

PRIME

Mar/Apr 2021
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INTERNATIONAL JOURNAL OF AESTHETIC AND ANTI-AGEING MEDICINE

**BOTULINUM
TOXIN
COMPLICATIONS**
A REVIEW

GUMMY SMILE
NATURA LIP TECHNIQUE

**AUTOLOGOUS
CELL THERAPY**
IN AESTHETIC MEDICINE

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AMS



WELCOME TO THE MARCH/APRIL ISSUE OF PRIME JOURNAL. I WRITE this from the UK, where we have taken our first tentative steps out of what we all pray will be the final Covid lockdown. With the continuing vaccine programmes gaining pace across the world, and even in places where it got off to a sluggish start (looking at you Europe), there is hope we will have a relatively restriction-free summer, which will allow

practices to remain open and conferences to go ahead in person.

In the current issue, we have aesthetic features covering gummy smile, botulinum toxin complications and the use of autologous cell therapy. We also have two features looking at laser devices. The first, written by Patrick Bitter Jr., MD, FAAD; Michael Gold, MD; and Jason Pozner, MD, FACS, looks at the new treatment possibilities offered by BBL Hero from Sciton; you can read the full story from page 12. The second laser feature is a case study on the use of a non-ablative fractional laser handpiece in treating skin pigmentation, tone and texture in clinical practice and can be found on page 22.

Once again, Wendy Lewis is on hand with a great feature on the clean beauty trend in skin care. With the industry worth billions, companies have to continually find ways to innovate in order for their products to stand out and gain market share. The latest trend aligns with consumers more conscious of how their spending habits impact the environment and the world around them. Additionally, they want products free of potentially harmful chemicals and additives. Those companies who have aligned their products to match these eco-friendly consumers are experiencing the payoff, and it seems it may compel the rest of the market to take notice. You can read the full feature on page 16.

PRIME Journal has been proud to partner with The Aesthetic Multispecialty Society since its creation a year ago. In that time, the AMS has become the fastest-growing aesthetic society in the world, with over 12,000 active members from across the globe. As well as continuing to produce a series of expert-led webinars on a diverse range of topics, the AMS has also released an Android and Apple app for its members to enjoy its content wherever they are. However, perhaps their most exciting development is the announcement to hold their first-ever conference later this year. The AMS will hold their inaugural virtual conference on June 3-4 2021, and it's set to be a world-class learning and networking experience. Sessions will be led by some of the most noteworthy practitioners of our time, presented in a talk show format and hosted by journalist and writer Alice Hart Davis.

Additionally, the AMS Virtual Conference will consist of brand-new lectures, video demos, roundtable discussions, live Q&As and much more. You will gain a wealth of knowledge, tips & tricks that you would never find in classical presentations and you'll have a vastly greater opportunity to connect with the speakers.

You can find out more and purchase a ticket from multispecialtysociety.com.

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UK: £295

Europe: €370

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THE AESTHETIC MULTISPECIALTY SOCIETY (AMS), IN PARTNERSHIP WITH AMWC, are launching their first-ever digital event this June 3-4: AMS Virtual Conference.

Uniting the Aesthetic Medicine community through education is the core objective of the Aesthetic Multispecialty Society (AMS). Since our launch last year, we now have over 12,000 active members from all over the world and from a range of specialties. We have delivered 100s of scientific & CPD accredited webinars with novel research, instigated discussion in our Forum section, provided a space to create projects, curated a targeted Aesthetic Medicine Bookstore and last but not least, connected practitioners.

AMS Virtual conference will be presented in a novel talk-show format, led by some of the most noteworthy practitioners of our time, to give you a world-class learning experience.

Specifically designed to enhance your career in Aesthetic Medicine, there will be brand-new lectures, video demos, roundtable discussions, live Q&As and much more. You will gain a wealth of knowledge, tips and tricks that you would never find in classical presentations, and you will have a vastly greater opportunity to connect with the speakers.

Sessions include: 'The Mysteries of the Gaze', 'The Enigma of the Jowls', 'Zoom on the Profile', 'Holistic Treatments with Threads', 'Aesthetic Trends in Social Media', 'Lasers & EBDs: Which Device for Which Indication', 'Full Face: a Multicultural Approach', 'The Enigma of the Lips', 'Zoom on the Temples', and 'Say it Frankly! What I used to do in the past and would never do again.'

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Registration: <https://www.euromedicom.com/ams-virtual/en/register/online-registration.html>

Uniting the Aesthetic Medicine community through education is the core objective of the Aesthetic Multispecialty Society. Join this fresh and interactive style conference – will be a space to share new findings and ideas as well as ignite your spark for aesthetic medicine. See you on June 3-4.

Dr. Ali Pirayesh, Dr. Philippe Kestemont and Dr. Henry Delmar
AMS Founders

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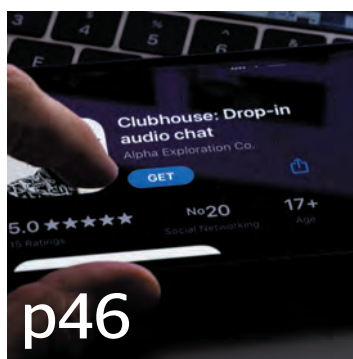
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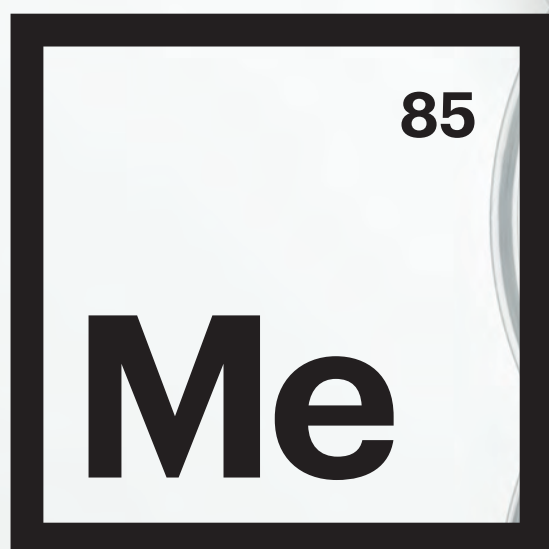
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news

A round-up of news stories in the aesthetic and anti-ageing medicine industry

AESTHETICSOURCE APPOINTED OFFICIAL UK & IRELAND DISTRIBUTOR FOR REVISION SKINCARE®

LAUNCH WITH AN INITIAL 12 PRODUCTS WITH A FURTHER 12 MORE DUE IN 2021

Firmly established as a results-driven, medical grade cosmeceutical range in the US, Revision Skincare® commence their UK launch strategy with the appointment of AestheticSource as their official UK & Ireland distribution partner.

With the ongoing consumer trend for effective, results-driven skincare at home, award-winning medical grade Revision Skincare® is now available for practitioners with the support of a dedicated division within AestheticSource. In addition to product knowledge, formulation technology and ingredient science delivered directly from the Revision skincare® team, AestheticSource have a dedicated team to provide business development, account management and customer services for all Revision skincare® stockists in the UK & Ireland.

About Revision Skincare®

Revision Skincare® was founded to change the way professional skincare results are achieved. Believing that youthful-looking skin can be accomplished without compromising the skin's long-term health, Revision Skincare® pioneered the use of bioavailable peptides, which help combat visible signs of ageing, and formulates all of its products with prebiotic technology to harness skin's natural microbiome.

“We are delighted to partner with Lorna and the AestheticSource team to execute the Revision Skincare® launch and growth strategy in the UK & Ireland.”

Their unique formulation philosophy is leading the way for better treatment methods and challenging traditional approaches to deliver powerful results. With products validated by doctors, Revision Skincare® serves skincare professionals around the world to help Achieve Healthy, Beautiful Skin™.

Industry pioneer

From the very beginning, Revision Skincare® has led the industry with



ground-breaking technologies and innovations.

- First brand to widely incorporate Peptides that unlock the skin's full potential to help combat the visible signs of ageing.
- First brand in the US to utilise THD Ascorbate as a superior alternative to L-Ascorbic Acid and the ONLY skincare company to use this ingredient at a 30% concentration (as of 2019).
- First to create the neck at-home therapy category for skincare professionals.
- First to harness the power of the Microbiome to provide age-defying benefits for the neck
- First to develop a comprehensive anti-ageing tinted moisturiser containing 100% all mineral sunscreen with absolutely no hidden chemicals (10 years in development).

'We are delighted to partner with Lorna and the AestheticSource team to execute the Revision Skincare® launch and growth strategy in the UK & Ireland. With our cosmeceutical heritage and the strength of their relationship and outreach in the UK aesthetic industry, we are excited to work together on our international expansion strategy.'

Brian Bumiller, Vice President, Global Business Development, Revision Skincare®

Revision Skincare® launches in the UK with an initial 12 products. Keep an eye out for another 12 that are currently being trialled by practitioners to follow throughout 2021.

SKINPEN® PRECISION FDA-CLEARED TO TREAT NECK WRINKLES

Crown Aesthetics, a division of Crown Laboratories, Inc., announced that the U.S. Food and Drug Administration (FDA) has cleared SkinPen® Precision for the treatment of wrinkles on the neck.

The administration's decision came following a recent single-

centre clinical study, which demonstrated clinical improvement of dermal lines on the neck and high patient satisfaction at 1-month and 3-months post treatment. From this study it was found that 94% of patients noticed an improvement

in how their wrinkles looked in their treated area one month post procedure; and 88% of patients were satisfied with their SkinPen Precision treatment one-month post procedure.

The clinical trial also showed that the SkinPen Precision device

is safe for use with a depth of up to 2.5 mm on the neck. This allows patients to achieve more meaningful results with no adverse effects. SkinPen is the first and only FDA cleared microneedling device with indications for both Face and Neck.

THE AESTHETIC SOCIETY RELEASE 2020 STATISTICS

AMERICANS SPENT OVER \$9 BILLION ON AESTHETIC PLASTIC SURGERY

The Aesthetic Society released its annual Aesthetic Plastic Surgery Statistics for 2020 compiled using the Aesthetic Neural Network (ANN) data. Partnering with RonanSolutions™ ANN connects directly to participating Aesthetic Society member plastic surgeons' Practice Management systems, retrieving real-time, de-identified, billing data. The data is reviewed and mapped by subject matter experts to generate a dynamic, comprehensive, longitudinal, valid, and reliable repository of procedural and billing data.

An extraordinary year

ANN data for last year demonstrates that aesthetic plastic surgery persisted in popularity even amid the COVID-19 pandemic. As lockdown restrictions eased for non-essential services, many surgeons began seeing an influx of patients seeking aesthetic plastic surgery. In 2020, ANN

“Surgical procedures topping the list for 2020 included liposuction, breast augmentation, and abdominoplasty.”

data reports a total revenue of over \$9 billion spent on aesthetic plastic surgery.

‘2020 was a unique year to say the least. We believe there were several factors that came together to drive aesthetic surgery even during the pandemic—the boom in video calls and more opportunity for discreet downtime. Utilizing ANN data helps us better represent the specialty of aesthetic plastic surgery, especially in a year wrought with uncertainty,’ explains Dr. Herluf G. Lund Jr., President of The Aesthetic Society. ‘ANN allows us to leverage real-time data coming directly from practices,’ he explains.

Popular treatments

Surgical procedures topping the list for 2020 included liposuction, breast augmentation, and abdominoplasty. Neurotoxins, dermal fillers, and skin treatments like chemical peels, made up the top procedures in the nonsurgical category.

The data also identifies the top 5 surgical and nonsurgical procedures performed by board-

certified U.S. plastic surgeons in the gender identity and age categories as follows:

Top Surgical Procedures (Women)

- Liposuction: 197,984
- Breast Augmentation: 185,957
- Abdominoplasty (Tummy Tuck): 116,991
- Removal/Replacement-Breast Implants: 86,255
- Mastopexy (Breast Lift): 80,033



Top Surgical Procedures (Men)

- Liposuction: 11,588
- Gynecomastia: 8,853
- Blepharoplasty: 7,893
- Rhinoplasty: 7,475
- Abdominoplasty (Tummy Tuck): 3,591

Top Surgical-By Age

- 17-35: Breast Augmentation, 127,431
- 36-50: Liposuction, 140,105
- 51-70: Liposuction, 65,041
- 70+: Facelift, 8,101

DELAY SURGERY AFTER COVID-19 DIAGNOSIS

New international research published in *Anaesthesia* (a journal of the Association of Anaesthetists) concludes that surgery should be delayed for seven weeks after a patient tests positive for SARS-CoV-2, since the data show that surgery that takes place between 0 and 6 weeks after diagnosis is associated with increased mortality.

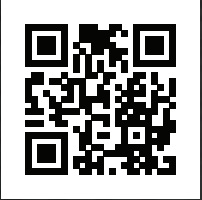
The study is by the COVIDSurg Collaborative: a global collaboration of over 15,000 surgeons working together to collect a range of data on the COVID-19 pandemic. This study's lead authors are Dr Dmitri Nepogodiev (Public Health) and Dr Aneel Bhangu (Surgeon) of the University of Birmingham, UK.

While it is known that infection with SARS-CoV-2 during surgery increases mortality and international guidelines recommend surgery should be delayed for patients testing positive for COVID-19, there is little evidence regarding the optimal duration of delay.

This international multicentre study included 140,231 patients (1,674 hospitals, 116 countries)* undergoing surgery in October 2020. Participating hospitals included all patients undergoing a surgical procedure. The number of co-authors (more than 15,000) makes this the largest collaborative surgery study ever undertaken globally.

The primary outcome measure was 30-day postoperative death. Statistical modelling was used to adjust for patient, disease, and operation variables and calculate adjusted 30-day mortality rates for different time periods from SARS-CoV-2 diagnosis to surgery.

Dr Dmitri Nepogodiev says: ‘We found that patients operated 0-6 weeks after SARS-CoV-2 infection diagnosis are at increased risk of postoperative death, as were patients with ongoing symptoms at the time of surgery. We recommend that whenever possible surgery should be delayed for at least 7 weeks after a positive SARS-CoV-2 test result, or until symptoms resolve if patients have ongoing symptoms for 7 weeks or more after diagnosis.’



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NEW BBL HERO OFFERS UNPRECEDENTED RESULTS FOR THE FACE AND BODY

BBL pioneers Patrick Bitter Jr., MD, FAAD; Michael Gold, MD; and Jason Pozner, MD, FACS give their view on the latest device from Sciton

ALL THE SCIENTIFIC EVIDENCE AND advanced technology in the world mean little if patients are not 'wowed' by a new device.

The headline from the plastic surgeons and dermatologists who are using Sciton's next-generation BroadBand Light (BBL) HERO is that patients consistently call their treatments and the way their skin looks after a treatment – 'amazing.'

Patients start with one facial rejuvenation treatment and want more. They come back to have their arms, legs, backs and chest treated. They tell their friends.

BBL HERO is new. Once celebrity and social media influencers get wind of what this non-invasive new technology can do for the skin on their face and body, there is no predicting how demand will skyrocket.

This is not the original BBL, nor is it just any IPL

Sciton's original BBL, part of the JOULE platform, uses visible and infrared light (400 to 1400nm) to deliver non-ablative phototherapy to the face and body. Early studies documented BBL's powerful skin rejuvenating effects.

Bitter and Pozner reported on 15 patients retrospectively, in a study published February 2013 in *Restorative Aesthetic Therapy*, a supplement to *Cutis*. They found BBL had long-term anti-ageing effects¹.

Results from our study indicate that patients who maintain a regular annual or biannual regimen of BBL

treatments over 5 to 11 years can reduce and delay the long-term signs of skin ageing, such as photodamage, telangiectasias, fine lines and wrinkles, and skin laxity, in a natural-looking way,' they wrote.

Stanford University researcher Chang ALS et al. conducted a pilot study published the same year in the

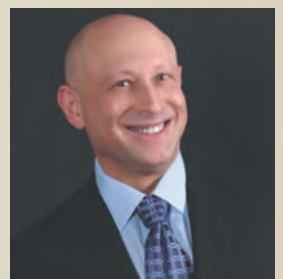
Journal of Investigative Dermatology Open in which the authors concluded, 'BBL treatment can restore gene expression pattern of photoaged and intrinsically aged human skin to resemble young skin.'²

The authors applied 30-end sequencing for expression quantification to uncover the gene expression programme associated with human photoageing and intrinsic skin ageing. They looked specifically at how BBL impacted skin ageing and found '... that

skin ageing was associated with a significantly altered expression level of 2,265 coding and non-coding RNAs, of which 1,293 became 'rejuvenated' after BBL treatment...'

While BBL uses intense pulsed light (IPL), Sciton named the technology BroadBand Light, or BBL, to avoid being lumped in with what they view as often less powerful, less consistent, less quality IPL devices. BBL made a name for itself seven years ago as the world's most technologically advanced IPL device, with the promise of more consistent outcomes and science showing its efficacy.

The original BBL already had key features that set it apart, including dual-lamp technology; precise, controlled cooling; a single handpiece with quick-change smart filters that allow it, for example, to quickly switch from treating vascularity to pigment; as well as finesse adaptors to easily target and treat smaller areas. ▷



PATRICK BITTER JR., MD, FAAD, Founder of Advanced Aesthetic Dermatology, Los Gatos, CA, USA; **MICHAEL GOLD, MD**, Medical Director, Gold Skin Care Center & Tennessee Clinical Research Center, Nashville, TN, USA; **JASON POZNER, MD, FACS**, Medical Director of Sanctuary Plastic Surgery, Boca Raton, FL, USA

email: drgold@goldskincare.com



▷ In recent years, Sciton engineers have discovered that there are key aspects to the device that make it better than the others, including pulse width and power. BBL's two lamp (versus one lamp) technology gives practitioners the ability to put out a lot more energy and power per pulse than other devices. As a result, BBL works faster than other devices can work.

The innovating, however, has not stopped. And today's new BBL HERO is a gamechanger to even its predecessor BBL.

The next level of innovation and how that translates to amazing results

In the last year, Sciton engineers designed several features into the original BBL that created a better BBL/IPL device. HERO stands for High Energy Rapid Output, which sums up the technology's edge quite nicely. Billed as the 'Swiss army knife of aesthetic and cosmetic systems,' BBL HERO is an upgrade on Sciton's JOULE or mJOULE platform, which now feature two new treatments, Forever Body and Forever Young+.

Changes to the system include:

- BBL HERO's pulse rate is four times faster, treating at up to 4 Hz. This is big news for aesthetic practices. The ability to treat at up to 4 pulses per second

“The combination of the increased speed, shortened pulse width, higher peak power, and enhanced cooling lessens the chance of adverse events, such as striping and stamp marks.”

equates to faster treatment times and a practitioner's ability to deliver more pulses per treatment than ever before. For example, a face treatment with BBL originally would have delivered 250 to 350 pulses. With BBL HERO, the same practitioner can now deliver between 1200 to 1500 pulses. When practitioners can go four times faster, they cover the same area faster and deliver a lot more pulses of light. When you deliver a lot more pulses of light on the face or an arm, the result is clearer, smoother skin that looks more like a young person's skin. The results are improvements to the appearance of pigment, pores, fine lines and wrinkles, laxity and improved overall skin smoothness. Patients notice the textural changes right away. They get off the table and comment their skin is smoother. This is something practitioners did not see with BBL. It would take a week before the skin looked better. The downtime is minimal to non-existent. Patients can be on a Zoom conference call immediately after treatment. They can go out to dinner.

- There is increased peak power and shortened pulse duration (as low as 3 milliseconds) with BBL HERO. Practitioners can pick up subtle pigment better and achieve better efficacy on darker skin types with a lower incidence of side-effects. Practitioners use lower energy to accomplish the same or better results, including better skin clarity than was possible with the previous BBL. Additionally, lower energy means the treatment is more comfortable for the patient and it is safer to do.
- Sciton has further enhanced cooling in the handpiece to allow the flashlamps to pulse faster without the crystal getting too hot. Without it, patients would be at risk of burns. Without the improved and enhanced cooling, the other innovations would not be possible. This innovation further improves patient comfort.

BBL HERO innovations translate to big benefits for providers and patients

Practitioners fluidly move the BBL HERO handpiece in a motion technique, instead of single pulse stamping of treatment areas. The combination of the increased speed, shortened pulse width, higher peak power, and enhanced cooling lessens the chance of adverse events, such as striping and stamp marks. It makes treatment not only more predictable but also more enjoyable. Other devices require that practitioners stamp a treatment area, wait for the flash and move to the next area, at one flash per second. With BBL HERO, at four flashes per second, practitioners constantly move the handpiece over the treatment area in a smooth fast motion and can make multiple passes, which overlap for a more efficacious treatment. Practitioners who avoided using BBL or IPL on large areas of the body because of the monotony of stamping and risk for uneven results embrace and enjoy using BBL HERO's Forever Body treatment. It is a completely different experience for the

operator and not only makes the treatment safer but more enjoyable to perform.

BBL HERO has broken down barriers to off-the-face skin rejuvenation with the Forever Body treatment, opening a new source of revenue for aesthetic practices. In minutes, practitioners can treat the chest to match the results achieved with the Forever Young+ face and neck treatment.

Essentially, BBL HERO requires fewer treatments but produces better results. BBL HERO can achieve better results in one to three treatments compared to what would typically take five or more treatments with BBL or IPL. With each additional BBL HERO treatment, skin continues to become smoother and appear younger.

Additionally, after the initial series of treatments, BBL HERO treatments performed two to four times a year help maintain results and keep skin healthy while slowing skin ageing.

Patients do not want to go back to the old way of rejuvenating their skin. And when asked why, patients say BBL HERO Forever Young+ and Forever Body treatments were easier than the old treatments, produced a faster and better result of clearer, smoother, less wrinkled, younger appearing skin than with traditional BBL.

Again, the intricacies of innovation would be useless if it were not for the reality of amazing results, safety and ease of treatment associated with BBL HERO. According to those with decades' experience in skin rejuvenation, BBL HERO rejuvenates face and body skin better than any non-invasive treatment before it.

Lots of ways to capture long-term patients and some quick fixes

BBL HERO is the gold standard, in our opinion, for rejuvenating skin off the face. And we think it is the best non-invasive technology for the face. In addition to opening a source of revenue for off-the-face treatments, it is a game-changer in anti-ageing medicine.

Aesthetic medicine has been focused on using technology to fix and correct imperfections, from vascular lesions to pigmented lesions, sun damage, age spots and fine lines. This technology can keep patients coming back for prevention and maintenance. It also opens the door for younger people who want to stay ahead of the ageing process. We believe BBL HERO is the secret to forever young all over the face and body.

Still another reason patients increasingly demand BBL HERO, especially in pandemic times, is if they want to look good on camera or video right away. The solution for that is a BBL HERO Forever Young+ face treatment. It makes pores nearly vanish immediately.

Because BBL HERO requires fewer treatments, it is more economical for the patient. But that does not mean it is less of a revenue generator for practices. BBL HERO is easy to delegate, teach and master – easier than prior IPL systems. Even if patients do not elect to maintain skin health and prevent skin ageing with BBL HERO, the chances are good that they will have treatments on the neck, chest and body. And don't forget, they tell their



Figure 1 (A) Before and (B) 2 month post 1 Forever Body treatment. Courtesy of Jason Pozner, MD



Figure 2 (A) Before and (B) post 3 Forever Young+ BBL treatments. Courtesy of Patrick Bitter, Jr., MD, FAAD

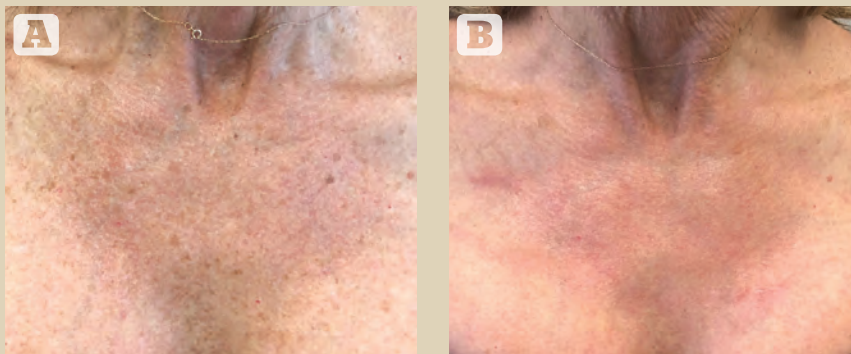


Figure 3 (A) Before and (B) 1 month post 1 Forever Body treatment. Courtesy of Jason Pozner, MD

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friends about how they got those 'amazing' results.

Sciton embraces the importance of proper training and has made available to every BBL HERO practitioner the most comprehensive and up-to-date training resources available in the aesthetic laser industry.

► **Declaration of interest** Drs. Gold, Pozner and Bitter are consultants and speakers for Sciton.

► **Figures 1-3** © Dr Pozner, **3** © Dr Bitter

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“ From our perspective, many of the skincare and beauty products claiming to be “clean” contain ingredients that will certainly clean your face and body but are far from being best for those with sensitive skin. ”



THE BUSINESS OF CLEAN BEAUTY GUIDELINES FOR SKIN CARE PROFESSIONALS

Wendy Lewis talked to some leading experts about this emerging category of skin care



WENDY LEWIS is Founder/President of Wendy Lewis & Co Ltd, Global Aesthetics Consultancy since 1997, author of 13 books, Editor in Chief of *beautyinthebag.com*, and frequent presenter on the international stage. Her first textbook, *Aesthetic Clinic Marketing in the Digital Age* (CRC Press) will debut a second edition in 2021.

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SUSTAINABLE SOLUTIONS IN THE BEAUTY and cosmetics market worldwide were gaining traction long before COVID-19, but the pandemic appears to have accelerated consumer demand for formulations that are better for users and for the planet. Dovetailing with that is the ongoing evolution of wellness, self-care and a holistic approach to beauty; consumers tend to pay very close attention to what is in their products as well as what is not in them.

Beauty brands, medspas and aesthetic clinics that are successful in engaging with this expanding customer base will have a leg up on the competition. They are building goodwill, recognition, and loyalty among their audience. However, the 'clean beauty' label that started out more like a marketing term has morphed into a topic that is taking up a lot of airtime in the skincare conversation.

So, why should aesthetic practitioners and skincare professionals care about what is being touted in beauty circles? Because your patients and clients care a lot, which makes it very important to stay on top of the trends that will ultimately trickle down into your businesses too. The connection between basic beauty and medical aesthetics has never been more symbiotic.

The eco-conscious consumer

According to Klarna's insights from their 2021 State of Smooth Report, 'For younger generations, the biggest consideration when shopping for beauty products was

natural, non-toxic ingredients. Gen Z and millennials were also more inclined to buy cruelty-free and vegan products than their older counterparts.' Indeed, this age group is not only concerned with products that are safe for them, but also want to use products that don't harm the environment, are safe for the planet, sustainable, and produced ethically.

This megatrend is not exclusive to skincare users under 30 anymore. Beauty products positioned as clean and sustainable are not exactly new, but this category marks a wide growth opportunity for established brands and indie brands from skincare, sun care, and haircare. Most recently, colour makeup brands have taken their place in the clean beauty category with early acceptance from consumers. To date, Sephora's US site boasts 313 'clean makeup' products from a wide range of top brands, including Milk Makeup, Ilia, Bare Minerals, Tarte, and Bite Beauty. In fact, research from Mintel reveals that 64% of US beauty consumers would like to see more innovative sustainability ideas from beauty brands, and transparent

“The average consumer assumes that if a product has made it to the shelves of their local drug store, it has undergone extensive testing, which may or may not be the case.”



Colorescience product range

sustainability ranks high among consumers, too.

According to Karen Ballou, Founder/CEO of Immunocologie Skincare, 'If we take a step back and ask what "Clean Beauty" means, you will often get many different answers because no one has really defined it clearly to date. What it is supposed to signify is that a beauty brand is using the highest quality and integrity of natural ingredients without synthetic or chemically driven ingredients. Recently, there has been a change in the industry and a revelation among consumers that skin is the largest organ of the body, so what you put on it must be absorbed into the body. The term "clean beauty" started out as a marketing tactic and was not really defined, so many brands have jumped on this trend. As a brand owner and formulator, I believe that what should stand out is your integrity to do the research by the highest standards so your claims are real and you can substantiate them. This is my acronym for "CLEAN": C-Clean, L-Living, E-Environmentally safe, A- and N-Natural.'

Clean beauty meets the professional market

These heightened demands can attract the preferences of very informed and ecologically-focused customers who are making their way into plastic surgeon's offices, aesthetics clinics and medspas. In 2021, more professional brands are heavily invested in this category to capture their share of this emerging market that dovetails with the newest crop of aesthetic patients looking for dermal fillers, neuromodulators, energy-based technologies, and skincare services.

According to Patricia Boland, Vice President of Research and Development for Colorescience®, 'The demand for clean beauty products is a rising trend. Unlike OTC sun care and cosmetics, there is no governing body like the FDA that has defined "clean beauty" across the board. We have >

PROFESSIONAL SKINCARE MARKET 2021—KLINE & COMPANY

'Despite a challenging year, the professional skin care market continued to register slight increases in established regions, with the United States growing by 0.7%. Telemedicine, curbside pickup, door ship programs, e-commerce solutions, and social media have all helped marketers and skin care professionals keep consumers engaged while providing new avenues for them to replenish their professional skin care products. Masks and peels were a bright spot for professional skin care marketers as office closures forced marketers to create at-home solutions as an alternative to in-office chemical peels and facials.'

“To truly be considered clean takes much more than just stamping the words on the label or omitting a few ingredients. Clean formulations are much more complex, starting from sourcing the right ingredients that are clean yet still effective, to production and manufacturing standards.”

▷ always made sure that our ingredients are 100% free from parabens, phthalates, synthetic fragrance and dyes, talc, mineral oils drying alcohols and chemical sunscreens. We do not test on animals, require that our raw material suppliers provide tested safety and efficacy protocols, and we then test our final formulations and perform comprehensive sensitivity, stability and comedogenicity testing in addition to required FDA testing to be sure our products have the highest level of safety and performance. We also believe that ingredient transparency is important, and we disclose all formula ingredients so our consumers can make an informed decision about what they use on their skin.’

David Mays, PharmD, Chief Science Advisor for SkinSAFE® (skinsafeproducts.com), explains that fragrance allergens and essential oils are a big issue for the users on this consumer and physician-facing website. ‘From our perspective, many of the skincare and beauty products claiming to be “clean” contain ingredients that will certainly clean your face and body but are far from being best for those with sensitive skin. There is so much inconsistency from retailer to retailer and this is multiplied by brands who often define and follow their own set of rules.’

He continues, ‘For example, one beauty retailer claims that to be “clean,” products cannot contain petrochemicals like mineral oil, but they can contain essential oils and botanical extracts. A recent study of cleansers claiming to be natural and petrochemical-free actually found that 100% of them actually did contain petrochemicals, despite claims of being clean. You can see how this can confuse consumers since few ingredients are as innocuous to the skin as good old petrolatum and mineral oil or have such a long history of safety and skin benefits. The SkinSAFE site, developed with the MAYO Clinic, uses over 20 years of skin patch data for consumers as well as practitioners. Our philosophy is that products best for sensitive skin must first and foremost be free of the most common allergens and their related compounds. In fact, SkinSAFE research has shown when you avoid the top allergens you can help avoid skin reactions in 49% of people with sensitive skin.’

The certification process

Although many brands are categorising their products as ‘clean beauty’ to capitalise on this global megatrend, a lot of them are taking a shortcut by merely jumping



on it for the timely marketing value.

According to Lynne Florio, Co-Founder of the indie brand, Planted in Beauty™, based in New York City, ‘From the beginning, we made a commitment to never trade quality or the peace of mind of our customer for time or money saved. To that end, our ethos of transparency guided us through the voluntary processes taken, going above and beyond what is required to provide assurances and complete transparency to our customer. This is especially important because of the wide range of standards and unclear messaging within the beauty industry.’ In fact, cosmetic companies can easily exaggerate their claims as they are not required to obtain official certification, but that may be changing soon.

She continues, ‘Independent certification requires an unbiased third party to assure you as the consumer, that the product is in fact what the brand tells you it is and has been reviewed at length by leading industry experts. When you purchase our Well Within products, you are given guarantees from our notable third-party certifications that attest to natural, organic, cruelty-free, safe and eco-responsibility practices. There is no single certification that covers all categories, so we applied for four different unbiased certifications. The average consumer assumes that if a product has made it to the shelves of their local drug store, it has undergone extensive testing, which may or may not be the case.’

Certification for organic, natural or clean beauty products is a minefield and, as you can imagine, varies considerably by market. This accounts for why consumer confusion abounds; there is no worldwide standard to shop for and brands have a wide marker for how to approach this claim. To put it in perspective, in the US there are only 11 banned ingredients in skincare products, yet in the EU, there are over 1,300 ingredients that are banned, according to Ms. Florio. This meaningful discrepancy leaves one wondering if the US FDA is not paying enough attention.

According to plastic surgeon Nikolaos Metaxotos, MD, PhD, founder of the newly launched Dr.Age skincare brand, ‘We have been seeing many more brands eager to adopt the “clean” claim for their products because it is trending among a wide range of beauty buyers. To truly be considered clean takes much more than just stamping the words on the label or omitting a few ingredients. Clean formulations are much more complex starting from sourcing the right ingredients that are clean yet still effective, to production and manufacturing standards. More conscious consumers are demanding clean ingredients in their products and are keen to exclude certain chemicals and potential irritants.’

As a plastic surgeon, Dr. Metaxotos set out to create a brand that was safe, effective, and patient-centred. ‘While working on the formulas of Dr. Age, the idea was not to simply avoid “bad” ingredients. Our primary objective was efficacy and

DefenAge Skincare product range



performance. Once we set our standards of performance, our challenge was to achieve these results with clean ingredients. Our formulation process was all about adding good things, rather than just eliminating the bad ones,' he says.

The new skincare consultation

As expected, many practitioners are finding that their patients' interest in the clean beauty trend is finding its way into the skin care consultation process.

According to San Antonio dermatologist Vivian Bucay, MD, 'As a firm believer in skin care as a foundation for skin wellness, it's very important to keep up with what my patients are reading about, and clean beauty is definitely a topic that comes up more and more frequently.

First, find out what the patient means when referring to clean brands; is it clean, green, plant-based, natural, organic, sustainable, cruelty-free or something else. It's helpful to know what is motivating the patient to ask about clean beauty options.'

She continues, 'Clean beauty is part of the overall wellness movement, which is big business. The claims have little to do with what the product does for the skin, but mostly about what is not in the product or "made without" claims. There are thousands of compounds that some groups consider harmful, such as carcinogenic, toxic, hormone disrupter, etc., but it usually comes down to what is referred to as the "the dirty dozen," the 12 ingredients that appear on the majority of lists of compounds to avoid.'

'While there are a few compounds on the list we prefer to avoid, such as formaldehyde, there are several, like parabens, that are hotly debated. Oxybenzone is still found in many sunscreens, which are considered over the counter drugs and are regulated by the US FDA yet has not been banned to date. Cyclopentasiloxane is a silicone used for its emollient properties that is found in many skin and hair care products. Although some claim that it can disrupt hormones, studies have shown that not enough can be absorbed through the skin to cause hormone disruption,' said Dr. Bucay.

It is important to clear up any misconceptions and educate patients so they gain a better understanding of how to read product labels. For example, notes Dr. Bucay, any product containing water can become contaminated, and preservatives are crucial to prevent bacterial and fungal contamination. 'Patients often believe that everything "natural" is better and "synthetic" implies



Immunocologie
Vital Clay

toxicity. I explain that synthetic preservatives were developed to avoid some of the allergies that occur more frequently with "natural" compounds.

Toxicity is often related to the dose and not the compound itself, and anything in excess can be harmful or toxic, including water, oxygen, and vitamins. In other words, there can be too much of a good thing,' she explains.

With so many formulations and ingredients on the market, it is no wonder that consumers are confused about what is safe and effective, and what may be the best choice for their skin. 'When discussing skin care,

science is what guides my recommendations. Product claims need to be truthful and substantiated, and I do my best to respect the

patient's preference to avoid certain compounds. One of the product lines I like is DefenAge®, whose hero ingredients are age-repair defensins, which are peptides that stimulate dormant skin stem cells to create youthful appearing skin. The products are formulated without any animal or human-derived ingredients, cruelty-free (not tested on animals), environmentally friendly, and meet the definition of "clean beauty" in that they do not contain the ingredients considered potentially harmful by clean beauty standards. These products are also backed by double-blinded studies published in peer-reviewed studies in medical journals. I am a big fan of the 6-Week Perfection Neck Tightening Cream, the 3D Eye Radiance Cream, and the 8-in-1 Bioserum. All of the products are well tolerated and effective, and I also appreciate that they offer fragrance-free options,' says Dr. Bucay. Another product I recommend is Kush Mascara that is well tolerated for patients with very sensitive eyes.

Setting patients straight

Dermatologist Jeanine Downie, MD, in Montclair, NJ, explains that clean beauty ranks as very important to some of her patients, yet not as important to other patients; 'Many patients do not understand that everyday chemicals, like the non-filtered water they drink and what they put in their microwave, can have significantly more important health effects than what they are putting on their skin. To some, clean means 'natural' or 'organic' products wherever possible. While to a different group of patients, it just means limiting the amount of chemicals they are putting on their skin or in their bodies. They often specifically ask about limiting the amount of parabens in products and frequently request sulfate-free and formaldehyde-free products.' >

DIRTY DOZEN

INGREDIENTS

1: BHA and BHT

2: Coal Tar Dyes
(Aminophenol,
Diaminobenzene,
Phenylenediamine)

3: Formaldehyde

4: Parabens

5: Synthetic Fragrance

6: Sulfates

7: Triclosan

8: Phthalates

9: Oxybenzone

10: Propylene Glycol

11: Petrolatum

12: Dea (Diethanolamine)

Plus: Phenoxyethanol and
Siloxanes (Cyclomethicone
and Cyclopentasiloxane)

Source: Vivian Bucay, MD



Skinmedica Neck
Correct Cream

6 CLEAN BEAUTY TRENDS FOR

2021

● 1: Conventional brands will introduce clean products

Clean beauty is a thing and not a fleeting fad. Expect to see more brands across categories dip their toes into this water while the trend is hot and attracting mega attention. More retailers will jump on this and offer an assortment of clean beauty products, select in-store areas or dedicated content on their sites. This will include indie brands, established brands that will add clean to their portfolio, up to luxury products

● 2: Cruelty-free is the new gold standard

A growing segment of consumers want to know if brands have taken a stand on animal testing or funding animal testing. Brands that fall under this classification confirm that no animal testing is performed on their finished products or ingredients during production, either by their company, suppliers, or third parties. As regulations are shifting in favour of cruelty-free skincare and cosmetics in some markets, consumer demand will continue to grow.

● 3: Vegan formulas

While 'cruelty-free' refers to the rejection of animal testing, the 'vegan' label indicates that a product is free of animal testing and also free of any animal-derived ingredients. As defined by beauty retailer Ulta, 'Vegan beauty products are created without animal products, by-products or derivatives. Specifically, that includes ingredients like honey, beeswax, lanolin, collagen, albumen, carmine, cholesterol and gelatin.'

● 4: Clean hair care, makeup and more

Clean hair care is on the rise as more consumers seek out sulfate-free shampoos and conditioners, but that trend is not new. Clean styling products are also on the rise, and we are seeing a plethora of indie

cosmetic brands as well as more established brands featuring 'clean' products for the lips, eyes, brows, face, as well as nail care. It is likely that in the near future, all or most brands will be pressured by buyers to meet at least some of the standards of the clean beauty movement. At a minimum, they may need to offer a specialized product range to satisfy the demands of the emerging clean beauty customer.

● 5: Eco-friendly packaging

Another megatrend is the demand for brands to use eco-friendly packaging, a type of environmentally-friendly packaging often made of recycled or renewable materials that is considered safe and sustainable for consumers as well as the environment. The main advantage is that it produces little to no environmental waste. McKinsey & Co. confirms that consumers are very concerned about sustainability; 'While buyers claim to have high willingness to pay for more for sustainable packaging, purchasing choices are still largely driven by other factors (such as brand, quality of products, and economics).' They predict that in the coming years, brand owners will address the carbon intensity footprint of the product as well as its packaging in a more transparent way by implementing 'carbon intensity labels.'

● 6: Clean beauty goes mainstream

The increasing demand for clean beauty products is driving investment and innovation in the category that extends well beyond skin care and hair care. We can expect to see this concept evolve and mature rapidly from this point forward. As clean beauty products become more readily accessible in major retailers, online shops, as well as traditional spas, medspas, and aesthetic practices will be keen to tap into this customer base as well.

▷ The pandemic has given rise to people having more time to contemplate what they are putting in their bodies and on their skin, as well as revisiting their health and lifestyle overall. According to Dr. Downie, her patients can be divided into two distinct groups. 'Many of my cosmetic patients are starting to think more about their looks, their health and their lifespan. Those are the patients that "clean" is a bit more important to. Yet, other patients still smoke, still drink to excess, never get any sleep, are totally stressed and never exercise. These are the patients that do not think about their diet nor clean beauty at all. So, it depends somewhat on their personality type,' she says.

She continues, 'My advice to my patients is that some aspects of clean beauty are worth thinking about in terms of what we are putting on our faces and into our bodies. I

“The pandemic has given rise to people having more time to contemplate what they are putting in their bodies and on their skin, as well as revisiting their health and lifestyle overall.”

explain that a clean diet and a good skin care regimen are very important for everyone. I also educate them about how preservatives are necessary in some skincare products, but too many preservatives can be an issue for some people some of the time, and we just quite frankly do not know who those people are in advance.'

There are also instances, Dr. Downie concludes, where having superior standards would be a definite step up in terms of safety and overrides any dismissive claims about the 'clean' product label just being a marketing gimmick. 'One example of an adulterated product would be how some talc but not all talc can be adulterated with asbestos



Planted in Beauty Super Nutrient Touch-Free Face Moisturizer

which caused significant problems as asbestos is considered carcinogenic if inhaled. This led to an onslaught of cancer lawsuits. If clean beauty standards had been followed in these cases, then the talc would have been mined properly and purified. This standard, if adhered to, would have caused less human tragedy in the form of cancer and death.'

Dr. Downie calls out some brands that are doing it right. 'I like the fact that Aveeno, Neutrogena, SkinMedica, Obagi, Colorescience and Sente try to limit the amount of extra ingredients in their products so that there are no unnecessary ingredients that can add to skin irritation. However, I do not feel that you can have truly clean beauty sunblocks at all because some chemicals are necessary for complete photoprotection and in anti-infrared protection as well. Shea Moisture Moringa and Avocado Power Greens, Uhai Oil blend Conditioner, Adwoa Beauty Baomint Moisturizing Curl Defining Gel, and ilia Super Serum Skin Tint are other examples of clean beauty products that are taking this seriously.'

The future of clean formulations

According to a survey from Influenster, consumer demand for clean beauty is on the rise and is expected to generate nearly \$25 billion USD by 2025. However, how consumers define 'clean' and how knowledgeable they are on ingredients still varies considerably. Since debuting its 'Clean at Sephora' seal in 2018, Sephora has been at the forefront of the trend to make clean beauty a household word. For example, 'Clean at Sephora' products are formulated without a list of over 50 ingredients, including 'sulfates (SLS and SLES), parabens, phthalates, mineral oils formaldehyde and more.' They started off with skincare and the category has blossomed over the past four years, despite the pandemic. When I recently searched the 'clean beauty' category on the US site, 1,080 products popped up across four sub-categories: skincare, haircare, makeup and fragrance.

Although this trend may have started out as more hype than science, the clean moniker has woven its way into the vernacular of personal care products and is not fading away in the near future. According to Dr. Downie, 'I do believe that the clean beauty trend is here to stay, although some clean beauty is full of gimmicks and not real in my opinion. I do think the aesthetics industry should pay attention to the consumer mindset on this topic. Finally, clean beauty is also an economic issue because many people cannot afford higher priced products for their skin, hair or nails that are clean, and therefore have to choose lower-priced products.'

Dr. Bucay agrees. 'Clean beauty is a trend that is here to stay and opens the door to an opportunity to educate our patients on skin care and to dispel the myths and misconceptions that abound. Although it is primarily a marketing tool, it can also serve to make us think about what we are putting on our skin and how those products are getting to market. As I see it, patients have access to a lot of information but may not have the educational background to contextualise its meaning. Being open to clean beauty and learning more about this topic affords us



Dr.Age product range

an opportunity to empower our patients with the knowledge needed to make smart choices about products that work with their skin care needs,' she says. It also serves to help keep your patients out of trouble from using the wrong ingredients.

Over the next few years, we can expect to see more clean beauty products, brands, and retailers working diligently to make consumers' lives better and satisfy their demands, which is why aesthetic clinics and medspas need to keep up with this emerging trend. In the near future, we can expect to be facing new standards and guidelines for the clean category to attempt to decipher it for both brands and consumers. Watch this space.

► **Resources:** DefenAge – defenage.com
 Skinmedica – skinmedica.com
 Immunocologie – immunocologie.com
 Planted in Beauty – wellwithinbeauty.com
 Dr. Age – doctor-age.com
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4 KEY

PATIENT SKIN

MISCONCEPTIONS

Synthetic = toxic

Natural = better

Natural = organic

Preservatives are bad

Source: Vivian Bucay, MD

USE OF THE NOVEL FRAX 1940 NON-ABLATIVE FRACTIONAL LASER HANDPIECE IN CLINICAL PRACTICE

Konika Patel Schallen, MD discusses the uses for the laser in treating skin pigmentation, tone, and texture as a stand-alone treatment or in combination



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ABSTRACT

Patients desire treatments for their skin to improve a range of vascular, pigmentary, and textural irregularities that produce an overall rejuvenated appearance with minimal time away from their normal activities. Laser-based devices, specifically non-ablative lasers in the mid-infrared (IR) spectrum, that are selectively absorbed in water can deliver heat sufficient to coagulate and resurface skin in both epidermal and dermal layers of the skin by stimulating collagen production.

The 1940 nm wavelength is highly absorbed in water and can create focal damage to a depth of 200 microns. Therefore the 1940 wavelength is a useful tool for treating the more superficial layers of the skin. The 1550 wavelength penetrates deeper, up to 800 microns. These two wavelengths can be used independently or in combination. Patients well suited to treatment with the Frax1940 are those wanting improvement in overall tone and texture due to photoaging. The face, décolleté and hands are ideal locations for treatment.

The Frax 1940 treatment provides a high degree of patient satisfaction when performed alone. It can also be used in combination with Frax 1550 and/or Intense Pulsed Light to treat pigmentation, diffuse redness or for coagulation of deeper dermal structures.

PATIENTS DESIRE TREATMENTS FOR THE SKIN TO IMPROVE A range of vascular, pigmentary, and textural irregularities that produce an overall rejuvenated appearance with minimal time away from their normal activities. Laser-based devices, specifically non-ablative lasers in the mid-infrared (IR) spectrum, that are selectively absorbed in water are capable of delivering heat sufficient to coagulate and resurface skin in the epidermal and dermal layers of the skin by stimulating collagen production¹. Non-ablative fractional lasers deliver energy to the skin in arrays that create microscopic treatment zones (MTZ's) of treated skin with micro-epidermal necrotic debris (MENDS) located at the margins of the MTZ's. Zones of healthy tissue between these areas contribute to the more rapid wound-healing response and the epidermal stratum corneum is preserved as compared to ablative therapies or full-beam laser treatments²⁻³.

KEYWORDS

1940 Frax, non-ablative
fractional laser



The 1940nm wavelength is highly absorbed in water and can create focal damage to approximately 200 microns in depth. The peak absorption of water in this region is at 1935nm. As such, the 1940 wavelength is a useful tool for treating the more superficial layers of the skin, including treating abnormalities in the epidermis

“ The Frax 1940 handpiece is equipped with a replaceable roller tip and motion sensor, which allows control of the rate at which the laser delivers the MTZ arrays to the skin. ”

and superficial dermis. It can be used independently and also in combination with the 1550nm wavelength to create a layered approach to treatment.

The 1550nm wavelength penetrates more deeply to at least 800 microns and is also less highly absorbed in water, creating a different pattern of thermal coagulation than the 1940nm wavelength. The 1550nm wavelength

remodels skin on a deeper level and can be used for treating deeper tissue or scarring. The 1940nm wavelength is a useful tool for resurfacing the superficial layers to yield clinical improvements in overall texture and pigmentation and also an improved appearance of fine, crepey skin. Other combination treatments can include treatment of redness with VBeam 595nm pulsed dye laser or IPL, such as the PR 530 or VL 555 handpieces. Additionally, the treatment of blue vessels with the NdYag wavelength can also be used as required for an overall rejuvenation treatment approach.

The Handpiece

The Frax 1940 handpiece is equipped with a replaceable roller tip and motion sensor, which allows control of the rate at which the laser delivers the MTZ arrays to the skin. Scan widths range from 4-12mm and energy per MTZ and percent coverage are adjusted based upon the desired effect. For larger and more generalized resurfacing, the 10-12mm scan width is preferred in multiple passes depending upon the skin type and skin condition to be treated. The Frax 1940 has the ability to digitally control the scan width without replacing the treatment tip. The scan width can be minimized to >



Figure 1 (A) Baseline, (B) photorejuvenation after 3 treatments

> 4mm, allowing for the treatment of epidermal skin abnormalities such as small, linear scars or benign epidermal pigmented lesions for which the clinician may wish to spare the surrounding tissue. The laser only operates in motion, providing a safeguard to overlapping energy deposition. Integrated air cooling improves patient comfort.

“Patients well-suited to treatment with the Frax 1940 handpiece are those who desire improvement of overall tone and texture due to photoaging. The face, décolleté and hands area ideally suitable locations for treatment.”

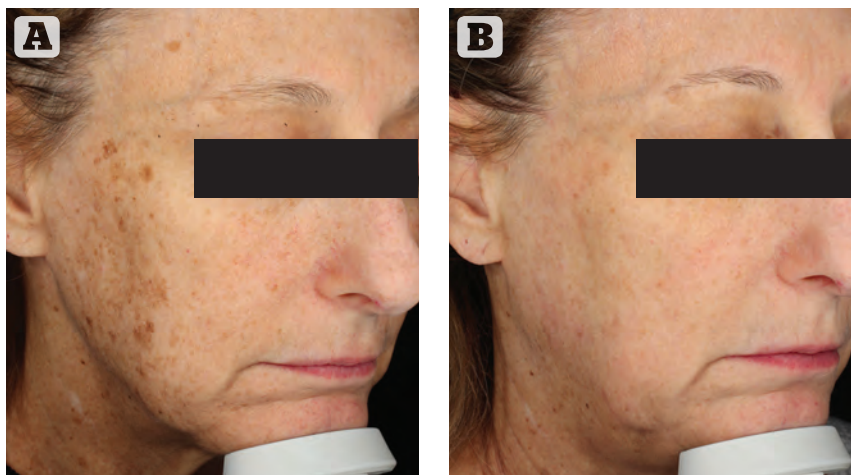
Treatments

Patients well-suited to treatment with the Frax 1940 handpiece are those who desire improvement of overall tone and texture due to photoaging. The face, décolleté and hands area ideally suitable locations for treatment. The wavelength is also being studied for its use in the treatment of pigmented lesions and is also being shown

Key points

- ❶ The Frax 1940 is highly absorbed in water
- ❷ Intelligent scanner with 5 easily adjustable scan widths
- ❸ Easy to use, producing consistent uniform results
- ❹ Can be used independently or in combination with Frax1550, Intense Pulsed Light or Vbeam pulse dye laser
- ❺ Available on Frax Pro system or Nordlys multi applicator system

Figure 2 (A) Baseline, (B) photorejuvenation after 3 treatments



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to have an effect on the treatment of hyperpigmented skin. As with any laser treatment, protection from the sun, both pre- and post-treatment is important. There should be no active infection or irritation of the skin in the area being treated and there should be no significant medical abnormality that would impair wound healing.

Prior to treatment, a topical anaesthetic is typically applied (lidocaine 23%/tetracaine 7%) for 30 minutes under occlusion and then completely removed. The skin is thoroughly cleaned and dried prior to treatment. Initial parameters for full area treatment of the face in skin types I-III generally begin with 3-4 passes at scan width of 10-12 mm, 14-18 MJ per MTZ and densities of 35-45%. Scan width is then reduced to 4mm to treat individual lesions with 2-3 additional passes using increased densities up to 50%. Treatments off the face may require fewer passes or decreased fractional coverage. In darker skin types, the fractional coverage and number of passes are reduced to 20% or below and 2-4 passes, respectively. Treatments are performed monthly at approximately 4-week intervals for a total of 3 sessions.

Post-treatment patients will experience erythema, oedema and possibly crusting depending upon the number of passes and density of treatment. In general, 2-3 days of redness and downtime are visible for mild to moderate treatments with an increasing number of days for more intensive, multipass, higher energy and higher density treatments. Post care involves strict sun protection and ample barrier moisturization.

The Frax 1940 treatment provides a high degree of patient satisfaction when performed alone. It can also be performed in combination with the Frax 1550 and/or intense pulsed light (IPL) to further treat pigment, redness or for coagulation of tissue at increased depths.

► **Declaration of interest** The author is Medical Director and Global VP of Clinical Operations at Candela Corporation, manufactures of the Nordlys and Frax Pro systems.

► **Figures 1-2** © Konika Patel Schallen

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“It is not only the appearance of a gummy smile that triggers the patient to seek an aesthetic solution, as an unsatisfactory smile can also create difficulty in communication or self-expression for the patient.”

NATURA-LIP GUMMY SMILE

Midey Mohammad Helmy describes the results of a study on treating gummy smile using botulinum toxin injections

ABSTRACT

Excessive gingival display can be very challenging due to the complex anatomy of the lower face region as well as the variety of reasons that may contribute to the problem. A gummy smile can result for a number of different reasons, either dental, gingival, skeletal or muscular. Proper diagnosis of the specific aetiology of the condition is key to more natural-looking results. Multiple reasons can cause the gummy smile but treating only one cause can give incomplete results. Some definitive treatments can be very aggressive so patients may prefer camouflage cosmetic injectable temporary treatments.

The objective of the study is to obtain a natural looking lip through proper diagnosis and injection of different peri-oral muscles using botulinum toxin type A. Simplifying and offering a manual on how to determine the exact cause of excessive gingival display. Using different approaches to recreate and enhance the normal anatomy of the lips during both resting and smiling positions.



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FIXING A SMILE IS ONE OF THE MOST POPULAR AND sought after procedures in the aesthetic world. It is not only the appearance of a gummy smile that triggers the patient to seek an aesthetic solution, as an unsatisfactory smile can also create difficulty in communication or self-expression for the patient. The ongoing advances in science and technology offer many solutions to most of the problems facing the physician as well as allowing for greater patient satisfaction rates. Also, the patient's high demands dictate more novel and creative approaches to ensure practitioners provide the best quality of life possible to the patient.

Understanding the complex anatomy of the overlapping muscles of the lower face region is key to determine the exact cause of excessive gingival display, thus allowing for better and more natural-looking results. The muscles >

KEYWORDS

Botox, maxillofacial, gummy smile, injectable, face surgery, plastic surgery



Figure 1 Injection sites across the Yonsei point and orbicularis oris muscle

▷ functionally involved in raising the upper lip have a role in tooth and gum display during smiling, these include the levator labii superioris alaeque nasalis (LLSAN), levator labii superioris, zygomaticus major (ZM), zygomaticus minor, levator anguli oris (LAO), orbicularis oris, and risorius. A therapeutic approach in which the LLSAN muscle alone is treated with botulinum toxin may be insufficient when other muscles are involved in the excessive gingival display¹².

There are many reasons that can contribute to the condition of excessive gingival display, the most common being:

- Hyper-active elevator muscles of the upper lip
- Incompetent upper lip
- Skeletal defects (such as maxillary prognathism and maxillary canting)
- Inward inversion of the upper lip
- Short clinical crowns
- Misaligned teeth^{3,7}.

“The Natura-lip protocol suggests intramuscular injection at the Yonsei point as well as an extra intramuscular injection of 2U/0.1ml BTX-A in the orbicularis oris muscle to counteract the inward lip inversion.”

An excessive gingival display may persist after orthodontic treatment or gingivectomy in cases of short clinical crowns. Also, severe gummy smile with class II malocclusion can be treated with LeFort I osteotomy combined with horseshoe osteotomy and intraoral

vertical ramus osteotomy⁸. Some patients may find such proposed permanent solutions to be very aggressive and choose to go for a non-invasive temporary option like botulinum toxin injection. The well-known aesthetic management protocol for a gummy smile is an intramuscular injection of

2.5U/0.1ml BTX-A in the Yonsei point⁹.

There is a huge difference between the social smile and the enjoyment or genuine emotional smile. The first is voluntary, while the latter is involuntary. The differing visual presentations reflect inner emotions, and both are mechanically governed by all the facial muscles of expression¹⁰.

The Natura-lip protocol suggests intramuscular injection



Figure 2 (A) Before injection, relaxed position. (B) Before injection, when smiling (C) After injection when smiling

at the Yonsei point as well as an extra intramuscular injection of 2U/0.1ml BTX-A in the orbicularis oris muscle to counteract the inward lip inversion.

Materials and methods

This study's inclusion criteria were excessive gingival display on smiling and loss of the lip bulk when in the relaxed position due to inward inversion of the upper lip secondary to hyper-functional upper lip elevator muscles, as well as skeletal or dental defects causing similar conditions with patients refusing surgery and opting for a non-invasive temporary solution.

A group of 20 patients (male and female) between the age of 21-25 were selected to receive the NATURA-LIP injection protocol. During the initial visit, all forms and consents were again explained to each patient, all forms were signed, and the patient's medical history was reviewed, excluding any subjects with known allergy to botulinum toxin or any condition that contraindicates the use of BTX-A. The trial protocol, risks of the intervention, possible side-effects of BTX-A, and legal rights were presented to the subjects before their participation in the study.

Pre-operative peri-oral close-up photos were taken. Post-operative peri-oral close-up photos were taken two weeks after receiving the treatment protocol in the follow-up sessions. BTX-A was diluted according to the manufacturer's recommendations to yield 2.5 units per 0.1mL by adding 4.0mL normal saline solution to 100 units of vacuum-dried Clostridium botulinum toxin type A.

The injection sites were determined by instructing the patient to mimic the facial expressions responsible for the condition of excessive gingival display (smiling) and palpation on contraction to ensure precise muscle location before injection and detection of any small anatomical variations. No local anaesthesia was administered.

Under sterile conditions, all patients were injected with 2.5U/0.1ml BTX-A in the Yonsei point and 2U of BTX-A in the orbicularis oris muscle distributed according to Figure 1.

Three of the patients needed further injections of 2U per side of BTX-A in the depressor anguli oris muscle (DAO) to compensate for the sad face or the reverse smile that was previously diagnosed in the first visit. One patient chose to complement the treatment with 3D lip

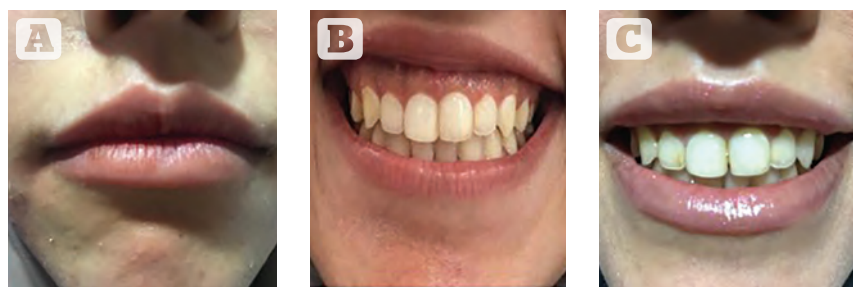


Figure 3 (A) Before injection, relaxed position. (B) Before injection, when smiling (C) After injection when smiling. This patient chose to complement the treatment with lip contour using HA filler, no volume. The patient was injected in the DAO to compensate for the reverse smile

contouring using HA fillers. One patient needed an extra dose of 1U BTX-A injection to camouflage a maxillary canting in the follow-up session 2 weeks post-injection (Figure 2-5).

Results

Twenty patients with hyper-active elevator muscles and inward inversion of the upper lip were enrolled in this study; their age ranged between 21 and 25 years old. Two weeks after botulinum toxin injections of the NATURA-LIP protocol, no complication and no side-effects were noted. Pictures were taken during the follow-up visit 2 weeks post-procedure, and all patients reported an aesthetical improvement to the gingival display and lip bulk preservation during smiling with preserved functions. The patients were recalled every month for follow-up visits.

Discussion

Botulinum toxin has been a great alternative to surgical treatments for neuromuscular disorders since the late 1970s^{11,12}.

Produced by the anaerobic bacterium *C botulinum*¹³, it is processed to be a stable, sterile, vacuum-dried powder that, when diluted with a saline solution without preservatives, blocks neuromuscular transmission by binding to acceptor sites on motor or sympathetic nerve terminals, thus inhibiting the release of acetylcholine. When injected intramuscularly at therapeutic doses, BTX-A produces partial chemical denervation of the muscle, resulting in localized reduction in muscle activity^{13,14}.

There are seven serotypes of BTX; the most potent and the most commonly used clinically is type A. Since 1989 the FDA has approved Botox® to be a safe and effective >

“Twenty patients with hyper-active elevator muscles and inward inversion of the upper lip were enrolled in this study; their age ranged between 21 and 25 years old.”



Figure 4 (A) Before injection, relaxed position. (B) Before injection, when smiling (C) After injection when smiling. This patient has an asymmetry in the upper lip where the left side is slightly thinner

Key points

- ❗ Botulinum toxin in the lower face poses a number of challenges but the rewards can be immense
- ❗ It is possible to treat a gummy smile using botulinum toxin and maximise natural-looking results
- ❗ Careful dosage and an expert knowledge of the anatomy is crucial to minimise excessive gingival display and enhance the patient's quality of life

► therapy for blepharospasm, strabismus, cervical dystonia, and hemifacial spasm, and, in 2002, it received approval for the treatment of glabellar lines associated with corrugator and procerus muscle activity. Later, in 2004, it obtained approval for the treatment of primary axillary hyperhidrosis. The National Institutes of Health Consensus Conference of 1990 also included it as a safe and effective therapy for other non-labeled uses⁴.

In this study, we have implemented the knowledge we received from others in the literature to help obtain natural results for patients with an excessive gingival display. Treating the lower part of the face can be as successful as treating the upper part of the face using BTX-A. A thorough

“Functional evaluation of the facial muscles is essential for an appropriate diagnosis, and knowledge of the topographic and functional anatomy is essential to avoid the most frequent complications of the procedures.”

knowledge of facial topography and functional anatomy of the facial muscles is key to excellent results and minimizing complications for patients selected to receive BTX-A for aesthetic purposes, especially when dealing with the overlapping peri-oral muscles.

Excellent results were obtained for patients treated with BTX-A for cosmetic indications in the face. Functional evaluation of the facial muscles is essential



Figure 5 (A) Before injection, relaxed position. (B) After injection when smiling.



for an appropriate diagnosis, and knowledge of the topographic and functional anatomy is essential to avoid the most frequent complications of the procedures. The retrospective analysis demonstrated by Spósito¹⁵ indicated that when we treat the face as a whole, including the mouth and neck, the doses used in the procedure tend to be higher, and the number of injected sites tends to be greater but injecting the lower face area can be as successful as injecting the upper face area.

Conclusion

The Natura-lip injection protocol to temporarily treat the condition of excessive gingival display allows the patient to restore the lip bulk they have in the relaxed position by adding an extra 2U BTX-A injections in four points along the orbicularis oris muscle. It gives a more aesthetically appealing upper lip when smiling and does not interfere with its function.

► **Declaration of interest** None

► **Figures 2 & 5** © Dr Midey Mohammad Helmy; 3-4 © Abdelrahman Shawky

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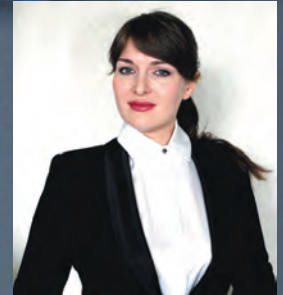
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“My thoughts on complications after botulinum toxin injections are based on 10 years of experience working with toxins, as well as on the practical aspects of their treatment.”





ANASTASIA MASHKINA, MD
Dermatologist, cosmetologist,
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rejuvenation injection
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BOTULINUM TOXIN COMPLICATIONS

Anastasia Mashkina describes her treatment regimens for the range of complications that can arise following botulinum toxin injections

ABSTRACT

Complications in the practice are undoubtedly one of the least pleasant parts of the profession. We must be able to treat complications and help patients out of these difficult situations.

I classify complications after botulinum toxin injections as either a true or false complication. Depending on the type of complication, a different approach to treatment will be determined. Many complications can be

addressed with an additional administration of botulinum toxin. This article presents treatment regimens for various complications and describes the most interesting clinical cases from the author's practice.

THE EMERGENCE OF BOTULINUM TOXINS IN COSMETOLOGY many years ago was a real revolution. Ever since, injections of botulinum toxins have become one of the most popular procedures all over the world. Their number is continually growing; the availability of the procedure is increasing, and consequently, as is the number of consumers. However, at the same time, the number of complications resulting from botulinum toxin injections is also on the rise.

Treatment complications are undoubtedly one of the least pleasant sides of the profession. However, every doctor, at least once during their time in practice, is presented with undesirable results. We must be confident we are able to treat these complications when they arise and help our patients.

My thoughts on complications after botulinum toxin injections are based on 10 years of experience working with toxins, as well as on the practical aspects of their treatment. I classify complications after botulinum toxin injections as either true or false (*Table 1*). ▷

KEYWORDS

Botulinum toxin, complications, ptosis, injectiones, wrinkles, mimic activity

“Ptosis and paresis cannot be corrected by additional injections of botulinum toxin.

Therapeutic measures are aimed at the speedy restoration of muscle activity and muscle reinnervation.”

▷ True complications

True complications are those that are directly related to the action of the botulinum neuroprotein:

- Ptosis and paresis – complications resulting from strong muscle relaxation as a result of the direct action of a large dose of botulinum toxin on the muscle (eyelid ptosis, eyebrow drooping, impaired articulation, fluid pouring from the corner of the mouth).
- Asymmetries – complications associated with a transgression to the injection technique, incorrect placement and level of botulinum toxin injection, incorrect dose, or the diffusion of botulinum toxin into adjacent muscles. This can present as eyebrow asymmetry, asymmetry of the mouth, asymmetry when opening the mouth, tightening the lips, changing the shape of the chin).



Ptosis and paresis cannot be corrected by additional injections of botulinum toxin. Therapeutic measures are aimed at the speedy restoration of muscle activity and muscle reinnervation.

Table 1 Complications after botulinum toxin injections

TRUE Directly linked to the action of botulinum neuroprotein	FALSE No direct effect of botulinum neuroprotein on a specific muscle
Ptosis and paresis	Compensatory wrinkles
Asymmetries	Compensatory facial expressions
	Compensatory hypertrophy
	Swelling

Scheme 1

Scheme 1 deals with the treatment of excessive muscle relaxation after botulinum toxin injections.

The following are the recommended treatment protocols when addressing excessive muscle relaxation.

- PRP therapy – 3 times a week
- B vitamins orally for 2 weeks and mesotherapy treatment of the lesion site once every 2 days
- Mesotherapy with DMAE solution – twice weekly using the micro papule technique
- Microcurrent therapy (3–5 times a week), myostimulation (1–2 times a week), RF therapy once a week. These procedures can be independent or prescribed in a complex. The total number of physiotherapy procedures should not exceed five per week. For example, one RF therapy procedure, one myostimulation procedure, three microcurrent therapy procedures.
- Pinch massage of the complication zone – daily
- Mimic gymnastics – 3 times a day for 15 minutes, daily
- Placental preparations, one ampoule two times a week at bioactive points or intramuscularly in the complication zone.

For upper eyelid ptosis, eye drops of 0.5% Apraclonidine have a temporary effect. The drug is an agonist of alpha-2-adrenergic receptors of smooth muscles and, when it enters the eyeball, causes the contraction of the Müller's muscle, which contributes to raising the upper eyelid by 2–3mm for several hours. The author would recommend inserting 1–2 drops three times a day.

To activate the restoration of neuromuscular transmission, the author prescribes Ipidacrinum 10mg, one tablet to be taken orally, two times a day for 14 days. ▷

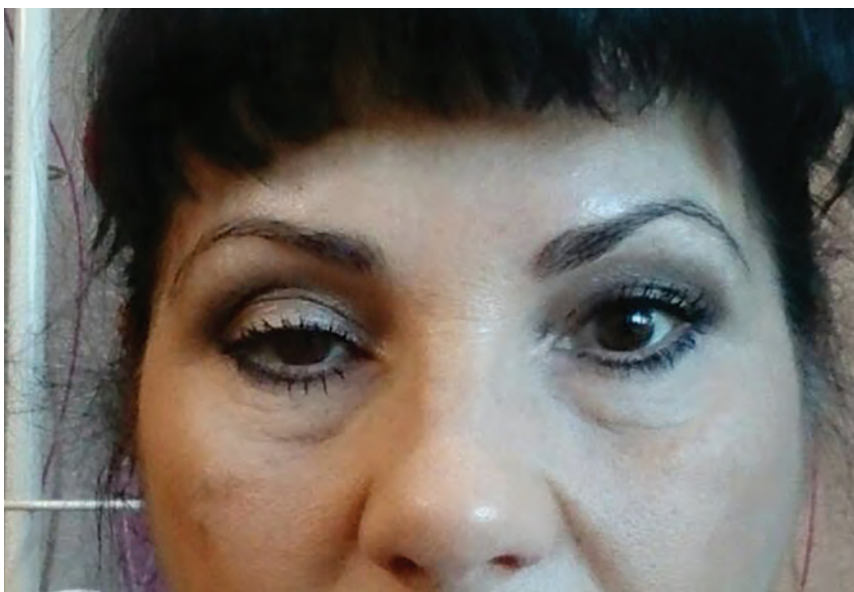


Figure 1 Ptosis of the upper eyelid 2 weeks after the injection of botulinum toxin into the glabella region.

FACE

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Figure 2 Eyebrow ptosis 3 weeks after botulinum toxin injections into the m. frontalis.



Figure 3 Reversing the asymmetry of the eyebrows 9 days after injections of botulinum toxin in the forehead and glabella.



Figure 4 The result of diffusion of botulinum toxin into the m. depressor labii inferioris.

▷ Upper eyelid ptosis

Patient 1 complained of upper eyelid ptosis 2 weeks after injections of botulinum toxin in the glabella region with a total dose of 10U (100 U toxin). Ptosis of the eyelid presented on the 7th day after the injection. Over the next week, ptosis progressed (*Figure 1*). From the 14th day, for 2 weeks, the patient received therapy according to scheme 1. In such cases, improvement in the condition can be observed within 2-6 weeks. The healing time is determined by the regenerative potential of the m. levator palpebrae superioris and the dose of diffused botulinum toxin: the stronger the muscle blockage, the longer the ptosis of the upper eyelid will be observed.

Unlike upper eyelid ptosis, eyebrow ptosis presents as the skin fold overhanging in the upper eyelid immobile part, while the drooping of the mobile eyelid is not observed. This complication is due to excessive relaxation of the m. frontalis, especially its lower part. In this case, restorative therapy should be carried out on the half of the forehead where the complication arose.

“Unlike upper eyelid ptosis, eyebrow ptosis presents as the skin fold overhanging in the upper eyelid immobile part, while the drooping of the mobile eyelid is not observed. This complication is due to excessive relaxation of the m. frontalis, especially its lower part.”

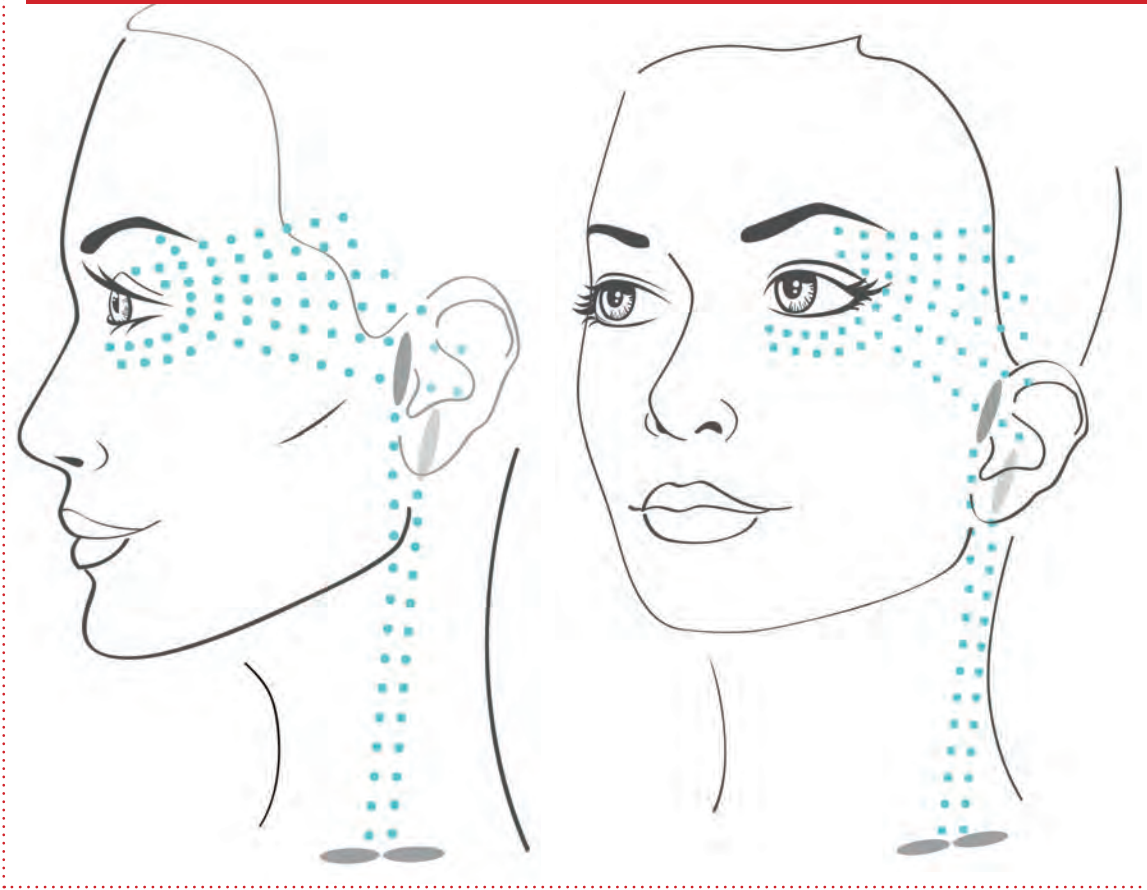
Eyebrow ptosis

Patient 2 complained of a skin fold overhanging in the right eyelid area 3 weeks after injections of botulinum toxin into the forehead and glabella region (*Figure 2*). When the patient tried to raise her eyebrows, we saw a strong frontal muscle relaxation. Unlike ptosis of the upper eyelid, ptosis of the eyebrows does not seem to be such a formidable problem. M. frontalis recovery can take 2 to 4 weeks. The patient noted an improvement in her condition 1 week after the start of therapy according to scheme 1.

Asymmetries in most cases are corrected by additional administrations of botulinum toxin. I use small doses of botulinum toxin intradermally to avoid reversing the asymmetry.

Eyebrow asymmetry

Patient 3 presented with a pronounced natural asymmetry around the eyebrows. The patient's left eyebrow is lowered, while the right eyebrow is raised unnaturally. This aesthetic disadvantage can be compensated for by injecting different doses of botulinum toxin into symmetrical areas of the face. Two weeks after the injection of botulinum toxin in different doses into the glabella region and m. frontalis, the asymmetry reversed—the patient's right eyebrow acquired a normal position, and the left eyebrow is now

Figure 5 Markings for carrying out lymphatic drainage injections for patients with a swollen or puffy face

raised unnaturally (*Figure 3*). This complication can be easily corrected with the introduction of a small additional dose of botulinum toxin over the left eyebrow in the place of its maximum rise (2-2.5 U of 500 U toxins intradermally).

Frequent complications occur when correcting a bumpy chin. To mask such an aesthetic defect, injections of botulinum toxin into the m.mentalis are used. When relaxing the m.mentalis, it is very important to follow the correct injection technique. The numerous complications of a spade-shaped chin after such injections confirm the importance of maintaining the depth of the injections. This complication is associated with a violation of the injection depth and uneven blocking of the m.mentalis. In the lower sections, this muscle is deeply corrected, but in the upper sections, injections should be carried out superficially. The total dose for relaxation of the chin muscle is 6-8 units of 500 units of botulinum toxin.

Asymmetry of the lips

Patient 4 (*Figure 4*) 9 days after injections of botulinum toxin into the m.depressor anguli oris in order to raise the lips, the patient began to notice asymmetry when opening their mouth. In this situation, botulinum toxin was injected to a greater depth than necessary, as a result of which the fibres located deeper in the m.depressor

labii inferioris were blocked, which led to its relaxation and an uneven rise of the lip on the left. Diffusion of botulinum toxin in the m.depressor labii inferioris occurred on the patient's left side, which led to a rise in the left side of the lower lip and pronounced asymmetry in the smile. This complication quickly goes away on its own and is rarely corrected. The latter can be aimed either at restoring the innervation of the m.depressor labii inferioris on the diseased side according to scheme 1, or at light deinnervation of the same muscle on the healthy side with a mesotherapeutic concentration of botulinum toxin. In the second case, partial blocking of the muscle on the healthy side will compensatory 'force' the muscle of the diseased side to work faster, this will slightly correct the asymmetry. However, in the case of a doctor's decision to correct botulinum toxin, injections must be performed at a strictly defined level, which requires a deep knowledge of the anatomy and location of the muscles.

False complications

False complications are complications that are not a direct consequence of the effect of botulinum toxin on a particular muscle. The author refers to the so-called 'compensatory manifestation':

- Puffiness – when mimic muscles contract, they 'push' fluid from the tissues into the lymphatic capillaries, >





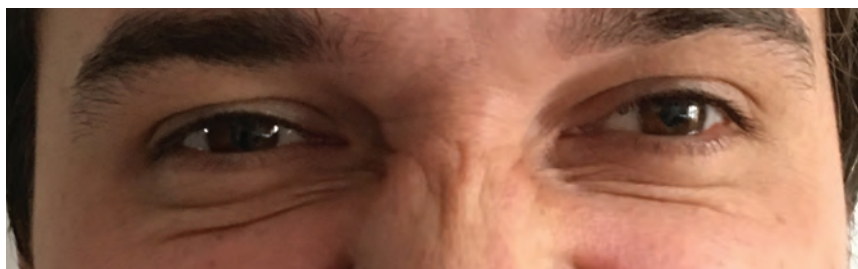
“An unpleasant complication after injections of botulinum toxin using the full face technique or into the m. orbicularis oculi may cause swelling of the face, or only the malar bags or the area around the eyes.”

▷ thereby improving lymph drainage. Excessive muscle relaxation leads to a deterioration in lymph flow

- Compensatory facial expressions – associated with the blockage of certain muscle groups and the appearance of facial activity in other areas where it was not previously

- Compensatory wrinkles – associated with the redistribution of tone in a particular muscle
- Compensatory hypertrophy – associated with muscle relaxation, in which friendly muscles begin to hypertrophy, assuming the function of blocked ones.

False complications are easier to correct than true ones and often go away on their own. All 'compensatory manifestations' can be successfully corrected by additional administration of botulinum toxin, but it is more reasonable to foresee their appearance during the main procedure by performing prophylactic injections.



Swelling

An unpleasant complication after injections of botulinum toxin using the full face technique or into the m. orbicularis oculi may cause swelling of the face, or only the malar bags or the area around the eyes. Usually, puffiness as a complication develops 7-8 days after botulinum toxin injections and can be present for an extended time until muscle activity is restored. To eliminate puffiness, we recommend using therapy according to scheme 2.

Figure 6 Compensatory facial expressions after injections in m. orbicularis oculi.



Scheme 2

The steps involved are as follows:

- Decongestant therapy for swollen or puffy appearance after injections of botulinum toxin
- Injections of drugs with a lymphatic drainage effect, according to a particular points (Figure 5). The marking is carried out in accordance with the location of the lymphatic vessels and lymph nodes. Lymphatic drainage cocktails can be used, combined drugs with sodium succinate, peptide drugs, and rutin-mellilot
- A diet with no salt and alcohol
- Microcurrent therapy – daily
- Lymphatic drainage massage – daily.

Compensatory facial expressions

Patient 5 (Figure 6) was injected in the m.orbicularis oculi (Figure 6a shows mimic activity before injections). Seven days after the injection, wrinkles in the nasal area began to appear when smiling, although previously such mimic activity was not observed (Figure 6b). Correction involves injections of botulinum toxin into the m.nasalis.

Compensatory wrinkles

Patient 6 presented with small wrinkles above the eyebrows that formed 6 days after botulinum toxin injections in the m.frontalis and glabella region. Correction requires intradermal injection of botulinum toxin in a dose of 1-1.5U (500 U) per injection. It is necessary to wait 2-3 weeks after the primary procedure before correction.

Compensatory hypertrophy

Patient seven's temporal muscles significantly increased 12 days after botulinum toxin injections into both m.masseter muscles. Prophylactic injections into m.temporalis were not performed. The temporal muscles sharply outlined and increased. The patient needs additional injections of botulinum toxin into the temporal muscles.

Conclusion

It can be concluded that there are many complications after botulinum toxin injections and they are varied. However, the continuous improvement of knowledge in the field of anatomy, physiology, and pharmacokinetics of botulinum toxin gives us the strength and ability to use this unique remedy, which in the hands of a true professional is able to work wonders.

► **Declaration of interest** None

► **Figures 1** © Dr Shadoba Olga; **2,3,6,8** © Dr Anastasia Mashkina; **4** © Dr. Dzerassa Mildzikhova; **7** © Dr. Aleptina Boyko

► **Table 1** © Dr Anastasia Mashkina

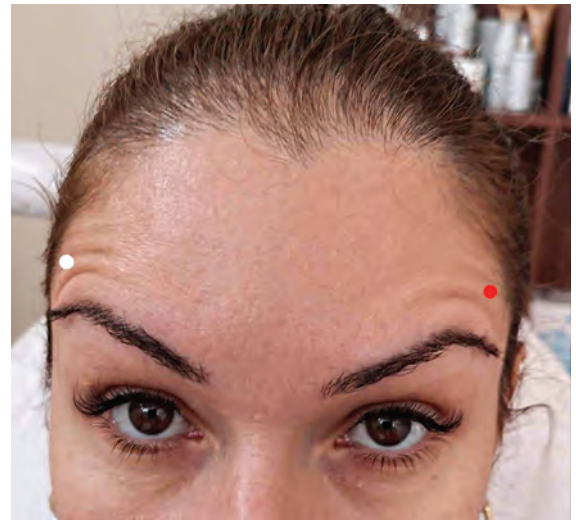


Figure 7 Compensatory wrinkles after botulinum toxin injections.



Figure 8 Compensatory hypertrophy of the temporal muscle.

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Key points

- ❶ The author classifies complications after botulinum toxin injections as true or false
- ❶ True complications are those that are directly related to the action of the botulinum neuroprotein, therapeutic measures are aimed at the speedy restoration of muscle activity and muscle reinnervation
- ❶ False complications are complications that are not a direct consequence of the effect of botulinum toxin on a particular muscle
- ❶ False complications are easier to correct than true ones and often go away on their own

AUTOLOGOUS CELL THERAPY

Dr Agnieszka Surowiecka provides an update on the current use of autologous cell therapy in aesthetic medicine

ABSTRACT

Autologous cell therapy is a fascinating branch of anti-ageing medicine. A wide range of products: platelet-rich plasma, fibrin, adipose tissue transplants in the form of micronized fat grafts (microfat) or homogenized gel (nanofat), and stromal-vascular fraction enable individualised treatment of patients seeking intensive rejuvenation as well as volume. Biological agents are a strong alternative to fillers and biostimulators. The means of their action in the skin are far beyond what synthetic products allow injectors to achieve. The main indication for platelet-rich plasma is rejuvenation and fine line correction. It is also frequently used in the combined therapies of

alopecia, scars, chronic wounds, hyperpigmentation, and acne. Active platelets secrete many growth factors, cytokines that strongly impact tissue restoration. Fat grafting can be feasibly performed during a single appointment owing to novel systems that enable fat tissue processing without the need for laboratory preparations. Adipose tissue is the biggest endocrine organ, fat transfers consist of many active cells. Its biological effect on tissue is strong rejuvenation and reconstruction of damaged skin. The available literature on lipofilling and usage of stem cells for aesthetic indications is more extensive. Future trends include improvement of fat graft survival by different means, such as introducing growth factors.



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THE RISING POPULARITY OF autologous derived products has been observed not only in sports and regenerative medicine but also in anti-ageing medicine. The main advantage of using biological agents is their natural source. Patients who decide to undergo treatments with the use of autologous methods are eager to achieve a natural, rejuvenating result. A wide range of autologous-derived products allow for a personalised and tailored treatment that meets the expectations of a broad spectrum of patients. Among autologous-derived products, we can distinguish platelet-rich plasma, fibrin, adipose tissue transplants in the form of a micronised fat graft (microfat) or homogenised gel (nanofat), and stromal-vascular fraction (colloquial source of stem cells, SVF). The currently used techniques do not require many hours of laboratory preparations and can be performed immediately in a single procedure.

Autologous conditioned plasma

Autologous conditioned plasma (ACP) or platelet-rich plasma (PRP) is a popular treatment. The main indications for ACP in aesthetics are rejuvenation and fine line correction. It is also frequently used in the combined

therapies of alopecia, scars, chronic wounds, hyperpigmentation, and acne. When applied after ablative procedures or surgeries, it accelerates wound healing and convalescence. The most powerful agents in ACP are active platelets. By stimulating fibroblasts, they induce the secretion of collagen, elastin, metalloproteinases (MMP), and self-synthesis of hyaluronic acid. Alpha-granules are responsible for releasing growth factors and cytokines. PDGFs (platelet-derived growth factors) are chemotactic agents for fibroblasts and macrophages, TGF- β (transforming growth factor), EGF (epidermal growth factor), and VEGF (vascular endothelial growth factor) mediate angiogenesis, whereas FGF (fibroblast growth factor) stimulates cell and fibroblast proliferation¹⁻⁶. D-granules secrete serotonin and ADP.

ACP is recommended for application over a number of treatments. In most cases, this consists of three procedures performed every 4 weeks³. After a series of treatments, an improvement in the skin's condition should be visible. Several studies presented a reduction of wrinkles, improvement in skin tension and elasticity, reduced hyperpigmentation and moderate volumisation that was secondary to skin tightening and reinforcement^{1-3,7}. This effect can also result from the ability to stimulate self->

KEYWORDS

Autologous cell therapy, platelet-rich plasma, stem cells, lipotransfer

“Patients who decide to undergo treatments with the use of autologous methods are eager to achieve a natural, rejuvenating result.”

Table 1

The most common indications for the use of fat transfer and the stromal vascular fraction

Pregnancy and lactation
Active neoplastic processes
Active infections
Active autoimmune diseases
Coagulation disorders
Thrombosis
Insufficient amount of subcutaneous fat tissue

▷ secretion of hyaluronic acid (HA) and increased secretion of collagen type I⁶. Common indications include the lower eyelid and dermal melanocytosis, which has been known to improve with ACP treatments³⁸. After a series of procedures, an improvement in skin density and correction in fine lines is visible (*Figure 1*). In the case of alopecia, EGF and TGF play the most crucial role by promoting hair follicle maturation. Other agents inhibit cell apoptosis as well⁴. ACP is successfully used in monotherapy, but when combined with other methods, the spectrum of possibilities escalates. Combined therapies include treatment of post-traumatic scars, where ACP is preceded by ablative lasers or radiofrequency with microneedling⁶, or acne scars where the use of superficial peelings in one protocol with ACP and microneedling is feasible as well. ACP is a safe and effective treatment. Effects such as redness, swelling, bruising, pain, and burning or itching sensation have been known to occur⁹, but no severe side-effects have been reported thus far.

Adipose-derived products

Adipose tissue is often called 'the Anatomist's Cinderella', as it has been neglected for many decades, and its role has been reduced to energy storage, lipogenesis, and lipogenolysis⁴⁰. Meanwhile, it is extremely metabolically and hormonally active. Adipose tissue is the largest endocrine organ, and adipocytes secrete hundreds of growth factors and hormones.

There are also many receptors on the membrane surface of adipocytes regulating their activities, such as receptors for insulin-like growth factors (IGF-1 and 2), cytokines, thyroid hormones, and vitamin D². Adipocytes have CXCR4 receptors on their surface, which is known to be a pathway for HIV, but it is also responsible for lipodystrophy in AIDS patients² and in Crohn's disease. Adipocytes play an extremely important role in the hair growth cycle. Moreover, 10% of mature subcutaneous tissue adipocytes annually undergo a cycle of transformations, similar to keratinocytes³. Under extreme conditions, such as starvation or shock, a part of the subcutaneous white adipose tissue is transformed into brown adipose tissue (browning effect) and protects the system's homeostasis and thermoregulation⁴.

Adipose tissue ages. With age, the number of M2 macrophages increases and the number of M1 macrophages decreases, which impairs the neutralization of free fatty acids and leads to the development of atherosclerosis and weight gain. With

time, the ability to proliferate and secrete adiponectin also decreases, and the secretion of pro-inflammatory cytokines increases⁵. This might be the reason why the survival time of fat grafts is still unpredictable, and in elderly patients the final result might be less satisfactory than in younger patients. The final result strongly depends on the patient, and less favourable outcomes of lipofilling in elderly patients might not be connected with poor technique but rather caused by fat tissue ageing.

Physiology

Aside from adipocytes, which constitute 90% of tissue volume, adipose tissue contains numerous other active cells⁶. The most prominent cells are adipose-derived mesenchymal stem cells (MSCs). They are multipotent cells; however, *in vivo*, they do not proliferate but act as regulatory cells instead. When allocated to damaged tissue, they stimulate tissue regeneration by secreting growth factors for fibroblasts, endothelium, and anti-inflammatory cytokines. As a result, collagen, elastin, and other proteins of the extracellular matrix are produced. Theremodeling of soft tissue is due to metalloproteinases⁷. Neovascularisation is promoted mainly by pericytes. These are also multipotent cells that do not proliferate *in vivo* into adipocytes or fibroblasts but coordinate damaged tissue regeneration⁸. The paracrine dialogue between active cells of fat tissue is commanded by immune cells. They also prevent infection by antigen presentation and humoral or cellular responses. Fat tissue is not only a volumizing agent but also a source of strong and deep tissue regeneration due to the presence of stem cells, pericytes, and adipocytes. That is what makes adipose tissue an excellent alternative to other soft tissue fillers.

Adipose tissue is characterized by a low risk of rejection and allergies⁹. Adipose tissue collection is feasible in most cases. Average graft survival rates vary from 10% to 90%²⁰. That is why unpredictable survival rates are considered the main disadvantage of autologous fat transfers. In the early post-transplant period, fat molecules are nourished by osmosis⁹. Due to the Yoshimura principle, fat particles smaller than 200 µm are the least vulnerable to apoptosis². When transferring small fat particles, the risk of lumping is also diminished. Most fat-transfer sets available on the market offer devices for fat harvesting and homogenisation that provide the highest quality of fat tissue. Furthermore, adding ACP or stem cells derived from the stromal vascular fraction (CAL-cell assisted lipotransfer) stimulates the process of neovascularisation^{19,20}.

Figure 1 Case of a 46 year-old female after full ACP protocol: three procedures, every 4 weeks. (A) Before (B) after. A ACP double syringe has been used (Arthrex Inc. Naples, FL, USA)



Uses for adipose-derived products

The use of adipose tissue as a soft tissue filler has a long tradition, with the first lipotransfer performed in 1893 by Adolf Neuber. It took a further hundred years for adipose-derived stem cells to be identified^{22,23}. Subcutaneous fat tissue is an ideal source of stem cells. As much as 500 times more stem cells can be harvested from subcutaneous fat compared to bone marrow²⁴. The most common indications for the use of fat transfer and the stromal vascular fraction are presented in *Table 1*.

Contraindications for autologous cell therapy are listed in *Table 2*. There are no unequivocal reports or guidelines for autologous cell therapy in oncologic patients. It is known that mesenchymal stem cells do not proliferate *in vivo* and do not undergo neoplastic transformation²⁵. However, mesenchymal stem cells stimulate angiogenesis; therefore, the risk of stimulating the neoplastic vascular network and promoting metastasis seems to be very high²⁶. One study revealed an improvement in healing and a longer period of remission in head and neck squamous cell carcinoma after the defects in soft tissue had been filled with autologous agents²⁷. On the other hand, there are studies that show the local progression of ductal adenocarcinoma in the breast and accelerated formation of distant metastases²⁸. In aesthetic indications, it is extremely important to take a proper medical history from the patient and examine them thoroughly before the procedure.

An ideal candidate for the transfer of adipose tissue would be a patient who requires a large volume of restoration as well as strong rejuvenation and regeneration of the skin, with subcutaneous adipose tissue at the donor site feasible for harvesting. The second-best group may be patients with failed hyaluronic acid fillers in the area of the lower eyelid and a tear through. In experienced hands, fat grafting involves a lower risk of lumping and overcorrection than hyaluronic acid²⁹. Strong regeneration and tightening of the skin, as well as improvement of dermal melanocytosis in the lower eyelid area, can be amplified, and satisfactory long-term results can be achieved by adding mesenchymal stem cells to the fat graft³⁰⁻³². *Figure 2* presents a case of a strong rejuvenation in the lower eyelid after the transfer of 1.5 ml of homogenized fat graft (nanofat), covered with 1 ml of stromal-vascular fraction per site. Improvement in volume, as well as correction of fine lines, enhanced skin tone, and elasticity are visible.

Safety profile

The effects of using adipose tissue, despite the large volume, are very natural. However, it should be remembered that these are more invasive procedures, with the risk of complications and imposing a long learning curve on the operator. According to FDA restrictions, autologous products permitted for use in aesthetics must not be manipulated, cannot be combined with external agents, as well as need to be homogenous and used in the same procedure. The most common side effect is swelling, which may persist for up to a month after the procedure. The literature describes cases of >

“Adipose tissue is the largest endocrine organ, and adipocytes secrete hundreds of growth factors, and hormones.”

Table 2
Contraindications
for autologous
cell therapy

Volumetry
Treatment of soft tissue deficiencies, including after RTH
Regeneration and rejuvenation
Fine line correction
Treatment of alopecia
Combined treatment of scars, including acne scars, post traumatic, and hypertrophic
Treatment of perianal fistulas
Treatment of chronic wounds



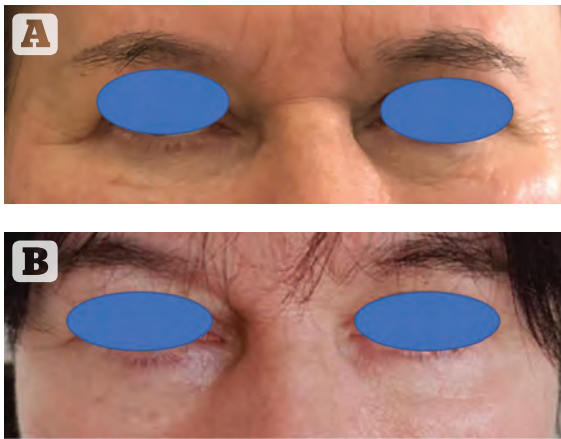


Figure 2 A case of a 60-year-old female. FTA grafting in the lower eyelid, results after 3 months. (A) Before (B) after. A ACP double syringe has been used (Arthrex Inc. Naples, FL, USA)

► graft migration, the formation of calcifications and cysts, as well as ischemia, necrosis, and vision loss. Extreme care should be taken when administering adipose tissue, with a careful assessment of the patient's anatomy and the use of cannulas. It is recommended to administer slightly overcorrect deposits, as a part of the graft will be absorbed. Complications may also be related to the tissue extraction process. One should not forget about the risk of fatty embolism and thrombotic complications as well³⁹.

The methods for safe and effective fat transfer are still

“One of the most promising innovations in biological treatment might be cryopreservation. Fat removed during an elective liposuction can be frozen, stored, and used on-demand within several years.”

Key points

- 1 Autologous cell therapy for facial rejuvenation is gaining popularity
- 2 Active platelets derived with platelet-rich plasma (PRP) activate remodelling of the extracellular matrix, secretion of autologous hyaluronic acid, collagen and elastin
- 3 Stem cells are multipotential cells that induce tissue regeneration but do not proliferate *in vivo*
- 4 With lipotransfer, volume restoration can be achieved as well as skin rejuvenation and improvement in skin quality

at the development stage. Some future trends have been recently discussed. One of the most promising innovations in biological treatment might be cryopreservation. Fat removed during an elective liposuction can be frozen, stored, and used on-demand within several years. Allogenic fat transfers also seem to be an interesting alternative; however, the immunogenicity of fat tissue could prove a serious burden. Efforts are being made to develop various scaffolds and growth factors that could be safely added to fat grafts to improve their survival³⁴. Finally, there are observations that simple techniques, like botulin, can have a beneficial influence on fat grafting results. By relaxing the moving parts of the face before transferring fat, the mechanical stress of the muscles is diminished, and fat particles are believed to last longer³⁵.

Conclusions

The growing interest among doctors and patients in autologous cell therapy in anti-ageing medicine has resulted in an increasing number of reports and demand for treatments. It is a direction that is dynamically developing and improvements appear every year. Biological agents are a strong alternative to fillers and biostimulators. The means of their action in the skin are far beyond the possibilities of synthetic products and extremely fascinating as well.

► **Declaration of interest** None

► **Figures 1-2** © Dr Surowiecka

► **Tables 1-2** © Dr Surowiecka

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ENTER CLUBHOUSE LINKEDIN ON STEROIDS

Wendy Lewis looks at the iOS app that has attracted 10 million users in less than a year



WENDY LEWIS is Founder/President of Wendy Lewis & Co Ltd, Global Aesthetics Consultancy since 1997, author of 13 books, Editor in Chief of beautyinthebag.com, and frequent presenter on the international stage. Her first textbook, *Aesthetic Clinic Marketing in the Digital Age* (CRC Press) will debut a second edition in 2021.

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IN THE UNLIKELY EVENT THAT YOU HAVE any free time left in your day after seeing patients, marketing your practice and attempting to master Instagram and dabbling on TikTok, enter Clubhouse.

Clubhouse has quickly become one of the top social media networks on the planet. And by quickly, I mean since April 2020. The brainchild of Alpha Exploration Co., the audio-based network started as a niche app for Silicon Valley insiders, but it has quickly morphed into a mainstream platform with some points of difference.

What is Clubhouse and why you should care

Clubhouse is a live audio app that's a delightfully strange combination of something that sounds like it could be terribly boring but is, in fact, absolutely fascinating. It's kind of like a podcast, and it's kind of like being allowed to listen in on someone else's phone call.

Basically, Clubhouse lets users create rooms and clubs within the virtual space. Each room is an event in the form of an audio-only discussion among users. These discussions can be scheduled or might pop up unannounced. Discussions can engage just a few people in an interview format where other users simply listen in. The conversation can involve many users. These rooms and clubs are based on searchable themes and keywords that let users know what unites a group or event.

Clubhouse is in private beta and currently invite-only. You can currently sign up to reserve your username/handle, but to actually use the app, you do need an invitation from a current user. As of this printing, Clubhouse is only available on iOS; however, they have announced

their intention to work on an Android version of the app, which needs to come very soon to keep up their steady momentum.

Despite all the fanfare, Clubhouse does not make money yet. According to the Clubhouse blog, the app is pre-revenue, meaning that is it not monetized. However, Clubhouse is planning to roll out beta tests for monetization options sometime this year. We can expect them to focus on some form of a crowdfunding model that pays creators directly like TikTok vs. the typical display ads we buy into on Facebook, YouTube, and Pinterest.

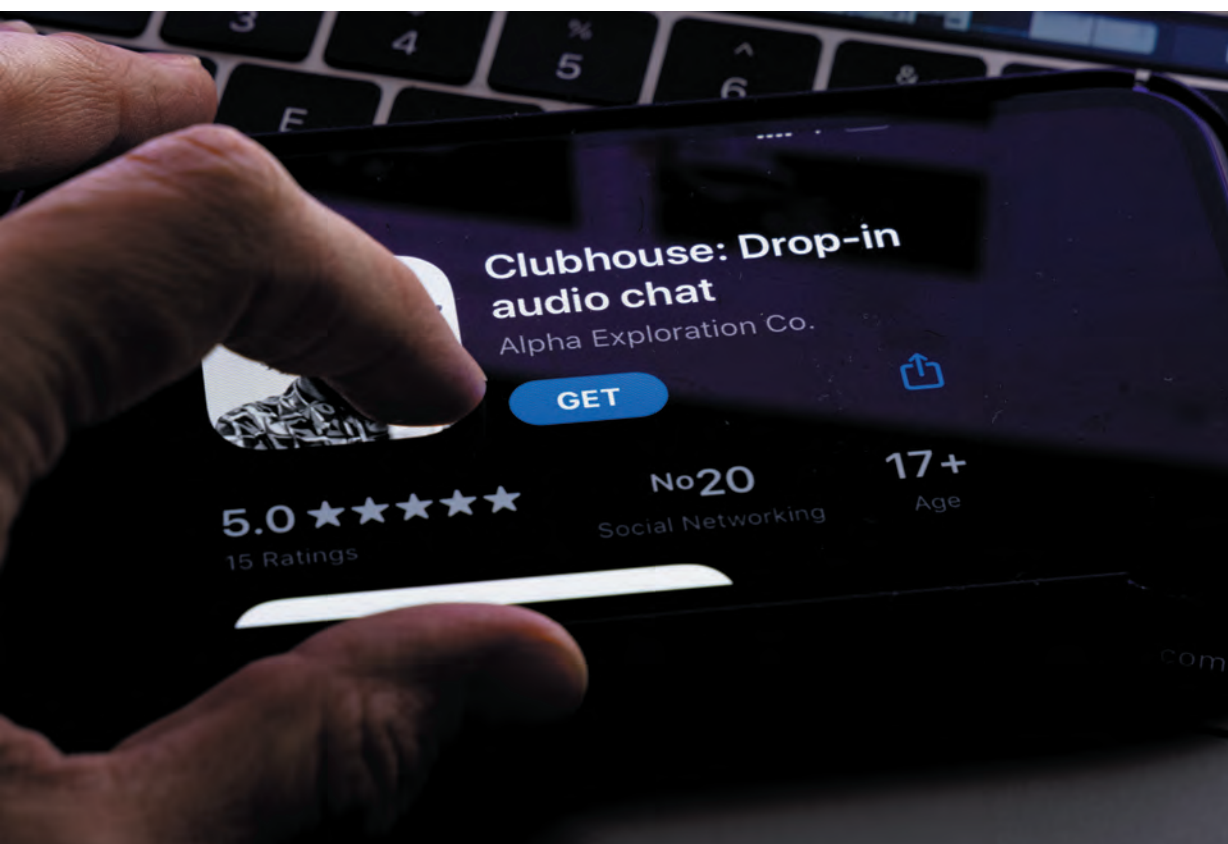
Privacy caveats and data collection concerns

For individuals and businesses, there are some potentially big red flags to consider before you go all in. To join, the app requires your real phone number from your iPhone or iPad, which gives it access to all of your contacts whether you like it or not. It also allows anyone who has your phone number to share it with anyone or with any room without your knowledge or consent.

Another thing to contemplate is that if you want to delete your account, you have to request it from the developer. Seriously? So, once you're on the app, you may not be able to break up with Clubhouse straight away. There are some scathing complaints about this on their App Store profile.

Supposedly conversations aren't recorded by the app. A distinct contrast between Clubhouse and any garden variety podcast is that you need to listen live because the chats and discussions are not archived, or so they stated early on. Yet I have read some reviewers claiming that Clubhouse 'temporarily' stores voice recordings on their servers, which makes one wonder, well which is it? So, we really don't know the details of whether chats recorded and saved or not, and I

“As membership grows as new users flock to the hottest new app, the most valuable way to use it is to create meaningful contacts in real life.”



Fast facts about Clubhouse

- Developed by Paul Davison and Rohan Seth, parent company Alpha Exploration in 2020
- Officially launched in April 2020 – in the middle of a global health crisis
- Clubhouse has 10M weekly active users, up from 600,000 in December 2020.
- Currently valued at \$1B (up from \$100M in May 2020)
- Raised more than \$10M to date; Over 180 organisations and venture capitalists have invested. In January 2021, they raised a Series B round from Andreessen Horowitz for an undisclosed amount
- Considered a 'Unicorn startup,' joining the ranks of Uber and AirBnB. In venture capital terms, a unicorn is a privately held startup company valued at over \$1B
- Currently ranked #5 in the App Store under the 'Social Networking' category
- The app has over 609K ratings with an average review score of 4.77 stars in the iOS app store. 531K reviews are 5 stars.

doubt they will ever tell us. This should make anyone quiver about what they are planning to do with all the data the app is collecting about each of us. However, if you do want to archive a chat or discussion on your own, nothing is stopping you (yet) from recording chats on your own simultaneously.

Another red flag is that it does not appear that the app is really making an effort to moderate hateful, toxic content, or disinformation, which continues to be a major global problem for all social media sites.

LinkedIn on steroids

The most obvious benefit of Clubhouse is the myriad networking opportunities to connect with more people in your industry. Insider insight may be valuable in countless ways, including spotting and discussing trends, broadening perspectives, and benefiting from shared wisdom. By listening to and participating in events, you can effectively expand your network tenfold.

Aesthetic gynaecologist Carolyn A. Delucia, MD, and bestselling author, practising in New York City and Hillsborough, NJ, has been spending some time on Clubhouse. 'It is the newest, most exciting social media platform where people from all walks of life come to share. It is attractive to entrepreneurs and has opened up

“At its core, Clubhouse provides a stimulating platform for connecting with people who you might never have an opportunity to meet in your office or at a conference.”

opportunities to pitch new ideas and businesses to some of the largest venture capitalists in the world. Clubhouse is a way to promote your practice, books, online courses and concepts to the world. I have met and formed friendships that will last forever due to a deep connection. What I love about it is that it evens out the playing field making everyone equal and able to share their thoughts and ideas.'

She continues, 'The drawbacks and dangers that I see are that it can be addictive and suck you in consuming a lot of time. Just like anything, you must limit the time you allow yourself to be "in rooms". To date, you can only be on Clubhouse if you own an Apple device and not androids. This is the first of this type of platform and I have already heard of multiple copycat apps already in the making.'

Who's active on Clubhouse?

Everyone from your colleagues, employees, neighbours, college professors, customers, and boss, to CEOs, venture capitalists, tech entrepreneurs, bankers, plus the usual slew of A to D-list celebs, influencers in all fields, activists, multi-level marketers and people trying to sell you something. Basically, whatever your interests or industry, you can find clubs and events with conversations that can inform, inspire, and connect you to others in your field.

For example, some of the more aggressive and money-grabbing Shark Tank alum, Daymond John, Kevin O'Leary (aka Mr. Wonderful), and Kevin Harington are in full >



“If you want to delete your account, you have to request it from the developer. Seriously? So, once you're on the app, you may not be able to break up with Clubhouse straight away.”

Clubhouse secret sauce: skills with a side of luck

Clubhouse has greatly benefited from good luck and even better timing. Clubhouse has greatly benefited from good luck and even better timing. Since March 2020, most of the world has been stuck at home with time to spare and more reasons to explore entertainment on our devices to overcome sadness, fear and isolation. In the past year, content creators across the spectrum have flocked in record numbers to the hottest social media outlets, from TikTok to Instagram, to break their boredom and stay visible and relevant. These include celebs, rappers, athletes, fitness instructors, chefs, activists, beauty bloggers, designers, models, and of course, doctors of all specialties. Instagram Live and Reels (a TikTok copycat) have picked up steam considerably. This is where Clubhouse comes in; think of it as a cross between the best of Instagram Lives and podcasts that can create memorable moments to bring people together in unlimited creative ways.

▷ force. John runs a popular Clubhouse club called, 'If You Want to Be Rich, Think Like This!!!', which is not unlike the Facebook ads he blasts to get users interested in learning his secrets for success. O'Leary did a 'Billion Dollar Pitch' for startups.

Profiles can be found for C-Suite executives from a wide range of companies, including food, beauty, fashion, wellness, fitness, hotels, MLM brands, real estate, and consumer packaged goods, including: Hinge, Barkbox, WhoWhatWear, Sporting goods, Martell Cognac, Pernod, Burger King, Popeyes, and Tim Horton's.

The experience Clubhouse offers is similar to an audio-only virtual event, but on a much larger scale. Of the 10M users they claim to date, at any given time, there could be several thousand active rooms where people from around the world are holding conversations about an increasingly wide range of topics. The voice-only feature is similar to podcasts, which are played on demand. Personally, I am more content logging on with just my headshot showing, rather than having to get dressed up with hair and makeup to go on Zooms.

Clubhouse advantages for businesses

Clubhouse is a creative marketer's dream come true. The nature of the app lends itself beautifully to building brand awareness through word-of-mouth campaigns.

For practitioners, medspa owners and managers, this presents a unique opportunity to establish your place in the market and your community and elevate your brand to be a go-to resource on particular topics of interest. It can also be a good way to promote products, services, special offerings, and events. Another good way to use the app is for the recruitment of staff, partners, tenants, sales reps, aestheticians, vendors, architects, builders, and more.

You will have the ability to tap into numerous opportunities to share your story, special expertise, connect with customers, get product feedback, run a focus group, and generate marketing awareness. Simply by providing value to like-minded individuals, you can gain a reputation or sharing high-quality advice and develop real-world connections that may lead to new business

opportunities. Mentoring is a two-way street.

At its core, Clubhouse provides a stimulating platform for connecting with people who you might never have an opportunity to meet in your office or at a conference. The ability to get expert advice and throw ideas back and forth is a huge advantage when you are working hard to grow your practice or business. Getting a fresh perspective from experts outside of medical, aesthetics, and patient care can potentially arm you with what you need to take your business to the next level.

You have the ability to set the pace you are comfortable with for how involved you want to be. Drop into rooms, listen to conversations, ask questions and share your experiences. Determine the best ways to connect your business and your brand with other experts in your field, as well as potential clients and partners. Clubhouse isn't really a sales funnel; rather it is a networking and brand-building platform. It can be entertaining as well, if you are so inclined to spend extra time. It is wise to spend the bulk of your participation listening and contributing to conversations that are most relevant to your market and profession. The best opportunities arise from the deep connections you can make along the way, as well as how much you can learn just by being a passive listener.

Find people, rooms, and clubs to follow

When you first open the app, you will be in the hallway and you'll see a list of rooms. Clubhouse rooms are akin to a room you might walk into at a conference or to listen to a presentation. There is usually a speaker or a few speakers on stage. These rooms will mostly be based on the people and clubs you follow but you'll see trending rooms as well. If you're new to the app, it will automatically recommend some people for you to follow who may be contacts in your iPhone directory. The style and size of rooms in the hallway varies from big keynote-style rooms to large panel rooms to small rooms with only a few people. As you wander into rooms, you will discover other interesting people to follow on the stage or in the audience. As you spend more time, the variety and number of rooms showing up in your hallway will change and expand.

With all the options and layers available on the app, the best approach is to keep it simple. You can get the most out of your Clubhouse experience by being strategic with the people, rooms, and clubs you follow. Following these too randomly can lead to seeing too many rooms and clubs you're not interested in and getting lost. If you are diligent about what and who you follow, the hallway will tend to show you rooms that match your interests.

As you spend more time on Clubhouse, you may find yourself in a public room hosted by a club. Tap on the green house icon to learn more about the club, see who the members are, and then decide whether you want to follow it. As you get acclimated, look at the people and clubs followed by the people you follow to find more that may be of interest.

The member and club directories are both searchable by keywords, as is the event calendar, which shows upcoming scheduled events. Searching each of these by terms that relate to your interests helps to find more people, rooms, and clubs to follow.

When you're in a room, you'll see three sections of people. The first section, the stage, shows the speakers. The second section, the front row, shows people followed by the speakers. The third section shows the audience. Tapping on people in the front row can reveal more people you may decide to follow.

Growing a following

Growing a following on Clubhouse can have serious implications for your standing and your business, but the time commitment may be a deal breaker for busy practitioners. I prefer to keep ClubHouse open in the background and when I hear something interesting, I perk up and focus on the chat or an individual speaker. If your goal is to position yourself to attract a solid and loyal following, you will need to set aside time during your otherwise busy day to be active on the app and show up on stages.

While it might be tempting to jump into large rooms, the chances of getting noticed in a crowd of 5,000 other people is slim to none. Rooms with 5, 10, or 20 people in the audience often present a better chance you'll be invited on stage. You also want to make sure that the rooms you enter are relevant to your industry. As you get more active and show up consistently, you will get to know the people who frequent them. The individuals who host those rooms may be more likely to pull you up onto the stage where people in the audience will notice you. The more you show up on stage, the more followers you are able to attract.

If you are brought on stage, try to avoid tooting your own horn. Rather, focus on delivering value to the audience and the value to your own agenda will follow. You may ask a question or answer a question clearly and crisply. If you can offer interesting or entertaining commentary that people want to hear,

Some of the high profile individuals who are active on Clubhouse:

- Paris Hilton
- Champion boxer Floyd Mayweather
- Elon Musk
- Malcolm Gladwell
- Actor Daniel Dae Kim
- Mark Zuckerberg
- Kevin Hart
- Chris Rock
- Comedienne Tiffany Haddish
- Malcolm Gladwell
- MC Hammer
- Van Jones of CNN
- Ashton Kutcher

Mastering Clubhouse Clubs

- Hallway – List of rooms where discussions happen
- Event Calendar – Shows rooms that have been scheduled
- Clubs – A way to assemble people in advance for future events or rooms

they may click on your bio to learn more about you and follow you. Every time you open a room or join a stage, your followers will get a notification that you are live, which can go far to help you to attract more followers.

Best practices for hosting a Clubhouse room

When you create a room, it is best not to be the only one on the stage. Partner with people within your industry who have a larger following than you do to tap into their network. When your partners come on stage, their followers will get a notification, so they are more likely to jump into the room and follow you as well.

When you create a room, you automatically become a moderator for that room so you will control who comes up on stage. You will be able to mute people and give other users the role of moderator. As host, your goal is to bring order to the room and anticipate what the audience needs. You may need to take a short break in order to prompt the audience to follow your moderators. When you welcome everyone back, you can prompt them to ping someone they know into the room to keep the momentum going.

Take advantage of the diversity of the global audience. Including experiences from users from all over the world with different perspectives who can make your conversations more interesting, diverse, and appreciated by your audience.

Clubhouse offers the appeal of an exclusive members-only club in app form. A club's public rooms are open to anyone and members will get a notification when you create or open a public room. There is also the option to create private rooms that allow members to have discussions with each other or allow you to deliver exclusive access and information that you don't want to share publicly. Your club can have multiple admins, which means you don't have to personally create, host, and moderate every single room. You may choose to let these admins create rooms on behalf of your club.

Giving away free advice to get new business

Create your own chat rooms around your areas of expertise and start to build a community of followers. You may be pleasantly surprised at how much great free advice is available for the asking on Clubhouse. I know many users who cannot believe that they are gaining new clients as easily and quickly on the app as a result of making connections.

You can stumble on chats about finance, business, marketing, AI, investing, start-ups, and countless other important topics. To identify the topics that can help you solve a problem or strengthen your business, just search keywords and see what pops up as new ones appear on a constant basis.

The currently closed beta exclusivity of the app may keep conversations limited to similar bubbles with less diversity and representation. However, users can enter and leave chat rooms as desired in search of the best ones that cover topics they are most interested in listening to and participating in. Time will tell how sticky these >

“When you create a room, you automatically become a moderator for that room so you will control who comes up on stage.”



▷ rooms will ultimately be as the Clubhouse model evolves.

Another way to use the Clubhouse platform to engage with potential customers or patients is by conducting virtual events. As an example, your medspa could promote a live conversation about specialty combination treatments that address something that is likely on-trend, like maskne or body sculpting. In this way, your audience could get educated about the topic and experience how you treat clients. Your dermatology practice could host an event focused on dispelling the 'Top 10 Skincare Ingredient Myths.' The potential for customer engagement is infinite.

10 Tips for Getting Started

1. You need an invite to join

Anyone can reserve a username, but to participate on the app, users must secure an invite for immediate access. This sounds more exclusive than it actually is. If you want to join, you can sign on and the app will notify people you are connected to on your iPhone or iPad to invite you in. So, although it may seem like an invite-only club, it is not so difficult to get in, but that cache of 'members only' has raised awareness among users to jump the queue. Furthermore, if you invite someone, they are forever linked to you on the app, so keep that in mind as you go along.

2. Optimize your Clubhouse bio

Your Clubhouse bio is where you can tell everyone what you want to be known for. What you include in your bio will determine how people find you via searches in the member directory or the club directory, and the type of followers you attract. Include the basics: what you do, where you do it, your title, active channels, social media profiles, and clubs you have launched. You can also include the username for each profile and a call to action leading people to connect with and message you on your main social media platform. Some advanced users change their Clubhouse bios and/or picture or logo depending on the room they enter at the time, similarly to the 'link in bio' option on Instagram.

3. Explore evolving topics, then follow people and clubs

After creating your profile, follow popular users, relevant

celebrities, influencers, business moguls, friends, colleagues, associates, partners, mentors, industry contacts, and more to begin populating your home page with chat rooms.

4. Join live chats or follow clubs to be notified about topic-specific conversations

Conversations on Clubhouse evolve at an alarming rate, with new ones getting started on a 24/7 basis, which makes it hard to keep up with it all. You can join chats at any hour of the day or night and there is a huge library to choose from. The app allows you to add any upcoming conversations you want to join straight to your calendar as a reminder, which is a neat feature to keep you organized.

5. Start your own chat room

Any user can start their own room with privacy settings as follows:

- Open—Anyone can join
- Shared—Followers can join
- Closed—People you select can join.

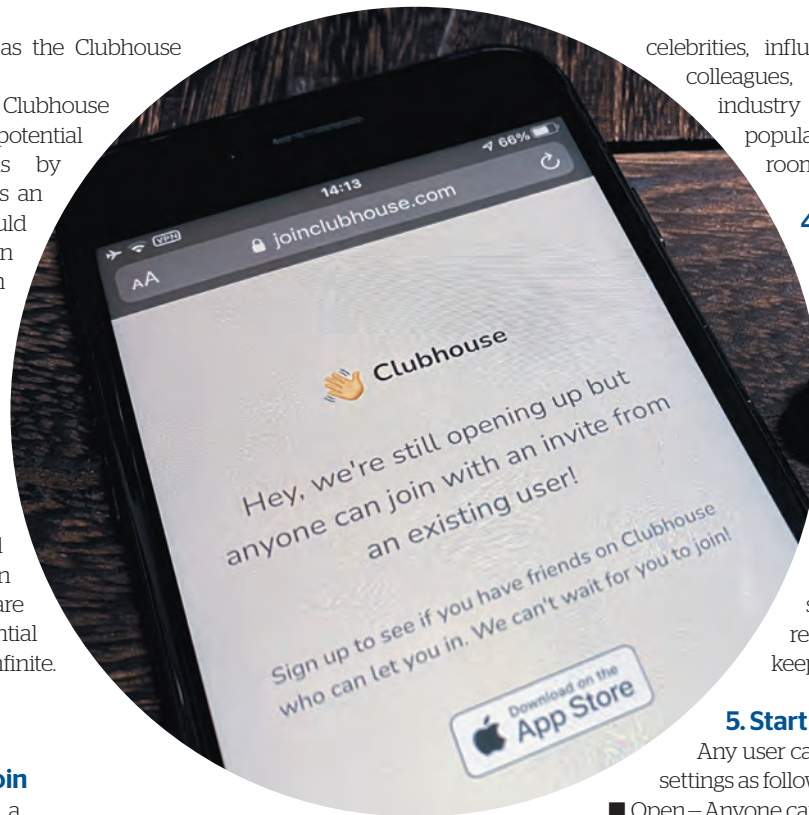
Most chat rooms appear to be Open format so far, which will obviously attract the largest number of users, at least at the beginning. As the rooms expand, they may break up into subgroups of users interested in more narrow and specific topics. Eventually, these can drill down to even more specialized topics for a very targeted audience.

6. Invite people you want to include in your chat rooms

You can search for friends or colleagues who may already be active or have been invited and not responded, or by their cell phone number through your iPhone address book. The hook is that you will get credit for the invite on their profile. With each credit you incur, you are able to invite more people to the app. So, basically, the app is rewarding users to grow their audience, which is proving to be a smart strategy that taps into the natural impulses of the sophisticated users they are trying to attract. Because the app is pulling contacts from your phone book, there may be dupes, or old phone numbers that are no longer valid, former places of employment, people who have moved away, etc. You may want to take the time to clean up your phone book before starting this process.

7. Join more clubs and chat rooms

Find like-minded people by joining clubs related to your interests or specialty and listen in on conversations in chat rooms. Stay for a few minutes in a room about digital marketing, then move on to a discussion on AI, migrate to a retirement strategy session, and pop into a chat about beauty trends, for example. The options are limitless, but



“Anyone can reserve a username, but to participate on the app, users must secure an invite for immediate access. This sounds more exclusive than it actually is.”

your time is not. So, try to stick with topics that are valuable to your interests specifically to get the most out of your investment in time.

8. Try to create good value for other users

Pick a topic that you know a lot about and think others can benefit from and set a time to host your first chat room. An example might be, 'Pearls for optimizing microneedling therapy: How I Do It'. Develop an outline in advance so you know the key points you want to bring up, and how the flow should go. Always leave time for questions, which is one of the central themes of Clubhouse. The ability to ask questions of experts on a wide variety of topics is a huge attraction for users. Your goal should be to wow attendees so that they can walk away satisfied that the time they invested was worthwhile and will talk about you to their own circle of friends and colleagues to expand your reach.

9. Add another twist to boost engagement

Clubhouse makes it easy for people to find each other and meet up, but you have to keep it interesting to hold their attention as the app can be very distracting during this growth period. For example, consider inviting a keynote speaker who is a specialist on a hot topic of interest to your audience and ask trending questions that users may be intrigued by.

Clubhouse goes global

Clubhouse is currently available in 154 of the total 175 countries the iOS App Store operates in. Nearly a third of downloads have been in the US to date, reportedly 3.2M. Japan has registered 1.8M downloads to date and is the only other market in which downloads have exceeded one million. Clubhouse is currently the #1 most downloaded app in Germany, Japan, Slovakia, and Turkey. Countries that have seen downloads over half a million:

- Germany 735,000
- Brazil 615,000
- Russia 540,000
- Malaysia 567,000

The seventh and eighth-largest markets are both in the EU:

- Italy 435,000
- UK 397,000
- Completing the top ten are:
- South Korea 387,000
- Turkey 363,000

Although China jumped on this trend, the app does not appear to be available there at this time.

These statistics are evolving rapidly as the Clubhouse hype is catching on across the globe.

The future of Clubhouse

There is clearly some psychology behind the Clubhouse model; the founders know more than a little about human nature to tap into our precious egos. They seem to have used this knowledge and skill set to get users addicted to the platform quickly. Every chat room is a living entity that changes and morphs constantly, which keeps users'

interest in going back again. You never really know in advance where the conversation will take you because nothing is actually scripted, and the players change all the time.

This seemingly simple audio chat room app has earned its place in the social platform hall of fame practically overnight. In fact, Clubhouse has already pushed the last social media darling, TikTok, down a few notches. Based on its rapid rise in valuation, it has attracted venture capital cash at a record-breaking rate.

With instant fame comes aggressive challengers hoping to steal some of their thunder.

While Clubhouse is differentiated at the moment and is credited with essentially created the category, competitors are rising to the challenge, eager to put their own stamp on this enterprising new model.

As other platforms enter this category, Clubhouse will need to move quickly to compete with many well-established, fully funded and highly profitable challengers as they arise.

These include:

- Twitter Spaces
- Fireside (Mark Cuban is involved in this)
- Instagram Rooms could be a major competitor
- Microsoft is looking to enter as well, perhaps to integrate with their LinkedIn platform
- Reddit
- Facebook is testing their Hotline channel
- Snapchat Spotlight is also in the running
- Discord which caters to GenY and collegiates has Stage Channels.
- Spotify is also in the race.

The looming competition presents a measurable threat to their future. But in the tech world, as we have learned, everyone copies everything.

As we emerge from the pandemic, vaccinated and emboldened, we will see who the real winners are. One thing is certain, we will be talking about Clubhouse for the foreseeable future, and it will surely be interesting to take this ride with them.



“ Clubhouse has greatly benefited from good luck and even better timing. Since March 2020, most of the world has been stuck at home with time to spare and more reasons to explore entertainment on our devices to overcome sadness, fear and isolation. ”

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A WHOLE NEW TYPE OF INJECTABLE FOR THE ENTIRE FACE LIFT

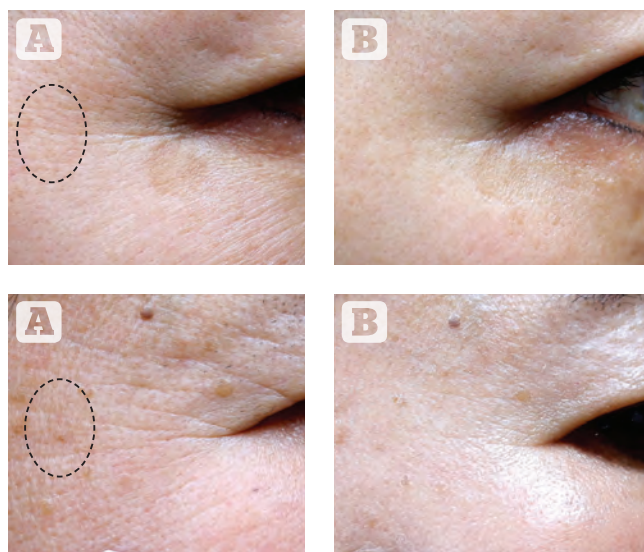
Dexlevo unveil INIBLANC, their patented solubilized, biocompatible and biodegradable PCL

THERE ARE MANY hyaluronic acid-based dermal fillers and polymer products available on the market. However, many are mainly focused on localized areas for a volumizing effect. Furthermore, we cannot overlook the possibility of side-effects by blocking blood vessel or pressing them.

INIBLANC is a new type of injectable based on fully solubilized biocompatible and biodegradable PCL, which spreads naturally into the surrounding area of skin. Thanks to DEXLEVO's unique CESABP Technology, you can apply INIBLANC safely and easily for the entire FACE LIFT.

Figure 1 (A) Before treatment and (B) around the eyes 12 weeks after injection.

○ Injection points



CESABP (Collagenesis-Enabled Solubilized Active and Biodegradable Polymer) is DEXLEVO's patented technology for manufacturing fully solubilized biocompatible and biodegradable PCL.

Benefit 1: Spreadability

We applied 0.7ml of INIBLANC injecting just one point around eyes to see how it spreads. Each of the around eye was photographed at 12

weeks after application. Around the eye such as eye crow's feet and elasticity of each patients was improved by only one point application. Since the fully solubilized liquid PCL of INIBLANC spreads smoothly and widely into the skin.

Benefit 2: Collagenesis

To evaluate neo-collagenesis, biopsy specimens of 6 week-old female Sprague Dawley rat were obtained at

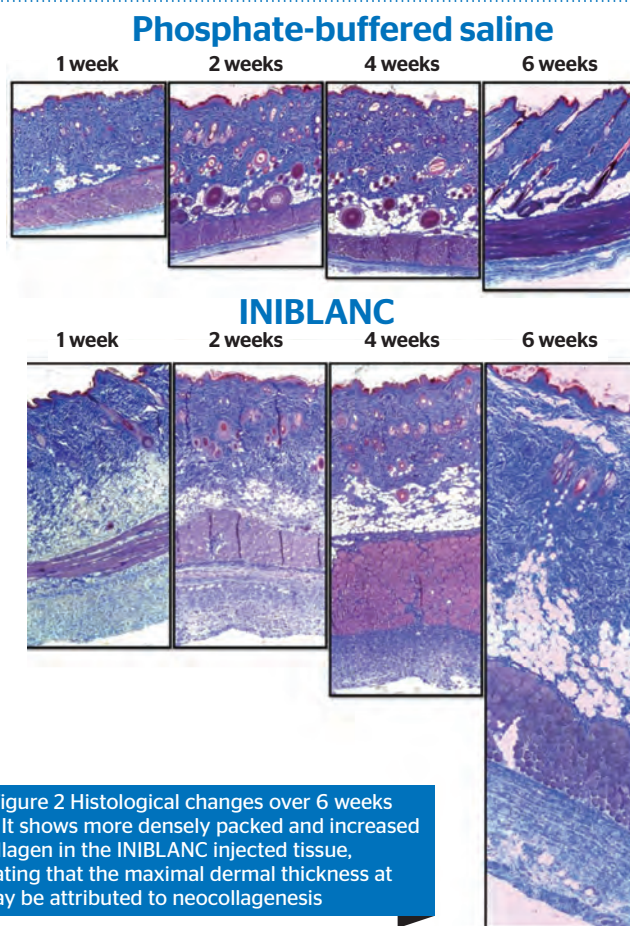


Figure 2 Figure 2 Histological changes over 6 weeks after filler. It shows more densely packed and increased dermal collagen in the INIBLANC injected tissue, demonstrating that the maximal dermal thickness at week 6 may be attributed to neocollagenesis

DEXLEVO

“INIBLANC is a new type of injectable based on fully solubilized biocompatible and biodegradable PCL, which spreads naturally into the surrounding area of skin.”

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INIBLANC
Injectable Implants, PCL

1,2,4, and 6 weeks after the INIBLANC injection. While the expression level of collagen upon MT staining in the PBS-injected group increased only slightly over time, the INIBLANC injected group showed a marked increase during the first 6 weeks. The degree of dermal thickening of PBS injected group did not induce clinical distinction, compared to INIBLANC.

Biopsy specimens from the INIBLANC, however, showed increased thickness of the dermis since the first week, sparing that of the subcutaneous fat. In addition, the volume expansion and stretching are achieved by the activation of fibroblasts.

independent evaluators after final application. The average of both CFGS scores of INIBLANC for the Resting and Laughing group have shown more efficient results compared to competitors.

Conclusion

INIBLANC, a new type of injectable based on the world's first Fully Solubilized PCL without micro particle, encourages face lifting and elasticity for entire face by neo-collagenesis. Unlike other existing filler products, it improves entire face safely and effectively without any side effects. 

► Find out more at: dexlevo.com

Benefit 3: Wrinkle improvement

Injection of up to 1ml was injected into the intramuscular cavity of 29 subjects to evaluate wrinkle improvement. Independent evaluators and testers assessed the CFGS (Crow's Feet Grading Scale) for each of the application areas of INIBLANC and competitor at 2 weeks, 4 weeks, and 12 weeks after the final application.

The CFGS (Crow's Feet Grading Scale) when Resting and when Laughing was evaluated by the independent evaluator at 2, 4, 12 weeks after the final application of INIBLANC and competitor (other medical device).

Four weeks after the final application of the INIBLANC, the improvement rate of the Resting-CFGS was 48.28% comparing to 41.38% of control group. Four weeks after the final application of the INIBLANC, the improvement rate of the Laughing-CFGS, was 20.69% comparing to 13.79% of control group.

Changes in CFGS (Crow's Feet Grade Scale) when resting (A) and when laughing (B) was evaluated by

Figure 3 Wrinkle improvement rate according to Crow's Feet Grade Scale (CFGS) (A) when resting and (B) when laughing was evaluated by independent evaluators after final application.

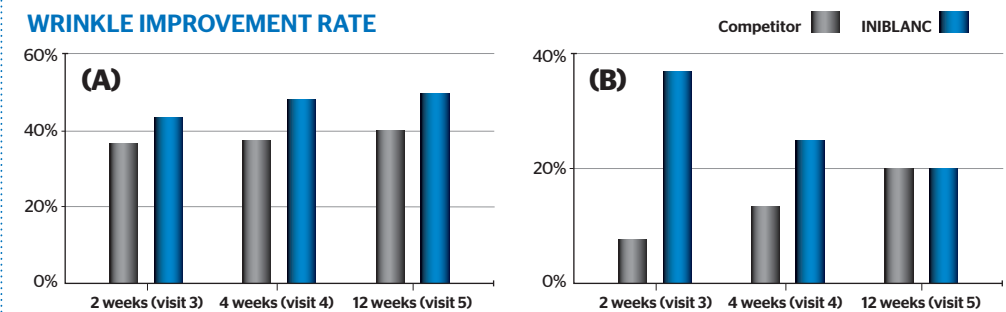
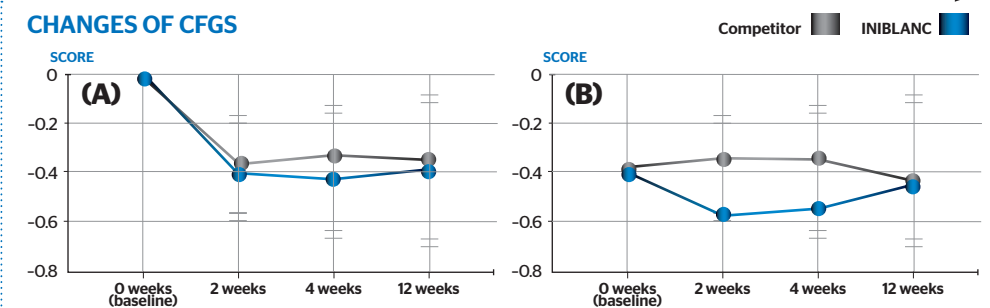


Figure 4 Changes in Crow's Feet Grade Scale (CFGS) (A) when resting and (B) when laughing. Evaluated by independent evaluators after final application. Smaller number means better improvements.



events

Industry events in 2021
for the aesthetic and
anti-ageing market



EUROPE

28 APRIL-1 MAY 2021

Barcelona Rhinoplasty Course
2021

Barcelona, Spain

barcelonarhinoplasty.com

6-7 MAY 2021

EADV Spring Symposium

Virtual Meeting

www.eadvsymposium2021.org

27-29 MAY 2021

EURAPS Annual Meeting

Naples, Italy

www.euraps.org

3-4 JUNE 2021

AMS Virtual Conference

Virtual Event

www.euromedicom.com

25-26 JUNE 2021

FACE 2021

London, UK

www.euromedicom.com

28-30 JUNE 2021

COSMEDEX

Berlin, Germany

congress.cosmedexpo.com/#rec160658237

1-4 SEPTEMBER 2021

London Breast Meeting

London, UK

www.londonbreastmeeting.com

16-18 SEPTEMBER 2021

AMWC 2021

Monte Carlo, Monaco

www.euromedicom.com

NORTH AMERICA

9-12 JUNE 2021

Vegas Cosmetic Surgery

Las Vegas, NV

www.euromedicom.com

8-11 JULY 2021

The Aesthetics Show

Las Vegas, NV

www.euromedicom.com

26-28 AUGUST 2021

Miami Cosmetic Surgery

Miami, FL

www.euromedicom.com

REST OF WORLD

1-2 MAY 2021

AMWC Asia 2021

Taipei, Taiwan

www.euromedicom.com

21-23 OCTOBER 2021

AMWC Latin America 2021

Medellin, Colombia

www.euromedicom.com

22-24 OCTOBER 2021

AMWC China 2021

Chengdu, China

www.euromedicom.com



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