

FUTUROLOGY: POTENTIALS AND PROBABILITIES IN COSMETIC PROCEDURES



THE FUTURE Science and medicine have come a long way in the last few decades and one area that has seen, not only exponential growth in terms of its value, but also the development of ground breaking technologies and techniques, is the cosmetic enhancement market. Finding a 'cure' for ageing has become the Holy Grail and with the possibilities for how we turn back the clock becoming ever more rapid and varied, Gerit Quealy looks at what the future of the industry holds.

■ Culture critics have said that, for the most part, fashion has not changed in about 20 years, yet our views on ageing and what constitutes beauty have changed dramatically in that time. Two decades ago cosmetic surgery was a little talked about taboo, seen as something the rich and famous, not the man or woman on the street, would do. But fast-forward to today and it is not just celebrities who are going under the knife or visiting a cosmetic practitioner for wrinkle busting injections.

Dr Mauricio di Maio, a leading plastic surgeon in Brazil and author of *The Male Patient in Aesthetic Medicine*, has a bold stand: "we can make people not age", meaning that people can have the same face in their sixties, seventies, and eighties that they had in their twenties and thirties.

Combine that with British gerontologist Dr Aubrey de Grey's assertion that we are teetering on the brink of extending life to 150, then looking youthful in your seventies will mean looking good in your middle ages – not such a far-fetched idea.

Further complicating that equation, the present world population has never before had such a high percentage of people aged 50 and over, and that number will only grow larger in the coming years. This segment of the population has been called 'Zoomers', who, nowhere near rocking-chair ready, want their outward appearance to reflect their inner zest.

So what does the future hold in terms of cosmetic innovations? Consultant plastic surgeon Rajiv Grover sees the advent of 'smart fillers', as the next big development, and says that injectables will also have "a rejuvenating effect over and above adding volume due to their biological action on stimulating skin." Prod-

ucts such as Restylane® have been shown to do this already but Mr Grover believes this approach will be further developed.

New York aesthetic plastic surgeon Dr Z Paul Lorenc agrees that "the next frontier in fillers are tissue stimulators", including Radiesse®, Sculptra®, and Artefill. These products, he says, "are unique in that they have been shown to stimulate new collagen production over time, creating lasting anti-ageing benefits."

The use of fat transfer to address this will also continue to increase, says Mr Grover, utilising stem cells for their ability to improve skin. "The transfer of fat was revolutionised by the work of Sydney Coleman. Previously fat transfer was unreliable, but he developed a method of improving the harvest, purification and insertion of fat to the face, which made the results more predictable. More recently we have discovered that fat taken from one part of the body also contains stem cells, which are not fat. They have the ability to stimulate skin rejuvenation: helping collagen synthesis and improving skin texture. So this means that transferred fat not only adds volume but has the biological effect of refining skin quality."

Areas like breasts, too, may benefit from fat-transfer technology once safety in breast cancer screening is determined. In the meantime, foam-clad implants will reduce the incidence of hardening.

Volume reduction is a concern as well, particularly when it comes to nose jobs. New York facial plastic surgeon, Dr Sam Rizk, has an ever-increasing roster of ethnic rhinoplasty patients, particularly from the Middle East and Southeast Asia. The specific nasal characteristics of these patients prompted him to develop a

specialised and individualised technique, and he sees ethno-specific procedures as a primary concern going forward.

But adding volume is the real future he notes, "I believe autologous and biologic materials, such as fat grafting, platelet rich fibrin matrix, and fibroblasts, will play an even greater role in the future for restoring skin quality and treating lines, wrinkles, scars and volume loss. I remain encouraged about future research underway utilising the potency of fat-derived adult stem cells in regenerative medicine. The future of cosmetic surgery will incorporate regenerative medicine and advanced technologies utilised in other aspects of medicine as applied to aesthetic surgery."

Wendy Lewis, an aesthetics consultant known as 'the Knife Coach', with a thriving practice in both the UK and the US has an intimate understanding of activity in the cosmetics industry on both sides of the pond and a keen awareness of medical research and patient desires. She sums it up concisely: "Biologics and autologous treatments." Patients like the idea, she explains, of their own material working to address their ageing issues, but they also want products that work, and deliver results for their money.

New York facial plastic and reconstructive surgeon, Dr Matthew White, is excited about the

possibilities that modalities like Ultherapy offer. But he also points to new research that reveals that it is not only the skin that alters as we age. The previous thinking was that ageing was all about sagging and thinning skin, but imaging technology now shows that the underlying structure of the skull actually changes shape. This fresh understanding will form the basis for a host of new treatments, approaches and procedures.

In a similar vein, Dr Zein Obagi's breakthrough research is changing the focus of topical treatments. As doctors and clients begin to further understand what actually works and why, formulations will not only change to accommodate that understanding, but products will become more efficient and effective.

For an ageing population that feels young, and also faces the prospect of chasing middle age as the margin widens that defines those years, all this is good news.

But there is perhaps one significant drawback. Plastic surgeon Mr Kevin Hancock, voices concerns about lack of regulation. "It's become a market free-for-all," he notes, stressing that who is using what, and how they are using it, what their training is, needs to receive more focus at this point than the new device itself. Otherwise all these innovations are for nothing, if they are not used properly and safely. ●

Autologous and biologic materials will play an even greater role in the future



PUSHING THE BOUNDARIES BREAKTHROUGH COSMETIC PROCEDURES

CELLULAZE

With more than 80 per cent of women suffering from cellulite, treatment is in high demand. "Cellulite remains the Holy Grail of aesthetic procedures," explains Dr Z Paul Lorenc, a New York based plastic surgeon, but until now most treatments have proved to be ineffective in tackling it. Cellulaze is the world's first surgical treatment for cellulite. Unlike other

non-invasive cellulite treatments, Cellulaze directly attacks the fat tissue, cutting through the brittle structural bands beneath the skin that are the real cause of its dimpled appearance to release them and even out the skin's surface, in one treatment. "This is unique in that it is the first surgical approach that addresses cellulite deep in the skin's subdermal layer, where the damaged tissue that causes dimpling is", comments Dr Lorenc. "The

system's energy delivery is designed to tighten and repair connective tissue and destroy the pockets of fat that cause skin irregularities."

VASER 4D BODY SCULPTING

VASER has been one of the biggest innovations in body sculpting in recent years. Utilising ultrasound the treatment allows cosmetic physicians to remove fat in a less aggressive way than liposuction, at the same time as being able to sculpt the body and change its contours and shape. Last year VASER High-Def was the buzzword on everybody's lips. The procedure involved sculpting the fat to give the appearance of a gym-perfect, toned body, however now the technique has been developed even further by pioneering surgeon Dr Alfredo Hoyos and VASER 4D Sculpt™ has emerged. Dr Ravi Jain of Riverbanks Clinic, the only clinic in the UK to currently be offering the 4D procedure, explains, "VASER Hi-Def created amazing results but the only problem was that it could sometimes cause an unnatural appearance when the muscles moved. 4D Sculpt™ uses each individual's unique anatomical landmarks to prevent muscular definition deformity and integrate dynamic definition. It is a completely customisable procedure, which takes every variable into account, i.e. age, gender, body type, muscular motion etc. We can also account for the effects of future weight loss and age on the body during surgery."

SOPRANO 'PAIN FREE' HAIR REMOVAL

What stands the Soprano apart from other lasers is its ability to deliver laser pulses in rapid-fire succession for hair removal that is much less painful. This is especially attractive for patients having large areas treated, such as the chest and back on men. It also recently became the first laser to be cleared by the FDA in the States for use on all skin types, including black and Asian skin and tanned skin, usually a no-no with lasers (although fake tans are still prohibited). This recent FDA approval is a result of very extensive

clinical research and publication of several peer reviewed studies which provide an overwhelming evidence as to the long term efficacy, presenting an impressive safety record of nought per cent adverse skin response of any kind.

ePRIME

Featured on CBS's *The Doctors* as a 'super age eraser', this newly approved device addresses both laxity and lost volume. Micro-needles are injected into the skin, delivering radio-frequency to the deeper layers, stimulating natural collagen, elastin and hyaluronic acid. Skin tone, chin contour, and surface lines continue to improve up to six months. Dr Lori Brightman, a US dermatologic surgeon uses 3D photography to track the changes so there's no guesswork and patients can see specific improvement themselves.

ULTHERAPY

This device enables ultrasound to penetrate deep into the substrata of the skin to trigger the body's natural regenerative processes, thereby building new collagen. Little heat pulses create wounding of deeper skin layers, without puncturing the skin, resulting in no pain, swelling or bruising. A continual tightening and lifting takes place over the three-month healing time. The treatment is especially good for difficult areas like the chin and neck, with a new device in development for under the eyes. In Europe it is being used on décolletage lines, 'batwing' arms and other areas of the body where flesh is loose.

MADE FACE-LIFT

The Minimal Access Deep Plane Extended Vertical face-lift or MADE lift is a hybrid technique developed by New York-based plastic surgeon Dr Andrew Janco. It combines the best aspects of the deep plane face-lift with the short-scar minimal access cranial suspension lift, allowing for more natural long-lasting results with a faster recovery due to local anaesthesia.

3D DEFATTING ETHNO-RHINOPLASTY

New York-based facial plastic surgeon Dr Sam Rizk has developed a highly specific nose job combining cartilage grafts with special suture techniques to narrow the tip coupled with precision defatting of thick skin via 3D telescopic imaging technology for a naturally sculpted nose with no visible scars and faster healing time.

U-LIFT

The U-Lift is an innovation on the Vampire face-lift, which uses a patient's own blood to rejuvenate the skin. Blood is drawn and separated into its various components, then re-injected as a volumiser. Prior to that, however, plastic surgeon Dr Scott Blyer applies radio-frequency, such as Pelleve, to fine lines, or infrared technology for deeper wrinkling to create a specific target for the platelet rich plasma, so its healing potential is utilised for optimum effect. The treatment is ideal for micro targeting delicate areas like eyelids and fine lines around the mouth.

VBEAM PERFECTA

"A gold-standard treatment," according to Dr Tapan Patel, a UK cosmetic physician, the Vbeam Perfecta is used for "targeting red and brown spots from veins, broken capillaries, pigment lesions, sun spots." It is applied in short sessions, without swelling or bruising, and can be used on a wide variety of skin tones. They are even seeing success with its use to flatten raised scar tissue and are investigating its efficacy as an overall rejuvenation treatment.

HYPERBARIC OXYGEN THERAPY

To provide patients with faster healing times, Dr Andrew Jacono often prescribes this treatment for particularly invasive procedures that normally have prolonged recovery time. It has been proven to accelerate healing time, reduce bruising and discomfort and to stimulate the growth of new blood vessels for faster recovery.

BUZZ WORDS

DNA REPAIR



DNA repair is one of the latest skincare beauty buzzwords. DNA is a very long protein in the nucleus of every cell, the "brain of the cell", according to skincare expert Dr Zein Obagi. Normally DNA can repair itself but, research has shown, if the cell is damaged by exposure to the sun, the natural process of cell repair can be disrupted and the cell can die, leading to premature ageing or, worse, cancer. By utilising DNA repair enzymes, topical products aim to penetrate the cell wall in order to repair it and allow the cell to function properly again.

FIBROBLASTS



Many aesthetic treatments are designed to stimulate fibroblasts in order to encourage collagen and elastin production and, as such, the term has become a buzzword in the cosmetic canon. But what are fibroblasts? Fibroblasts are cells that are integral in the formation of new collagen, one of the things responsible for making the skin look younger, healthier and plumper. "Their main job is to make collagen in the skin, so they're integral to wound healing", explains NY facial plastic surgeon Dr Matthew White. Aesthetic treatments kick-start this process by causing 'injury' to the skin in order to trigger the wound healing response.

VOLUMISING FILLERS



Dermal fillers are products injected into the skin in order to get rid of lines and wrinkles. As cosmetic practitioners have gained a greater understanding of the process of facial ageing, the way in which dermal fillers are injected has changed. Nowadays dermal filler treatment is all about 'volumising' rather than simply filling a line. Volumising basically means restoring fullness to the face that has been lost through ageing, stress or weight loss. Cosmetic practitioners now agree that it is this loss of fat and volume in the face that is one of the biggest contributing factors in ageing.

BABY BOTOX®



'Baby Botox®' refers to tiny diluted doses of botulinum toxin being injected into the face in order to provide a softer and more subtle result. The technique is often employed for wary first-time users. However be aware that Botox® is actually the registered trademark of a drug produced by pharmaceutical company Allergan so you may not actually be getting Botox® with this procedure. There are three botulinum toxin brands approved for cosmetic use in the UK (Botox®, although the cosmetically licensed version of the drug actually goes under the name Vistabel®; Bocouture® and Azzalure®). All of these can be safely used for this treatment.

VAMPIRE THERAPY



Vampire Therapy is the name given to Platelet Rich Plasma (PRP) therapy. The treatment involves harvesting platelets, which are rich in growth factors, from the patient's own blood in order to inject them back into the skin. Growth factors are essential for wound healing, which is why they have become so desirable in the treatment of ageing skin. "PRP therapy places growth factors in the exact location where we want the skin to rejuvenate itself", explains Ita Murphy, MD of the Otto Clinic. "The technique works on the basis that the body's own natural healing powers may slow and even reverse the ageing process."