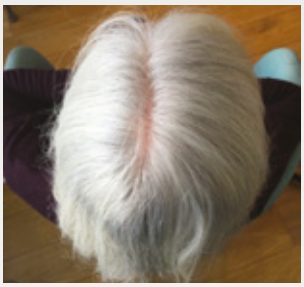

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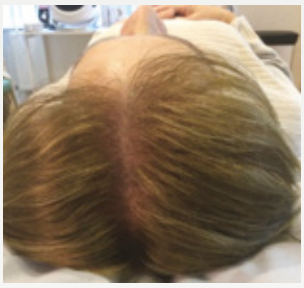

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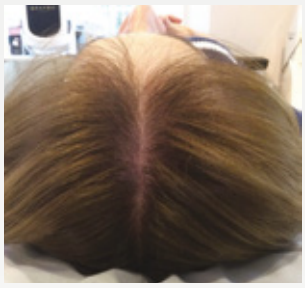

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Clinical evaluation

The photographs demonstrate positive clinical outcomes in all patients. On assessment at the fourth follow-up appointment, there is evidence of improved hair density in the treated regions. Using the modified Global Photographic Assessment (MGPA) 7 scale, objective assessment shows an improvement in each of the patients, with clear evidence of improvement in hair growth.

From photographic changes, patients 1, 2, 3 and 5 have MGPA scores of 6/7, classified as moderate to significant improvement, and patient 4 has an MGPA score of 4/5, classified as no change to slight improvement. Scalp assessment was not specifically formally documented at the time of final assessment, but feedback from patients was overwhelmingly positive.

Patient evaluation

All five patients found the treatment comfortable and the home-care products easy to use. Four of the patients at the time of the fourth treatment said they would recommend the treatment to others, while the fifth stated it was too soon to tell how good the results would be and that she would like to wait and see before deciding whether she was satisfied and if she would recommend it to others.

All five patients liked the at-home treatments, especially the ALLSKIN |MED HAIR shampoo, stating that it was easy to use and made their hair feel nice. Several mentioned that the oral capsules have also had a beneficial effect on nail growth.

Discussion

The results we have observed, along with the patient feedback reported in these case studies, demonstrate that the combination treatment protocol can deliver improved hair thickness and density, as well as patient satisfaction and an improvement in the cosmetic feel of the hair.

Importantly, the tolerability of the combination treatment protocol has been excellent with no adverse effects reported. These outcomes support further use and evaluation of this combination treatment protocol. However, case studies of this nature cannot provide evidence as to whether the combination provides a clinically significant synergistic effect.

Conclusion

A combination treatment protocol in five patients with female pattern hair loss consisting of four in-clinic microneedling sessions, along with the application of E50 Exosomes and ALLSKIN|MED HAIR Booster (Wharton Gel Complex 1.5% in saline) at four-week intervals, complemented by the at-home use of ALLSKIN|MED HAIR Lotion (Wharton Gel Complex 1.0%, caffeine, melatonin) and a supporting shampoo and oral supplement capsule, delivered an observable improvement in hair thickness and density in the five reported cases.

Four of the five patients would recommend the treatment at the time of the fourth treatment, and improvements in the cosmetic feel of the hair were reported. Controlled clinical studies with sufficiently large sample sizes and longer follow-up periods are needed to validate these findings, establish standardised treatment protocols and determine if the combination protocols can deliver proven synergistic results.

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While Neauvia products can be used independently, they are designed to work synergistically together

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PROPERTIES OF NEAUVIA PEG-HA FILLERS.

HIGH SAFETY PROFILE :no pathological inflammatory reactions reported so far and low immunogenicity as demonstrated in the Hashimoto publication. [1]

SEAMLESS INTEGRATION :unique rheological and mechanical properties that mimic those of natural skin tissues. [2]

HIGH THERMODYNAMIC STABILITY:they can be effectively combined with EBD treatments in a single session ,maximizing efficiency and enhancing patient results.

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Case Report

Management of Suspected Vascular Occlusion with Hyalase and Regenerative Adjunctive Therapy

Nurse Prescriber Rebecca Welstead-Green details a case of delayed vascular compromise following nasolabial fold filler, where polynucleotides, exosomes and growth factors were used to support recovery alongside standard management

Abstract

A report of the case of a long-standing aesthetic patient who developed delayed pain following hyaluronic acid filler injection to the nasolabial fold. Despite initial response to standard vascular occlusion management, symptoms recurred, prompting the introduction of adjunctive regenerative therapies including polynucleotides, exosomes, and growth factors. These regenerative modalities, used alongside repeated Hyalase, were selected for their potential to stimulate angiogenesis, modulate inflammation, and support tissue repair. The case highlights both the challenges of managing vascular compromise and the potential role of regenerative adjuncts in optimising recovery and patient satisfaction.

Case presentation

A female patient, who had attended regularly for aesthetic treatments over many years, received 0.1ml of hyaluronic acid filler into the left nasolabial fold using a linear thread technique, placed outside the fossae region.

The fossae (often referring to the pyriform or paranasal fossa) is considered a higher-risk site because of the variable course of the facial artery and its branches, which may run superficially or across the nasolabial fold, creating potential for vascular compromise even with small-volume injections.[1-3] Practitioners should therefore remain vigilant when treating this area despite its frequent use in aesthetic practice.

The procedure itself was uneventful. Immediate post-treatment observations were unremarkable, with no pain beyond normal injection sensation, no blanching, and no bruising.

Approximately 24 hours later, the patient reported delayed pain radiating up the side of the nose. On review, clinical presentation raised strong suspicion of vascular compromise. Following discussion and signed consent, an initial round of Hyalase was administered. This resulted in a rapid improvement in capillary refill (from 3 to 1 second) and reduction of pain (8/10 to 4/10).

At 48 hours, pain intensified once more. A second round of Hyalase again improved symptoms. At this stage, adjunctive regenerative treatments were introduced.

Regenerative treatment approach

Polynucleotides (Plinest®)

- **Protocol:** Daily delivery of 1ml via cannula using a microdroplet intradermal technique for one week, then reduced to every three days, followed by weekly sessions after four weeks. Product was administered evenly throughout the mid and lower face, including the nasolabial folds, to ensure homogenous distribution and stimulation of dermal fibroblasts.
- **Total administered:** 14 ml.
- **Rationale:** Polynucleotides such as Plinest® have been shown to stimulate fibroblast activity, enhance extracellular matrix remodelling and promote angiogenesis, thereby supporting tissue repair in compromised or injured skin.[4-6] Plinest® supports reperfusion by encouraging neovascularisation and improving tissue oxygenation. Its regenerative properties help minimise ischemic damage and accelerate recovery of compromised skin.

Exosomes (Purasomes)

- **Protocol:** Applied topically via a 2ml syringe throughout recovery, with 2ml given for use at home in the morning and 2ml for the evening.
- **Total administered:** 6 ml.
- **Rationale:** Purasomes are exosome-rich vesicles derived from purified bovine colostrum, containing proteins, lipids, and signalling molecules that facilitate intercellular communication. They have been reported to promote angiogenesis, modulate inflammation, and support dermal repair.[7,8] Applied topically, Purasomes were chosen for their paracrine signalling capacity and role in cellular communication. By delivering exosomal growth factors and proteins directly into the dermis, they aid in reducing inflammation, supporting cellular repair, and improving skin barrier recovery post-ischemic injury. This enhances the regenerative cascade initiated by the polynucleotide injections.

Cellderma GF5 Growth Factors

- **Protocol:** Daily application for one week, reduced to every three days thereafter.
- **Rationale:** GF5 is a topical bio-regenerative serum containing five recombinant human growth factors, designed to mimic endogenous signalling proteins that decline with age. These growth factors are reported to stimulate fibroblast and keratinocyte activity, promote extracellular matrix renewal, improve collagen synthesis, accelerate re-epithelialisation and support vascular regeneration.[9,10] This step was particularly important for restoring skin integrity and reducing the risk of post-inflammatory changes following vascular insult.

Supportive measures

- **Daily review** by FaceTime or text during the acute phase.
- **Stress management** support via Emotional Freedom Techniques (EFT) tapping, a mind-body intervention where patients gently tap on specific acupressure points while focusing on stress or discomfort. EFT has been associated with reductions in anxiety and improved coping in clinical and self-care contexts.[13]
- **Introduction of a PCA Brightening Peel**, a superficial chemical peel containing alpha hydroxy acids (AHA) designed to promote epidermal exfoliation, reduce pigmentation irregularities, and improve early textural changes. PCA Skin peels are widely used in aesthetic practice and have published evidence supporting their safety and efficacy in treating dyschromia and uneven skin texture.[14]
- **Ongoing medical-grade skincare with Obagi® products.** Following the acute management phase, I recommended the introduction of an Obagi® medical-grade skincare protocol to support long-term skin recovery and optimise treatment outcomes. Obagi® products were selected for their evidence-based formulations, clinical efficacy, and ability to address both barrier restoration and pigmentation concerns that may follow vascular events. Key considerations included:
- **Barrier Repair & Hydration:** Formulations such as Obagi Hydrate® provide sustained moisturisation, protecting against transepidermal water loss and creating an optimal environment for dermal and epidermal healing.
- **Antioxidant Protection:** Incorporating Obagi Professional-C® serum helps reduce oxidative stress, which is elevated following ischemic insult, thereby minimising free-radical damage and promoting healthier collagen synthesis.
- **Pigmentation Control:** The use of Obagi Nu-Derm® and related protocols offers targeted solutions for post-inflammatory hyperpigmentation, a common sequela in ischemic skin injuries.
- **Long-Term Skin Health:** By integrating medical-grade retinoids at a later stage, cellular turnover and collagen stimulation are enhanced, supporting the regenerative work initiated during the acute management phase.

Overall, the rationale for Obagi®'s inclusion was to provide a structured, clinically proven aftercare regimen that would extend beyond crisis management, ensuring the patient achieved both functional recovery and aesthetic optimisation.

Maintenance treatments every six to eight weeks with peels, polynucleotides, and exosomes.

Clinical development

By days seven to eight, there was marked improvement, with no evidence of necrosis. Skin remained intact and capillary refill consistently measured at one second. At weeks four to six, temporary deterioration occurred due to discontinuation of medical-grade skincare and substitution with over-the-counter products, leading to pustular eruption.

This was resolved with a targeted AHA peel and resumption of medical skincare.

At the time of writing, the patient's skin is not fully back to baseline; however, visible recovery has been substantial. With light makeup, there is no detectable abnormality. The patient reports high satisfaction with both the outcome and the regenerative approach adopted.

Before and 45 days after the patient's first presentation.

Discussion

This case demonstrates the complexity of delayed vascular compromise after dermal filler treatment. Although the nasolabial fold is not traditionally viewed as a 'danger zone', anatomical studies confirm that the facial artery and its branches may run superficially or across this region in a significant proportion of patients, creating the potential for ischemic complications even with low filler volumes.[1-3]

Published case reports further highlight that vascular occlusion can occur here and may present with delayed symptoms rather than the immediate blanching typically expected.[11,12]

Management with prompt Hyalase remains the cornerstone of care. However, the recurrence of symptoms in this case encouraged consideration of regenerative adjuncts.

Polynucleotides, exosomes, and topical growth factors were selected for their documented ability to stimulate fibroblast activity, promote angiogenesis, and support extracellular matrix repair.[4-10]

While evidence in the context of vascular compromise is limited, these agents may help optimise tissue recovery, reduce ischemic sequelae, and improve overall outcomes when used alongside established protocols.

This case therefore supports the importance of vigilance in all facial injection sites, early recognition of atypical presentations, and openness to integrating regenerative modalities as part of a comprehensive management plan.

Final thoughts

Prompt recognition and management of suspected vascular occlusion are essential. In this case, combining standard Hyalase therapy with regenerative adjuncts, including polynucleotides, exosomes, and growth factors, resulted in significant clinical improvement and high patient satisfaction. Further studies are warranted to establish their role in evidence-based protocols for vascular complications.

Rebecca Welstead-Green is an award-winning nurse prescriber with over 18 years' clinical experience in medical aesthetics. She is the founder and clinical director of The Green Room Clinic in Dorset, renowned for its natural, safety-focused approach to advanced aesthetic treatments.

Alongside her clinical work, Rebecca spent four years as a Harley Street trainer, mentoring medical professionals in advanced injectable techniques and safe practice. Passionate about raising standards, she is also the co-founder of The Academy of Medical Aesthetics with Dr Xavier Goodarzian, a training platform for doctors and nurses combining clinical excellence with mindset, business growth, and patient-centred care.

Her work is grounded in a philosophy of integrity, safety, and transformation - helping achieve confident, natural results underpinned by evidence-based practice.

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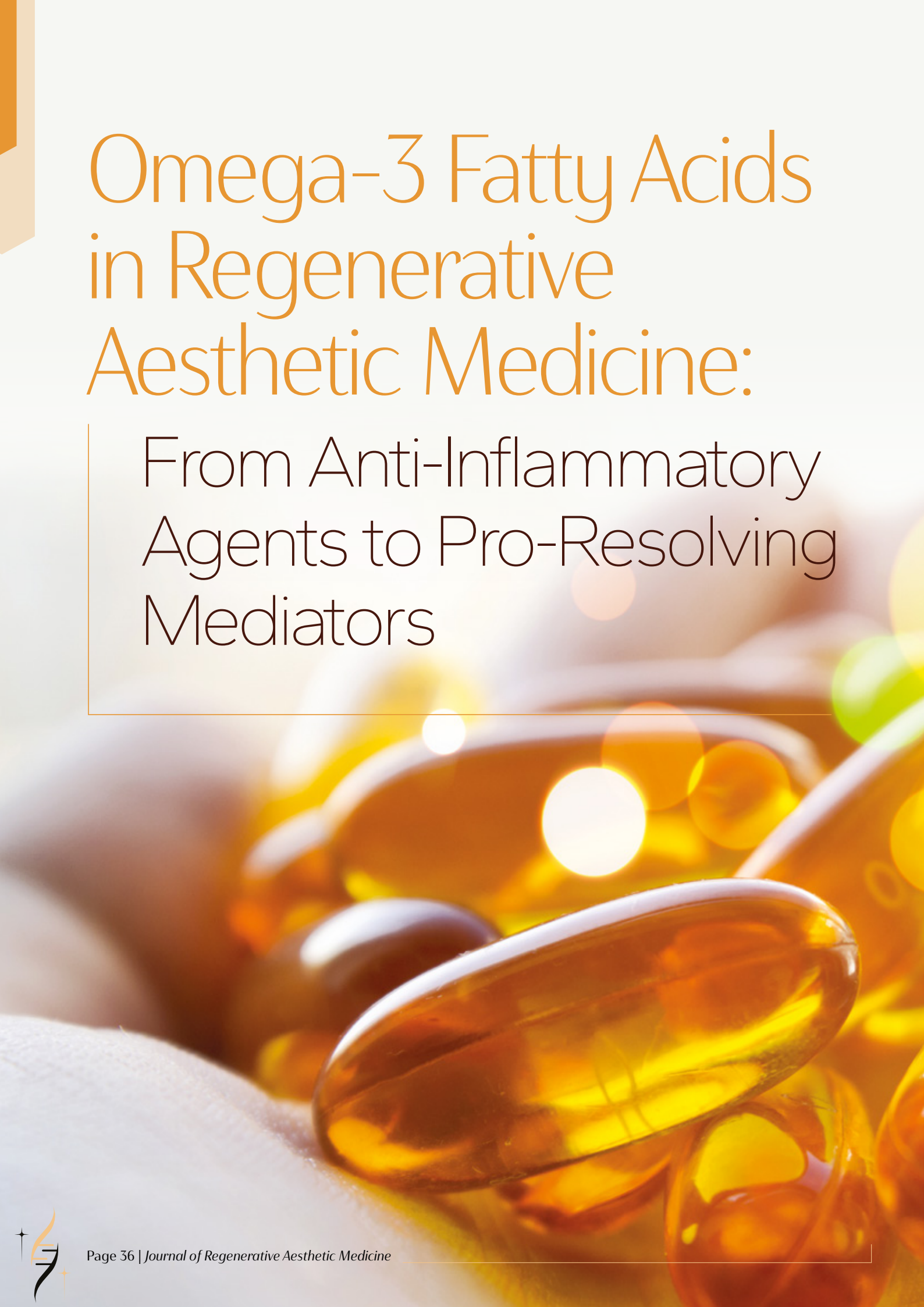
Omega-3 Fatty Acids in Regenerative Aesthetic Medicine:

From Anti-Inflammatory Agents to Pro-Resolving Mediators



Dr Victoria Manning explores how omega-3 fatty acids are moving beyond simple anti-inflammatory action to driving true resolution and predictable healing

Abstract

Omega-3 fatty acids are often described as anti-inflammatory. Current evidence shows a more precise role: EPA and DHA act as substrates for specialised pro-resolving mediators (SPMs) that complete the inflammatory response rather than simply suppressing it. This review outlines how resolution biology informs regenerative aesthetic practice - supporting orderly healing, collagen remodelling, and barrier recovery - alongside a pragmatic, test-based approach to optimisation. Understanding omega-3 status through the lens of resolution may help clinicians improve post-procedure trajectories and patient experience.

Introduction

It turns out our mothers were onto something when they insisted on that daily spoonful of cod liver oil - though they probably didn't realise quite how sophisticated their intuition was. Framing omega-3 fatty acids as 'anti-inflammatory' is a useful start but actually is incomplete.

Long-chain marine omega-3s - eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) - are precursors for specialised pro-resolving mediators (SPMs), including resolvins, protectins, and maresins.[1,2] These lipid mediators actively coordinate the completion of inflammation and the return to tissue homeostasis, which is the terrain we rely on for predictable aesthetic outcomes.[3]

My work translating this complex science for patients and clinicians, most recently in Busting The Code To Ageing: How to Win the Inflammation Game, focuses on making resolution biology operational in day-to-day practice.

The omega imbalance: a global clinical reality

Modern diets have shifted the omega-6:omega-3 ratio from historical estimates near 3:1 to >15-20:1 for many people.[4] Large dried blood spot datasets (>500,000 samples) report median continental ratios around 6.2:1 to 8.8:1, with substantial tails to the right.[5] That mirrors clinic experience: even health-conscious patients often present with ratios near 17:1 despite 'good' diets and occasional fish oil. Internal surveillance further suggests that the majority tested do not reach a 3:1 target, and many do not supplement at all.[6]

Why this matters in aesthetics:

When omega-6 dominates membrane composition, cells become less flexible and signalling skews toward arachidonic

It turns out our mothers were onto something when they insisted on that daily spoonful of cod liver oil

acid eicosanoids. When membranes become rigid, receptors and channels can't move or signal properly - so you can't get the good stuff in (nutrients, hormones) or the bad stuff out (waste, toxins), slowing repair, weakening the barrier, and heightening inflammatory stress.[7]

Clinically, that correlates with slower barrier repair, higher oxidative burden, more MMP activity, and less predictable remodelling - all of which can complicate post-procedure recovery.[8] From a resolution perspective, high AA:EPA also means fewer substrates available for resolvins at the moment they are needed.[5]

Resolution biology: beyond anti-inflammation

SPMs do four things that practitioners should care about:[9]

1. **They limit further neutrophil influx**
2. **They promote efferocytosis** - the process by which immune cells (particularly macrophages) recognise, engulf, and clear apoptotic cells from tissues. When this cellular cleanup system becomes overwhelmed or inefficient (which happens with ageing), dead cells aren't cleared efficiently, leading to chronic inflammation. From my clinical perspective, impaired efferocytosis is one of the underlying mechanisms driving chronic low-grade inflammation that accelerates skin ageing.
3. **They cue macrophages toward a pro-resolving state**
4. **They help restore tissue tone without broad immunosuppression**

Put simply: they do not just turn inflammation 'down'; they help finish it in an orderly way. EPA provides E-series resolvins, while DHA gives rise to D-series resolvins, protectins, and maresins - each with tissue-specific effects that matter in skin and connective tissue.[9,10]

EPA and DHA: distinct but complementary

EPA (eicosapentaenoic acid): Think of EPA as your inflammation moderator. It competes with arachidonic acid for the same enzymes (cyclooxygenase and lipoxygenase, the pathways that create inflammatory signals), effectively crowding out the troublemakers whilst supplying the raw materials for E-series resolvins. In practice, patients with optimal EPA levels tend to have more predictable inflammatory responses: less dramatic redness, quicker settling of reactivity, and better microcirculation. This is particularly valuable when we're working with sensitive skin or managing post-procedure recovery.[11]

DHA (docosahexaenoic acid): DHA is your brain and nerve tissue specialist, making up about 30% of brain grey matter. It keeps cellular membranes fluid and flexible, which means receptors can function properly and cells can communicate effectively. Beyond the neurological benefits, DHA provides D-series resolvins and protectins that support the brain-immune connection, which is crucial for maintaining good sleep patterns and stress resilience, both of which directly impact how well your skin heals and recovers. When patients aren't sleeping well or managing stress effectively, their healing suffers, so DHA's role in neuro-immune stability becomes clinically relevant.[12]

Clinical testing and implementation

Assumption is unreliable; numbers guide care. The Omega-3 Index (%EPA+DHA in erythrocyte membranes) gives a practical readout of tissue status; many programmes aim for ≥8%.[12]

The omega-6:omega-3 (or AA:EPA) ratio adds context; trending toward ≤3:1 is a pragmatic target. A 120-day retest aligns with erythrocyte turnover and provides a meaningful proof point for patients and teams.[5]

Therapeutic implementation

Dietary pattern:

Mediterranean-leaning: oily fish 2-3×/week; polyphenol-rich plants; extra virgin olive oil; reduce concentrated seed oil omega-6 and ultra-processed foods.

Supplementation (when diet alone is insufficient):

- Typical clinical range: Clinical dosing recommendations are based on EFSA-approved therapeutic ranges and multiple clinical trials demonstrating efficacy at 2-3 g/day combined EPA+DHA for 12-24 weeks.
- Forms and timing: triglyceride or re-esterified TG forms with meals; split doses for GI comfort; adjust by body weight, baseline, and response.[9,11]

Clinical applications in aesthetic medicine

Pre-/post-procedure optimisation (8-12 weeks): Building omega-3 status ahead of procedures creates better working conditions. The evidence shows that EPA and DHA act as precursors to signalling molecules that increase blood flow to the skin and boost collagen and elastin production - both essential for tissue resilience and repair.[13] Animal studies demonstrate that the 12/15-lipoxygenase pathway (which processes omega-3s into resolvins) actively promotes epithelial wound healing,[14] while human trials show measurable improvements in skin elasticity over 60-200 days of optimisation.[15]

Clinically, patients with better omega-3 status tend to present

In practice, patients with optimal EPA levels tend to have more predictable inflammatory responses

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with more predictable inflammatory responses, less dramatic erythema, and steadier collagen remodelling trajectories - though prospective controlled data specific to aesthetic procedures remains limited.

Important peri-procedure note: Omega-3s exhibit dose-dependent anti-platelet effects. Studies show that while 1.8g EPA daily doesn't prolong bleeding time, doses above 4g daily can increase bleeding time and reduce platelet counts - though, notably, clinical bleeding events have not been reported even in patients undergoing angioplasty while taking fish oil supplements.[16] That said, most perioperative protocols err on the side of caution. Discontinuing supplementation 72 hours before invasive procedures and resuming 24-48 hours post-haemostasis is common clinical practice, though these specific timeframes reflect pharmacokinetic principles rather than procedural trial data.

Reactive skin and midlife transitions: Omega-3 optimisation alongside barrier repair may reduce volatility. As oestrogen declines in midlife, skin becomes more reactive and recovery slows. Optimising omega-3 intake - especially DHA - can help buffer inflammation and support skin health. Pairing this with targeted barrier repair reduces skin volatility, while maintaining good sleep routines further anchors recovery and resilience. Research supports the role of omega-3 fatty acids in managing inflammatory skin conditions and promoting barrier function, particularly during hormonal transitions.[17]

We are not trying to eliminate inflammation; we are helping it finish properly

Integration with comprehensive protocols

Omega-3 optimisation amplifies, not replaces, fundamentals: consistent sleep (protect 22:00-02:00), morning light, resistance training, and minimally processed nutrition. Late-night glucose spikes and high omega-6 loads can outpace resolution capacity even with supplementation.[17]

Conclusion

Reframing omega-3s as resolution substrates is clinically useful.

EPA and DHA provide the raw materials for SPMs that complete inflammation, supporting the conditions needed for orderly remodelling and barrier recovery.

A simple workflow - assess with dried blood spot testing, address with diet and targeted dosing, and retest at 120 days - fits neatly alongside existing aesthetic pathways and helps set realistic expectations for patients: we are not trying to eliminate inflammation; we are helping it finish properly.

For further information on omega-3 testing protocols and implementation in clinical practice, please get in touch.

Dr Victoria Manning is an aesthetic and longevity doctor, global trainer, speaker, and author with a clinical focus on inflammation and ageing biology.

She specialises in collagen stimulation and low inflammatory treatment protocols. Her practice centres on translating complex immunology into practical outcomes for patients and practitioners, most recently in her book *Busting The Code To Ageing: How to Win the Inflammation Game*. Dr Manning's current work integrates test based nutrition, networking, and regenerative techniques to support predictable healing and long term skin health.

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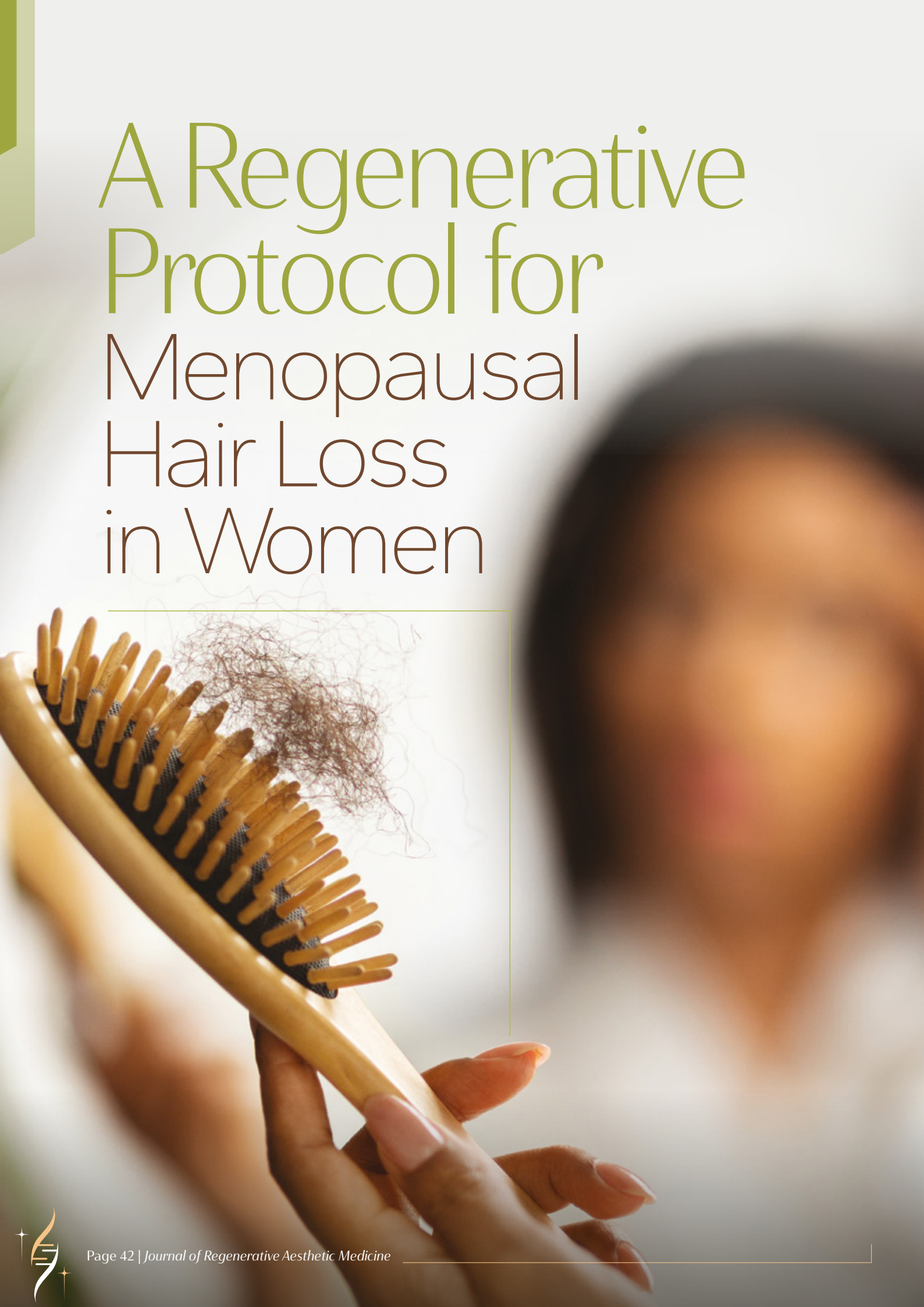
A Regenerative Protocol for Menopausal Hair Loss in Women



Nurse prescriber Claire Amos presents a case study on treating age-related female hair thinning using polynucleotides

Hair loss in women, particularly post-menopausal, is an increasingly common concern in aesthetic and medical practice. Often under-discussed and undertreated, female pattern hair loss (FPHL) can have a profound psychological impact, affecting self-esteem, confidence, and emotional wellbeing. While male hair loss is socially accepted to some degree, women experiencing thinning or patchy loss may suffer in silence, feeling ashamed or stigmatised.

Understanding Female Pattern Hair Loss

Female pattern hair loss (FPHL), also known as androgenetic alopecia in women, is a progressive, non-scarring alopecia resulting from the miniaturisation of hair follicles and a reduction in the anagen (growth) phase of the hair cycle.[3] It manifests primarily as diffuse thinning over the crown and mid-frontal scalp, with relative preservation of the frontal hairline - a presentation that differs from the more patterned recession seen in men.[4]

Unlike acute hair shedding conditions such as telogen effluvium, FPHL typically develops gradually and persists over time, often going undiagnosed or misattributed to general ageing or stress. In women, the condition has a distinctly heterogeneous clinical course influenced by hormonal, genetic, and environmental factors.[3,5]

On a histological level, affected follicles undergo miniaturisation, producing finer, shorter, and less pigmented hairs. The hair growth cycle is altered, with fewer follicles in the anagen phase and more in the telogen (resting) or catagen (regression) phases, resulting in visible volume loss.[5,7]

Although the physical signs of FPHL may initially seem subtle, the emotional toll is often profound. Women experiencing hair thinning may report significant distress, loss of self-image, and even depression, particularly when the hair loss interferes with daily styling or social interaction.[2,8]

FPHL is most commonly graded using the Ludwig or Sinclair scales, which categorise the extent of hair loss based on density and spread across the scalp.[9] While FPHL is a chronic condition without a definitive cure, early intervention using evidence-based and regenerative approaches can stabilise progression, improve density, and enhance scalp health - providing both aesthetic and psychological benefit to affected patients.

Current treatment options for FPHL

Multiple therapeutic approaches exist, with varying degrees of efficacy:

- **Topical minoxidil:** Widely used but limited by adherence, scalp irritation and plateauing of results. [7]
- **Oral anti-androgens** (e.g. spironolactone): Effective in selected patients but may cause systemic side effects.[8]
- **Nutritional supplements:** Useful where deficiencies are present but less effective alone.[9]
- **PRP (platelet-rich plasma):** Popular regenerative option but requires blood draw and has high variability in outcomes.[10]
- **Hair transplant surgery:** Less commonly suitable in diffuse female hair loss.

Regenerative therapies, including polynucleotides, have emerged as a promising adjunct or alternative to conventional treatments due to their ability to improve the health and functionality of the scalp and hair follicles without hormonal or systemic disruption.[11] This was the approach used in the case study discussed, where polynucleotide injections were selected to address menopausal hair thinning through regenerative, non-hormonal means.

Women experiencing hair thinning may report significant distress, loss of self-image, and even depression

Case Study

A 60-year-old female presented with gradual hair thinning following menopause. She described a loss of confidence and emotional distress, though she was also pragmatic and had realistic expectations. Her GP was already managing her hormone levels, and we explored various options including PRP and topical treatments. Given her preference for a minimally invasive, non-hormonal approach with a regenerative focus, we agreed on a protocol using injectable polynucleotides.

Polynucleotides, particularly those derived via PN-HPT® (Highly Purified Technology), are bioactive DNA fragments extracted from trout gonads that support tissue regeneration, fibroblast proliferation, angiogenesis and scalp homeostasis.[12] These mechanisms make them particularly suited to patients seeking improved scalp quality and follicular support without systemic side effects.

We selected Plinest® Hair, a formulation designed specifically to address hair thinning through improved dermal papilla function, microcirculation and oxidative stress modulation.[13] Clinical studies have demonstrated its potential to enhance hair density, thickness, and hydration in women with mild to moderate FPHL.[14]

Protocol design

- **Treatment frequency:** Every four weeks
- **Product selection:** Plinest® Hair (1ml) for the first three sessions, followed by Plinest (1ml) for the remaining five sessions
- **Technique:** Intradermal injections in a grid-like pattern across the affected scalp, including the frontal hairline
- **Preparation:** The patient was asked to wash her hair the morning of the appointment; scalp cleansed with Clinisept pre-treatment
- **Aftercare:** Patient advised to avoid hair washing or product use for 24 hours post-procedure, while following standard hygiene and sun protection guidance

Risks and side effects

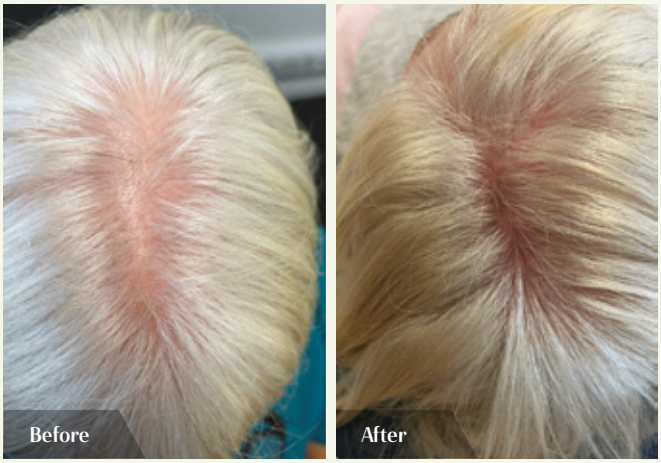
Polynucleotide-based treatments are generally very well tolerated. No serious adverse events have been reported in the current literature,[15] however potential side effects include:

- Mild erythema or swelling at injection sites
- Occasional pinpoint bruising
- Rare allergic reactions (always screen beforehand)

Patient outcome

Data indicates that clinical improvements with Plinest® Hair are typically observed between four and eight weeks following the second or third session.[16] This was the case for this patient, who started noticing new growth - including the unexpected return of pigmented hairs, having been grey since her early 30s, from the fifth session. She experienced no side effects and described feeling "thrilled" and uplifted by the visible changes. Outcomes include:

- Improved scalp hydration and elasticity
- Increased follicular activity and visible regrowth
- Reduction in hair shedding
- Enhanced hair thickness and quality



While more comparative data is needed, current studies show that polynucleotides offer a safe and well-tolerated treatment that may match or exceed PRP in certain patient profiles.[17]

The patient now plans to continue with maintenance treatments every four to six weeks. She values the subtle, natural progression of results and the fact that her hair improvement has not required hormonal or surgical intervention.

A safe and subtle solution

For many women, postmenopausal hair loss is more than a cosmetic issue - it can significantly impact quality of life. In this case, Plinest® Hair offered a safe, well-tolerated, regenerative option that helped restore not only hair density, but also the patient's confidence.

Polynucleotide therapy represents a growing frontier in aesthetic medicine, offering biologically active, minimally invasive solutions for challenging conditions like FPHL.

Claire Amos is a registered nurse, independent prescriber, and clinical director of CLK Medical Aesthetics in Bridgend. She holds a first-class honours degree and a postgraduate diploma in clinical aesthetics, with over 15 years of expertise in facial rejuvenation techniques and ethical, evidence-based treatments. Claire also leads Safer Aesthetics Training Academy, equipping medical professionals with prescribing guidance and aesthetic skills. She is registered with the NMC, BAMAN, and JCCP.

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Delivering an Effective Consultation *for* Regenerative Treatments

Founder of the Consultation Catalyst Dr Kamran Amjed advises how to structure regenerative consultations that balance listening, education and expectation management, ensuring patients leave informed and engaged

Consultations in regenerative aesthetics should not be box-ticking encounters; they need to be structured conversations that build safe, realistic and motivating treatment plans. The aim is simple: gather the right information, explain the science in a way that resonates, and co-design a journey the patient can genuinely commit to.

Opening the conversation

The opening questions set the tone. I begin with "Why now?" because timing often reveals motive - perhaps a milestone event, a shift in self-confidence, or a disappointing result elsewhere.

I then ask, "How do you spend your days?" This question is more revealing than, "What do you do for a living?" because it goes beyond job titles and gets to the reality of how patients live. Lifestyle shapes aftercare, exposure risks, and even the pace of healing.

For example, a patient might say they spend most of their spare time riding horses. That immediately highlights considerations such as prolonged sun exposure, dust and animal hair that could interfere with aftercare, and the need for clear guidance on protecting treated skin while outdoors. By starting with lifestyle, I gain insights that directly shape treatment planning and ensure advice is practical and relevant to the individual.

Once I have an understanding of timing and lifestyle, I move on to ask, "What does success look like to you?" This question surfaces expectations early and helps determine whether goals are realistic. If they are not, it provides a natural opportunity to reframe expectations through education and safety, building trust before treatment begins.

Defining success and setting expectations

Exploring a patient's idea of success is not just about clarifying their goals, but also about revealing whether those goals are realistic. Research in aesthetic medicine shows that unrealistic expectations are

common, often shaped by social media, celebrity culture and idealised imagery, and can undermine both outcomes and the therapeutic relationship if not addressed early.[1,2]

By surfacing expectations and reframing them through education and empathy, practitioners strengthen trust and reduce the risk of dissatisfaction, since patient satisfaction depends as much on how outcomes match expectations as on the objective results themselves.[3]

Ethics and the risk of overpromising

Ethical challenges in regenerative aesthetics often centre on managing timeframes. Unlike stimulatory treatments, regenerative therapies take months to show results, and overpromising speed or certainty risks undermining informed consent. Overpromising has been highlighted in aesthetic ethics literature as a key concern, since elective treatments require heightened responsibility to ensure transparency and protect patient autonomy.[4]

For me, the most important safeguard is to set realistic timelines from the outset and to be clear that regeneration is a journey, not a quick fix. Saying no is also part of ethical practice: if a patient's biology, psychology or expectations are misaligned, proceeding would not serve them well.

While my own consultation style relies on open questions such as "Why now?" and "What does success look like to you?", it echoes the established "Ideas, Concerns, Expectations" (ICE) framework widely used in medical education.[5]

Both approaches aim to draw out unspoken assumptions and ensure that patient goals are clearly aligned with what is clinically possible. This kind of structured exploration is vital to keeping consultations ethical, transparent and patient-centred.

Tailoring the message to the patient

The science of regenerative medicine does not change from one consultation to the next, but the way it is explained must adapt to the individual. Some patients respond best to data, charts and clinical detail, while others engage more with metaphors and everyday analogies. My role is to judge which approach will resonate, based on the clues I gather in the opening part of the consultation.

One analogy that consistently helps patients understand regeneration is the image of a Jenga tower. A neat, full tower represents youthful, orderly DNA. Over time, lifestyle and environmental stressors - poor sleep, diet, smoking, pollution - remove blocks and leave the structure unstable. Regenerative therapies aim to rebuild those blocks before stimulating the surrounding tissues. Patients immediately see why repair must come before stimulation, and why results depend on rebuilding cellular health rather than simply applying external triggers.

This tailored communication is not about changing the facts, but about adjusting the language, visuals and pacing to match each patient's mindset. As consultation research highlights, patients are more likely to engage and commit when information is presented in a way that reflects their own perspective and values.[6]

Addressing scepticism and misinformation

Patients today often arrive having read widely online, watched social media videos or spoken to friends who have had treatments. Some of this information is helpful; much of it is misleading. Rather than dismissing what patients bring with them, I start by establishing credibility. A concise introduction outlining my background, experience and results gives patients a reason to trust the advice that follows.

I then invite them to share what they have read or heard and review it together. This transforms potential confrontation into collaboration, turning misinformation into education. Patients feel respected, and by correcting inaccuracies in real time, I reinforce both safety and trust.

This approach reflects findings from communication research: when patients perceive their prior knowledge is acknowledged and valued, they are more likely to engage in shared decision-making and leave satisfied with the consultation.[7]

Standardising information, personalising delivery

Every practitioner has their own consulting style, but the information gathered must be consistent. In my clinics and training, I emphasise five essential domains:

- **Health and lifestyle:** sleep, hydration, diet, exercise, smoking and alcohol use
- **Previous treatments and routines:** including skincare, haircare or past procedures
- **Medical history:** relevant conditions and risk factors
- **Medications and supplements:** prescribed or self-directed
- **Logistics: s**cheduling, tolerance for downtime, travel and budget

How this information is collected - whether through conversation, structured forms or digital intake - is flexible. What matters is that it is complete. Without these details, treatment planning becomes guesswork. With them, I can confidently explain why a plan will work for that specific individual, linking recommendations directly to their health, habits and circumstances.

This balance of standardised data collection with personalised delivery reflects best practice in consultation design. Studies show that when essential information is gathered consistently but explained in ways tailored to each patient, safety improves and adherence to treatment plans increases.[8]

Building long-term relationships

Regenerative treatments are not single events; they are journeys. Patients need to feel supported throughout that process, and continuity of care is central to building trust. Wherever possible, I encourage clinics to book patients with the same practitioner or therapist for each session, so progress can be monitored and the relationship strengthened.

I also recommend scheduling follow-up appointments before the patient leaves the room. Having a clear roadmap - knowing that their next sessions are already booked -gives patients confidence and momentum. When they return, I make a point of celebrating small wins, often by reviewing progress photographs together. These moments reassure patients that they are moving forward, even if results are still evolving.

This kind of continuity and reinforcement reflects wider evidence from chronic care and aesthetics: consistent follow-up and positive reinforcement improve adherence, satisfaction and long-term outcomes.[8]

Business efficiency without rushing

Some practitioners worry that long consultations are inefficient. In my experience, rushing is false economy. A thorough 45-60-minute consultation at the start reduces the likelihood of complications, complaints and dissatisfaction later, ultimately saving time and resources.

I also recommend charging a deposit. This filters out casual enquiries and ensures that those who book are genuinely invested in their treatment journey. Another system I use is to front-load consultations into the first half of the month. This creates a natural seven-day window for patients to make a decision, giving them time to consider their options without pressure, while still keeping the process commercially viable.

Follow-up communication during this window is structured but gentle: a summary of key points on day one, clarifications or FAQs around day three, and a personal call by day seven. These touchpoints remind patients that support is available without ever feeling like hard selling.

Research into patient decision-making supports this approach: giving people time to reflect, combined with structured follow-up, improves consent quality and reduces decision regret in elective care.[10]

Measuring success and refining practice

Consultation skills, like clinical skills, improve when they are measured. In my own clinics I track conversion rates both on the day and within seven days, along with the mix of single treatments versus courses. This provides a clear picture of how effectively consultations translate into treatment plans.

I also use simple patient feedback tools. A QR code in the waiting room linking to a short survey allows patients to comment on whether they felt listened to, understood and supported. These insights are invaluable. They highlight where explanations may need refining, and they ensure that the consultation process evolves alongside clinical practice.

Evidence supports the value of this kind of monitoring: measuring patient-reported outcomes and satisfaction not only improves service delivery but also strengthens engagement and adherence to treatment.[11]

Training teams without losing consistency

In larger clinics, consultations are often shared among different practitioners. My advice is not to force everyone into a rigid script, but to insist that the core information is always gathered. Each practitioner can use their own communication style - some will be naturally warm and conversational, others more structured and clinical - but the five essential domains discussed earlier must always be covered.

This approach preserves authenticity while ensuring that every patient receives the same standard of consultation. Training, therefore, should focus less on memorising set questions and more on how to interpret answers, read body

language and lifestyle cues, and translate those into a personalised plan.

This is particularly important in regenerative aesthetics, where treatment outcomes depend not only on the procedure but also on patient factors such as sleep, nutrition, and lifestyle. A consistent framework ensures these elements are always explored, while still allowing the consultation to feel personal and human.

Research supports this model: when staff are encouraged to use their own voice but trained to collect a consistent set of data, patient satisfaction and adherence to long-term treatment plans improve - an especially critical factor in regenerative medicine, where results are gradual and require sustained engagement.[12]

Diagnostic tools in regenerative consultations

Advances in diagnostic technology are beginning to transform how consultations are conducted. High-resolution skin imaging systems, vascular mapping, and digital analysis platforms now provide detailed insights into tissue quality, sun damage and early signs of ageing. Increasingly, these systems are incorporating artificial intelligence to segment findings, classify wrinkle depth or pigmentation, and generate standardised reports.

In my own practice, I have found that introducing objective data into the consultation builds confidence. When a patient can see their skin under diagnostic imaging or review an AI-supported analysis highlighting areas of concern, the treatment plan becomes less abstract and more evidence-based. For regenerative aesthetics in particular, where results may take months to appear, these tools create benchmarks that make progress tangible and reinforce patient motivation.

The wider literature supports this approach. Digital imaging combined with AI analysis has been shown to enhance patient education and improve adherence by making the consultation more collaborative and transparent.[13]

Looking ahead: data and empathy side by side

As diagnostic technologies and AI tools become more advanced, consultations in regenerative aesthetics will inevitably become richer in data. Imaging outputs, automated analyses and predictive models can all support practitioners in tailoring treatment plans with greater precision.

But while these technologies enhance what we can measure, they cannot replace the human element. Regeneration is complex, and patients need empathy, context and ethical guidance to make sense of the information. My philosophy is simple: AI should act as a co-pilot, not an autopilot. It can streamline diagnostics and personalise recommendations, but it is the practitioner who must interpret results, set realistic timelines and build trust.

Emerging literature echoes this perspective. AI and digital platforms are powerful aids, but experts caution that they should complement - not substitute - the clinician's role in creating safe, ethical and patient-centred care.[14]

The evolving art of consultation

Consultations in regenerative aesthetics are not simply gateways to treatment; they are the foundation of safe, ethical and effective practice. By asking the right questions, tailoring communication, and setting realistic expectations, practitioners create treatment journeys that patients can understand and commit to.

Diagnostic technologies and AI will continue to add new layers of data, but the essence of consultation remains human. Listening, educating, and guiding with empathy are what transform information into trust. For me, that balance - science supported by technology, delivered through human connection - is what makes consultations both effective and enduring.

Dr Kamran Amjed (MD) is a medical doctor, AI health tech advisor and founder of the CPD-accredited Consultation Catalyst® training programme. With a background in emergency medicine, advanced aesthetics, and clinic leadership, he now helps healthcare organisations integrate ethical, patient-centred consultation frameworks alongside emerging technologies. A Stanford-trained specialist in AI in Healthcare and a global Key Opinion Leader, Dr Amjed bridges clinical expertise with digital innovation to future-proof aesthetic and regenerative practices.

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Analyzes 25 genetic variants to inform about predispositions and risks, integrating physical and behavioral information.

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Personalisation in regenerative medicine goes far beyond a single protocol. That is why Fagron Genomics has developed a complete ecosystem of tests that work together to give doctors a broader perspective and actionable pathways.

From TrichoTest®, which supports decision-making in hair restoration, to NutriGen, which translates genetic insights into personalised nutritional strategies and supplementation guidance, our solutions address two of the most common needs in aesthetic practice.

For patients with skin concerns, AcneTest provides clarity that helps doctors personalise acne management, improving adherence and overall satisfaction. With TeloTest, clinicians gain objective information on biological ageing, which informs preventive and maintenance strategies in regenerative care. And for patients whose lifestyle and recovery patterns directly affect results, Sport Test connects exercise and performance factors with personalised recommendations that strengthen long-term outcomes.

This portfolio is constantly evolving. Our upcoming HRT solution will bring genetic clarity to hormonal balance, opening another frontier for personalisation in regenerative and aesthetic medicine.

Together, these solutions form a single ecosystem that empowers doctors to anticipate variability, personalise pathways, and achieve outcomes that are not only effective but also sustainable.

A workflow designed for practice

This workflow integrates seamlessly into daily routines, helping doctors deliver clarity without adding complexity.

Doctor's Journey

Why Fagron Genomics?

Doctors in aesthetic medicine and regenerative care are increasingly expected to personalise treatments, improve adherence and deliver sustainable results. Fagron Genomics makes this possible by combining:

- ✓ The only DNA Tests globally to provide personalised formulations with a recommended treatment plan directly linked to a patient's genes.
- ✓ Clinical-first report design.
- ✓ Rigorous scientific validation.
- ✓ Education as an integrated resource

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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.

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.

I often describe the microbiome as a rainforest: a living ecosystem teeming with diversity, in which every element contributes to balance and resilience

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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.


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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.

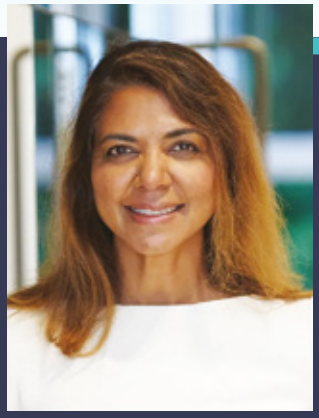
When we correct microbial imbalance, we are influencing the skin's entire biological environment: reducing oxidative stress, improving mitochondrial function, and restoring a balanced immune response. This internal harmony translates externally into stronger tissue architecture, better healing, and more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

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

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.



Dr Rachna Murthy MBBS, FRCOphth is a multi-award-winning Consultant Ophthalmologist and Oculoplastic & Reconstructive Surgeon, based in London, Cambridge and Jersey. Internationally recognised for her surgical expertise and natural aesthetic results, she combines advanced medical training with a holistic, patient-centred approach to deliver the highest standards in both functional and aesthetic care. A passionate educator, Dr Rachna is a respected surgical trainer within the NHS and private sectors, including her role as faculty at Allergan Medical Institute. Her academic work on dermal filler, cosmetic ingredient safety and advanced surgical technique has helped set industry benchmarks for safe and effective aesthetic practice.

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Redefining Women's Health Through Medical Longevity

The Vision of **Dr Mayoni Gooneratne**

The London-based longevity specialist explains why functional health and regenerative aesthetics must be integrated - and why women's health sits at the centre of her mission

Dr Mayoni Gooneratne has dedicated her career to building bridges between functional medicine, regenerative aesthetics, and women's health. Drawing on her background as an NHS surgeon, she founded Human Health by The Clinic to create a model of care that addresses both the biology of ageing and the lived realities of hormonal transitions. Her philosophy is simple: true longevity is about resilience and vitality, not just extra years.

"Medical longevity means supporting the body so it can thrive"

Dr Gooneratne defines longevity in terms of resilience rather than duration. "It's about strengthening the body at a cellular and systems level," she says. "The goal is healthspan, not just lifespan - to help the body not merely survive, but flourish."

This outlook shapes her clinical approach: every intervention is judged not only on aesthetic outcomes, but on how it supports deeper physiological balance.

"I began in surgery, fascinated by anatomy and healing"

Dr Gooneratne's career started in the operating theatre, where she was drawn to the intricacies of anatomy and the body's natural repair mechanisms. Yet over time, she saw the limitations of conventional practice. "I saw how patients needed more than conventional medicine - they needed upstream solutions," she recalls. "Aesthetics introduced me to regenerative techniques, and functional medicine tied everything together by addressing root causes."

For her, this integration created a more complete model: one that combines medical precision with prevention and restoration.

"Regenerative aesthetics and functional health are complementary"

Asked how regenerative aesthetics fits within the wider concept of functional health, she is clear. "Regenerative

Women's needs shift with each life stage, and Dr Gooneratne believes regenerative medicine must adapt accordingly

aesthetics is about restoring form and function, using the body's own healing processes. Functional health is about restoring internal balance. Together, they help people feel and look well, creating alignment between inner vitality and outer confidence."

It is this alignment between inner and outer wellbeing that Dr Gooneratne sees as the essence of medical longevity.

"Women's health has been underserved for too long"

A defining turning point in Dr Gooneratne's practice was witnessing the complexity of perimenopause in women who felt overlooked. Tendon pain, skin changes, unstable mood - these symptoms often fell outside the comfort zone of conventional medicine. "I realised many women felt unheard," she observes. "There is a huge gap in care across hormonal transitions."

Her focus sharpened: she would build a model centred on women's changing physiology and support them proactively through each stage of life.

"Adapting support to each woman's circumstances is essential"

Women's needs shift with each life stage, and Dr Gooneratne believes regenerative medicine must adapt accordingly. "In perimenopause, it may mean supporting collagen, joint health, and stress resilience. In menopause, focusing on mitochondrial health, bone density, and skin structure. Post-menopause, ongoing regenerative support can help maintain vitality and reduce frailty."

The goal, she says, is not simply to manage transitions but to maintain strength, function, and independence throughout them.

"Energy production is foundational"

When discussing the therapies that excite her most, Dr Gooneratne points to innovations across regenerative medicine. "I'm excited by exosome therapies, PRF/PRP advances, peptide therapeutics, and the emerging role of senolytics," she says. "Also, mitochondrial-targeted interventions - because energy production is foundational to both aesthetics and longevity."

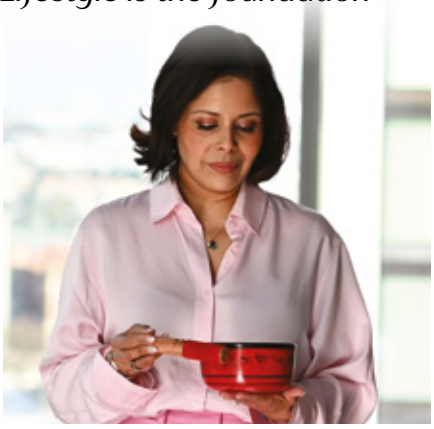
For her, mitochondria sit at the very heart of resilience: without efficient energy production, no system can function at its best.

"Lifestyle is the foundation"

For all Dr Gooneratne's enthusiasm about advanced treatments, she is clear about one thing: nothing replaces the fundamentals. "I never see regenerative aesthetics in isolation. Lifestyle is the foundation: nutrition for cellular building blocks, sleep for repair, stress for hormone balance, movement for circulation and mitochondria," she explains.

"Regenerative aesthetics builds on that foundation for sustained results." Without those basics, she emphasises, results are neither lasting nor transformative.

> *I never see regenerative aesthetics in isolation. Lifestyle is the foundation*



"This is not vanity - it's quality of life"

Public misconceptions about her field frustrate Dr Gooneratne. "That it's vanity or luxury," she says when asked what she'd most like to change. "In reality, it's about health, confidence, and quality of life. Supporting someone's energy, skin, and resilience is not superficial - it's foundational."

Her work, she insists, is about restoring agency and improving the lived experience of ageing, not superficial enhancement.

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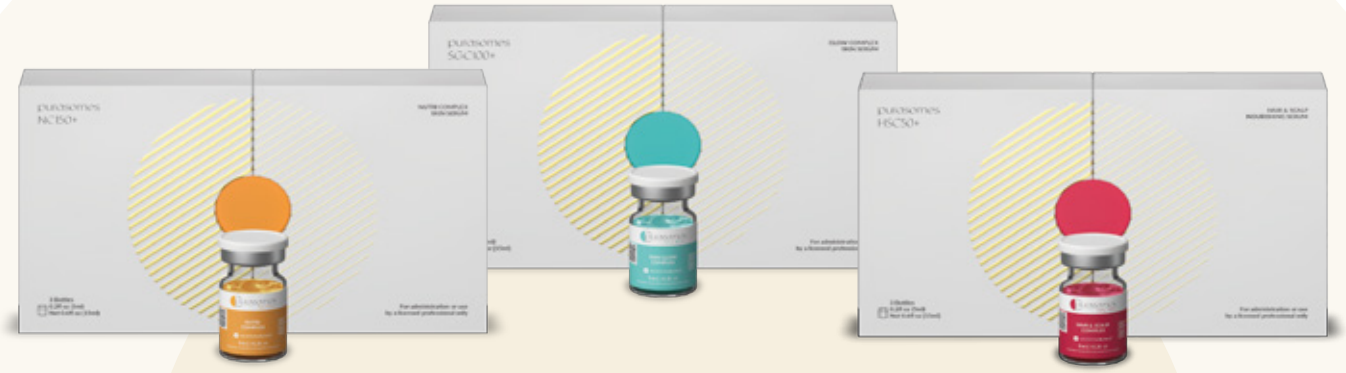

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"I see greater integration – aesthetics clinics becoming health hubs"

Looking ahead, Dr Gooneratne sees a future where boundaries between disciplines dissolve. "I see greater integration – aesthetics clinics becoming health hubs. Precision medicine will guide personalised treatments using genomics, metabolomics, and advanced imaging. And regenerative therapies will become mainstream, not niche."

For Dr Gooneratne, the next decade will be defined by this shift from aesthetics as a stand-alone service to part of a wider health ecosystem.

"My goal is to redefine what longevity medicine looks like in the UK and beyond"

"I'm building pathways to make functional and regenerative medicine more accessible – through collaborations, education, and new Human Health branches. My goal is to redefine what longevity medicine looks like in the UK and beyond."

Dr Gooneratne's ambition is clear: to reshape how women, and society at large, experience ageing, health, and vitality.

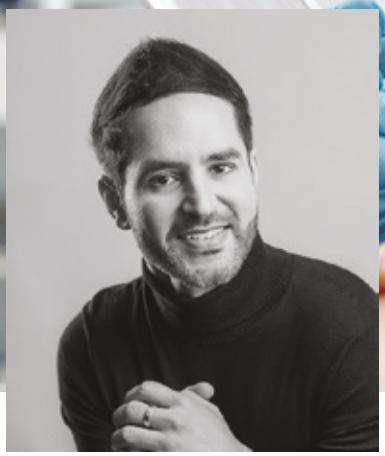
Looking ahead, Dr Gooneratne sees a future where boundaries between disciplines dissolve

Passion Projects & Leadership

- **Human Health by The Clinic:** Dr Gooneratne's flagship initiative, created to bridge the gap between functional medicine, regenerative aesthetics, and women's health. The clinic focuses on personalised, integrative care that addresses the root causes of ageing and supports women through life's hormonal transitions.
- **Human Health Professionals:** through this arm of the platform, other practitioners can opt into the model, gaining access to training, collaboration, and structured pathways for embedding functional and regenerative approaches into their own practices. Dr Gooneratne's goal is to create a community of like-minded clinicians working toward a shared vision of healthspan-focused care.
- **British College of Functional Medicine:** as Vice Chair, she helps shape standards and education in this fast-growing discipline. The College trains practitioners in evidence-based, systems-led care that goes beyond symptom management and prevention alone.
- **Advocacy for women's health:** across her projects, she highlights the under-representation of women in research and clinical care, championing models that adapt to women's biology at every stage of life.

Beyond Marketing: Our Duty to Understand and Guide Responsibly

As medical professionals, we have a responsibility to understand not just what we are offering, but how and why it works.



Dr Rashpal Singh reflects on the professional obligation for medical professionals to understand the real impact and value of regenerative treatments, and to practise with integrity beyond the promotional narrative

The ethics of regenerative practice

Regenerative medicine has transformed aesthetic practice, shifting the focus from concealment to cellular renewal. Yet innovation without comprehension can be dangerous. Even though aesthetic

treatments are elective, they remain medical interventions, and our same standards of safety, evidence and ethical duty must apply.

As medical professionals, we have a responsibility to understand not just what we are offering, but how and why it works. Patients trust us to act as informed guides, not enthusiastic salespeople. To recommend or market treatments without sufficient understanding of the evidence base risks eroding that trust and crossing the line from medicine into commerce.

Ethical practice begins with critical thinking: questioning claims, reading beyond headlines, and recognising that new does not always mean proven.

Research versus marketing hype

The current surge in regenerative products - exosomes, stem-cell derivatives, growth factors, polynucleotides and autologous therapies - has outpaced the rate of high-quality clinical evaluation. Yet credible research does exist. A growing body of well-designed studies demonstrates measurable benefits in wound healing, tissue regeneration and aesthetic outcomes.

The challenge lies in distinguishing genuine science from marketing hype. Some products are supported by robust in vivo and clinical data, while others rely largely on preclinical or anecdotal evidence. Practitioners must learn to interpret that hierarchy critically.

Good research is transparent, reproducible and clinically relevant. Independent studies with adequate sample sizes, control groups, long-term follow-up and peer-reviewed publication should form the foundation of our understanding. Company-sponsored white papers or conference posters can offer useful insights but should never be our only source.

By reading beyond the abstract - examining study design, outcome measures and conflicts of interest - we protect both patient welfare and the credibility of regenerative medicine.

Assessing each patient holistically

Regeneration cannot be achieved in isolation. Lifestyle factors such as smoking, alcohol consumption, poor sleep and chronic stress compromise the body's innate healing mechanisms. A biologic treatment may stimulate renewal, but only within the limits of a patient's overall health.

Consultations should therefore encompass more than product selection. A regenerative plan begins with thorough medical assessment which identifies nutritional gaps, hormonal imbalances and inflammatory drivers that impair tissue repair. Practitioners should act not only as treatment providers, but as guides supporting each patient's long-term health.

Rethinking our approach to marketing

In the rush to stay relevant, it is easy to blur the line between education and promotion. Social media tends to favour bold claims and quick fixes, but regenerative medicine requires honesty, balance and context. When we describe every new formulation as "groundbreaking" or "revolutionary", we diminish the seriousness of true scientific progress.

Marketing has its place in awareness and patient engagement, but transparency must remain paramount. The public is increasingly informed; overstated claims are quickly recognised and damage trust. The more responsibly we communicate - acknowledging uncertainties, explaining mechanisms and setting realistic expectations - the stronger our profession becomes.

A responsible path forward

Remember, we are not vending machines, dispensing interventions on demand. Our duty is to assess, advise and act in the patient's best interests - even if that means declining a treatment. Regenerative medicine calls us to practise at a higher level: to think systemically, communicate honestly and anchor innovation in ethics.

If we commit to critical appraisal, holistic assessment and evidence-based care, regeneration will not merely be a marketing term, but a philosophy of practice grounded in science, integrity and respect for human biology.

Remember, we are not vending machines, dispensing interventions on demand. Our duty is to assess, advise and act in the patient's best interests

Dr Rashpal Singh is a nationally and internationally recognised leader in aesthetic medicine, with over 14 years of clinical experience and a reputation for delivering safe, natural, and evidence-based results. A Global MD Codes™ Trainer and a valued member of the Allergan Aesthetics Faculty for over six years, Dr Singh has trained hundreds of medical professionals nationally & internationally in advanced injectable techniques, full-face treatment planning, and skin quality protocols. With a philosophy that balances scientific precision with aesthetic artistry, Dr Singh continues to shape the future of medical aesthetics through education, mentorship, and consistently high standards of patient care.

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