

Non-CME: Devices and Treatments in Aesthetics, Advanced Technique Live Workshop
Session Director: Michael Gold, MD

Faculty: Glynis Ablon, MD; Julius Few, MD; David Goldberg, MD, JD; Bruce Katz, MD; Z. Paul Lorenc, MD; Mark S. Nestor, MD, PhD; Doris Day, MD

Eleven different devices and treatments were presented during this advanced technique, live patient workshop. As presenters discussed the data and details to each device or product, a live patient demonstration played on screen.

Thermage FLX

Dr. Doris Day reviewed the Thermage FLX, a device she uses frequently in her office. Thermage FLX is a mono-polar radio frequency device that provides bulk heating in a uniform manner to promote collagen remodeling. The device uses reverse thermal-gradient technology to correct skin laxity and fine wrinkles in one treatment. Different areas of the body can be treated with the different tip applicators. Dr. Day states, "No one is aging in one dimension, so we aren't going to treat in one dimension." The device is fast, comfortable, and can be used on all skin types.

Pixel8-RF Microneedle

Dr. Mark Nestor highlighted the efficacy and safety of the Pixel8-RF Microneedle. It is a product that combines minimally invasive fractional bipolar radio frequency dispersed among micro-needles. It delivers heat deep in to the dermis to promote dermal skin tightening and skin rejuvenation through collagen growth. This device treats many different areas of the body for a variety of concerns including surgical scars, acne scars, stretch marks, and wrinkles. There are different needles that can vary in depth for varying skin penetration, but it is safe on all skin types. One of the many benefits to this technology is the arctic chiller that is used for patient comfort, making this procedure essentially painless. Treatments take about 20-30 minutes. A total of 3 treatments are typically needed. Depending on practice location, patients could pay about \$750-1250 per session. The device itself sells for about \$12,500.

Eksata Hydrogen Peroxide

Dr. Nestor transitioned to a short discussion of Eksata hydrogen peroxide solution. This product is the first FDA approved treatment for seborrheic keratosis (SK). Eksata is applied to the lesion in the office. Most cases of SK clear within 1-2 treatments. Crusting and stinging of the lesion is expected. Product application technique itself is the most important component and should be applied in tight small circles. Each pen costs about \$125 and can be used to treat 10-12 small SKs or 6-8 larger SKs. Dr. Nestor reminds providers that this is only one of the many tools we have to treat cosmetic SKs.

Radiation therapy

Radiation therapy has been around for more than 100 years, but the face of it is changing with the SRT-100 Vision. Dr. Nestor spoke about this image-guided superficial radiotherapy system that has an ultrasound component to allow providers to map out the tumor. This device treats non-melanoma skin cancers and well as recurrent keloid scars. It is the most advanced x-ray delivery system. Radiation therapy provides a non-surgical option for treating certain skin cancers without overlying scarring. Applications vary in size to be able to cover large lesions.

Aerolase LightPod Neo

Dr. Michael Gold highlighted the incredible benefits of the Aerolase LightPod Neo for the treatment of acne. This laser can be used on all skins times and works by mitigation the growth of propionibacterium acnes. Providers can use this device to treat both non-inflammatory and inflammatory acne. Dr Gold finds this laser portable, essentially painless, and very effective. A full treatment of the face should take about 10 minutes. The best feature of this laser is the lack of a consumable. It is safe for all patients and is without side effects. In addition to treating stubborn acne, Aerolase can be used for pseudofolliculities, photorejuvenation, and even vascular lesion.

Amiea Med

Dr. Glynis Ablon presented an alternative microneedling device called the Amiea Med. It is first FDA cleared microneedle device for wrinkles and laxity. With a unique, six-needle tilting plate and patented safety membrane for powerful and precise skin punctuation at 900 punctures per second, the EXCEED high-end needle cartridge delivers outstanding results in safety and beauty. Although it can only be used for skin types 1,2, and 3, she personally uses it on all skin types. The device itself is lightweight and features a foot pedal and ergonomic pen handle. Dr. Ablon's patients personally appreciate the quietness of the device as well as the lack of vibration. Risk involved in localized bleeding and pain. There is about a 2-5 day window of down time depending on the aggressiveness of the treatment, but results are long lasting.

ThermiTight

Dr. Paul Lorenc discussed ThermiTight which is a unipolar temperature regulated radio frequency device for body contouring. The patient is numbed in the treatment area with tumescent anesthesia. The THERMI probe is placed under the skin and radiofrequency energy is applied. The skin is heated to about 65 degrees Celsius to stimulate and re-build the body's own collagen naturally. One of the highlights of this device is the controlled infrared camera providing a more controlled heating environment which is a safety feature for patients. It can be used on all skin types, with good results in one single treatment. All areas of the body can be treated making this device very versatile.

Venus Versa

Dr. Michael Gold spoke about the different features that can be found in one single device called the Venus Versa. This is the most versatile, multi-treatment platform for today's top non-surgical aesthetic procedures, including skin rejuvenation, acne reduction, skin resurfacing, hair removal, and wrinkle reduction for the face and body. This product has several applications to allow providers to maximize the treatments offered at their practice. Among the applicators are IPL, nano fractional RF applicator, and a multi-polar radio frequency and pulse electromagnetic fields applicator.

Spectrum

Another device that offers multiple features packed into one product is the Spectrum by Rohrer Aesthetics. Dr. Gold pointed out how this device sells for about \$58,000 but has endless possibilities: An 810-diode for hair removal, an Erbium Yag for skin resurfacing, a Q-Switched YAG for tattoo removal, a Long Pulsed YAG for vascular reduction, and an IPL capability.

BTL Emsculpt

Dr. Bruce Katz discussed the “game changing” 4th dimension in body contouring- the BTL Emsculpt. Other contouring devices only address the underlying fat. However, the BTL Emsculpt is a first high-intensity focused electromagnetic technology that induces powerful muscle contractions not achievable through voluntary contractions. The device itself uses super max contractions with 20,000 muscle contractions occurring in one 30 minute session. The Intense muscle contractions not only works to produce muscle hypertrophy, but also will build new muscle fibers. Data also shows a 27.4% fat layer reduction at 6 month follow ups. The one year data is soon to be published and the company is studying different hand pieces for all others parts of the body.

Zimmer Zwave

Finally, Dr. David Goldberg presented an interesting lecture on radio shockwave therapy for male erectile dysfunction. The Zimmer Zwave was originally developed and used for treatment of cellulite. The high energy radial acoustic shockwaves have scientifically been proven to have a large impact on improving blood circulation. About 80% of ED is due to vasculogenic ED, which is the only type the device will correct. However, with the capabilities of vasogenesis- the future looks bright for this product.

The Art of Innovation: Introducing Restylane Lyft for Hand and Mid-Face with Cannula

David Applebaum, MD & Joel Cohen, MD

This activity is sponsored by Galderma

Galderma is responsible for a number of cosmetic products and the purpose of this program is to educate the audience on FDA approved products. For the third year in a row, Dr. Applebaum and Dr. Cohen are leading this session together.

Restylane Lyft is used to highlight and contour. Using a blunt cannula is better for not hitting key vessels. When working at the Intra-medial cheek it is important to know the location of the facial artery and the angular artery. In a study recently conducted by Galderma the average total right and left midface volume restoration was 3cc with Restylane Lyft using a 25G or 27G needle. Tenderness was the most found complaint with bruising being one of the least. Only 30% of patients reported bruising, a low statistic which is attributed to the cannula technique. At week 16, after receiving mid-face volume restoration and contouring with Restylane Lyft, 68% of patients reported that their results were “miraculous”. This study showed that Restylane Lyft is well tolerated and demonstrated an acceptable safety profile. Both subject and treating investigators reported clinically significant improvement in both cheeks through week 16. These results confirmed that Restylane Lyft with a blunt-tip cannula is effective for cheek augmentation and correction of age related midface contour deficiency by adding midface volume, and provides clinically meaningful visible aesthetic results.

Dr. Applebaum did a live patient demonstration for a female patient with volume loss in the midface using a 25G needle to create a port. He used the zygomatic arch to avoid putting product in the temple. The tip of the needle needs to be right along the suture line between maxilla and zygomatic arch. When in doubt, always put less product in and then come back if there is a need to add more. In this demonstration, about a half syringe was used for one side. It is recommended to use ultrasound gel to then help with a soft manipulation massage to contour the area. This process was relatively atraumatic with no bruising. If there is bruising pulse dye laser can be used for bruises but ice and pressure are also recommended. Bruises are most often at the cannula entry site.

Looking at the hand, needle techniques are utilized for this Galderma sponsored presentation. Entry site is recommended to be distal and in between metacarpals. Trying to avoid putting too many needles holes is ideal, therefore use the bolus technique. Typically the ulnar side of the hand is the more sensitive side and should be avoided. Through a single entry site insert about a whole syringe or two. Using hands then move filler around but try to avoid filling in the intra-metacarpals to avoid an undesirable appearance.

Cosmeceuticals with Actives and Growth Factors

Michael Gold, MD

What’s new in 2019? For over 30 years Dr. Gold has been dispensing cosmeceuticals and for the last 20 years he has been conducting clinical research on these products.

Skinceutical C&B and *CE Furulic* improves redness and healing in the skin, which has been demonstrated in a number of studies.

Skinceutical Glycolic 10 is a new glycolic acid overnight treatment for improvement in fine lines and skin texture. Studies have shown its benefits to be statistically significant.

Root of Skin works with stem cell and ovarian cell and has been shown to have several benefits in the skin. Furthermore, studies have been done using this technology for hair. The proceeds of this company's profits greatly go towards ovarian cancer stem cell studies. Studies done on their products for skin texture and fine lines show statistically significant benefits for the skin.

Revision DEJ Face Cream has also been shown to have statistically significant results when used pre and post procedure. Studies show visible improvement in brightness in face with little to no post treatment erythema. This company is also now coming out with a microbiome line.

Neostrata Enlighten Brightening Eye Cream is endorsed as a product that has been shown in clinical trials to be beneficial for undereye darkness, wrinkles, firmness and laxity.

Alastin Trihex Technology Formulation increases extracellular matrix proteins that stimulate neocollagenesis and elastogenesis, decreasing inflammation and accelerating the epidermal healing process, especially when used post-procedural. Products have been shown to lead to improvement in skin tone function: decreasing wrinkles and improving skin tone. *Alastin* also is one of the first companies to offer total body treatment.

Stratacel is a topical treatment for scar and scar prevention. This product can be used directly on freshly sutured skin. Several before and after patient samples shown of this product depicting great results.

Absorbable Suture Suspension of the Face: Where is the Evidence?

Dr. Julius Few, MD

In the past, the facelift was considered gold standard in achieving SMAS plication. However, in current times, an increasing number of patients state they would never have a facelift. Many patients are searching for near surgical results without the down time, which has proven to be highly variable with surgery. Absorbable suture suspension is a technique that utilizes vector movements at the SMAS to anchor the midface and achieve results that approach surgical quality.

The Science of Absorbable Sutures

Use of traditional barbed suture has many downsides: they are non-absorbable and often result in sharp points that irritate the dermis; unidirectional and often require overcorrection. Absorbable suture suspension addresses many of these issues as they are made of complex sugar, bidirectional, and typically have 8 cones with a surface area that is 9x greater than traditional barbed suture, which gives an anchoring or parachute effect that is deep to the dermis at the retaining ligament anatomy. From an anatomical standpoint, fat is separated by the retaining ligament anatomy and should be the anchoring point to achieve a great lifting result. A study published in the *Aesthetic Surgery Journal* had blinded investigators assess 100 patients over a 7-month time frame whom on average had 5 absorbable sutures placed mainly to the mid face. Results boasted a 79% satisfaction with the achieved rejuvenation.

Additionally, the majority of the patients (96%) found the procedure tolerable. Lifting of the midface (ideal treatment target) also provides a rejuvenate effect of the periocular area. Difficult to improve area remains to be the jawline, which typically poses a challenge. Patients who receive touch ups, free of cost, seem to focus on this challenging area. Results with absorbable suture suspension can be nicely augmented with radiofrequency and fillers.

Absorbable suture suspension technique provides longevity via neocollagenesis, despite much critique that the results only last 1 to 1.5 years. Dr. Few indicates he has performed over 1000 cases and has achieved high patient satisfaction with retention of enhancement noted at 26 months. In fact, a 2-year evaluation of 100 patients indicated a greater than 80% satisfaction with rejuvenating results. The study indicated that at 2 years out from placement of absorbable sutures, older patients (approaching 70) considered surgical enhancement, middle aged patients (average age of 58) repeated the procedure, while younger patients (average age of 46) indicated persistence of results.

More research is needed on absorbable suture suspension. Dr. Few concludes that he believes this technique is here to stay.

Combination Therapy of Surgical vs. Non-Surgical Techniques

Dr. Julius Few, MD

Combining surgical and non-surgical techniques is ideal to best improve the appearance of the periorbital area. Individuals who are not surgical candidates include young patients, those who are not ready to have surgery, and individuals who already had surgery but desire further rejuvenation. Non-surgical approaches should aim to lift the cheek and lateral canthus of the eye while preserving volume.

In order to best correct the periorbital region, one must have an understanding of the anatomy and the changes that occur in the aging process. There are 3 main changes that occur to the periocular region: skin quality is altered, volume is lost, and ptosis of the facial anatomy becomes apparent. Rejuvenation is best achieved by using a combination of neuromodulator, filler and resurfacing. It is important to be cognizant that skin is thinnest in the periorbital area and very unforgiving; thus, it is critical to not over-treat. When utilizing neuromodulators, it is helpful to assess if a patient has higher grade wrinkling or larger muscle mass for appropriate alteration of treatment. It is also critical to identify if a patient has underlying blepharoptosis or low hairline as the frontalis muscle should not be treated with neuromodulators. In fact, treating just the glabella and crows feet with neuromodulators can significantly improve appearance of dynamic rhytids concentrated at the frontalis.

Hyperpigmentation/dyspigmentation to the periocular region can be treated by compounding kojic acid and hydroquinone cream for application to the area in conjunction with intense pulsed light therapy.

To address the tear troughs, fillers can be utilized to treat volume deficit in the mid face. Greater than 50% of patients have complete correction of tear troughs by injecting filler to the mid face alone. Dr. Few notes he does neuromodulators first, and then will focus on revolumizing to best identify remaining deficit, and then follow this with resurfacing the skin. He also recommends using a cannula when filling the tear trough and to err on under-correction.

In conclusion, combination therapies are ideal and using one technique over another can lead to an unnatural result.

All About Hair: Growth and Restoration Treatments: PRP, Lasers, Growth Factors and Topical Drugs

Dr. Matt Leavitt, DO, FAOCD, FISHRS

Fifty-four million men and 32 million women experience hair loss in the United States. Hair loss tends to start in the second decade of life and the rate increase by 10% each subsequent decade. In order to best address hair loss, combination therapies are essential. A good treatment approach can include: nutraceuticals, minoxidil and steroids, energy-based devices and PRP.

The concept of miniaturization of hairs in androgenic alopecia is important to understand. When the anagen cycle is shortened, hair shaft diameter becomes smaller, there is loss of hair, and hairs may become lighter/loss of pigmentation.

Autologous Fat Transfer

The important role of adipose tissue on the hair cycle is now being understood. It has been reported that adipocyte lineage cells support the follicular stem cell niche and hair growth cycle (Festa et al.). This evidence generated the study of using a purified lipoaspirate plus stromal vascular fraction (SVF) to treat hair loss. A phase 2, multicenter, randomized, blinded, controlled trial enrolled 71 subjects with androgenetic alopecia to be randomized into 4 groups: Puregraft fat enriched with high dose of adipose-derived regenerative cells (ADRCs), puregraft fat with low ADRCs, puregraft fat alone, and saline injections alone. It was noted that puregraft fat of SVF adipose cells enriched with low ADRCs had the best mean change in terminal hairs from baseline in comparison to control.

Minoxidil

Minoxidil is a mainstay treatment for hair loss. Five percent minoxidil is far superior to 2% minoxidil. Dr. Leavitt notes that there seems to be more patient compliance with instructing patients to apply minoxidil once a day at bedtime. It is critical that patients continue a maintenance dose once hair is restored, even if only applying minoxidil three times a week. nutraceuticals (helps with inflammation that is involved in hair loss (lymphocytic and histiocytic inflammation that plays a role)

Post-Finasteride Syndrome

Many studies support that use of finasteride overtime leads to delta change in terminal hairs in comparison to placebo. There is a Black Box warning on finasteride due to drug causing libido/impotence.

Topical Androgen Receptor Blocker

Breezula (Topical Cortexolone 17 alpha propionate) is a synthetic steroidal antiandrogen studied in a phase 2, multicenter, randomized, double-blind, controlled trial for androgenetic alopecia. The trial compared cortexolone 17 alpha propionate 5% solution to minoxidil 5% solution and vehicle solution applied twice daily for 26 weeks.. Primary outcome measurements were change in target area hair count (TAHC), subject satisfaction, and IGA from baseline to 6 months. It was noted that Topical Cortexolone 17 alpha propionate and minoxidil were both more effective than vehicle alone. Other studies also indicate that topical cortexolone 17 alpha propionate 7.5 % solution applied twice a day demonstrates increased hair counts in comparison to other percent formulations.

Nutraceuticals

Nutraceuticals appear to play an important anti-inflammatory and anti-oxidant role in hair loss by helping to decrease lymphocytic and histiocytic inflammation.

PRP

PRP appears to stimulate hair growth by providing growth factors that work on Wnt/beta-catenin and activate the ERK/AKT pathway leading to promotion of vascularization, angiogenesis, anagen entry, extended anagen duration, and hair stem cell regeneration. PRP also plays a role in decreasing inflammation and oxidative stress. The controversy associated with PRP are the existing unknowns such as ideal concentration of platelet rich plasma and depth of injections to best stimulate growth. Due to these unknowns, it is critical to ensure your patients have realistic expectations.

Low-level laser therapy (LLLT)

LLLT is exposure of the scalp to red light emitting laser diodes at wavelengths of 630-670 nm, which appears to play a role in the reversal of miniaturization of hair follicles by increasing ATP synthesis.

Scalp micropigmentation

Scalp micropigmentation applies permanent ink via micro fine needles to the scalp to create an illusion of hair, enhance existing hair transplant, and define the hairline.