The Female Patient
Hair loss is multifactorial and treated best with a combination approach. Approach to hair loss: determine type of hair loss/ etiology. Review medical history, especially antidepressants. Lab work: free/total testosterone, DHEA-S, prolactin, thyroid function tests, ferritin and ANA (with caution). Then trichoscans, mico/macrophtography. Treat the cause. Start supplements, topical growth factors or topical finasteride with or without microneedling. Consider LLLT, possible intralesional corticosteroid injections/PRP, discuss prescription meds and consider transplant. When dealing with androgenic alopecia remember that chronic and combination treatments work best. Discuss hair thinning with all patients and work up causes of hair loss before starting treatment. And always consider stress issues.

PRP— 7 or more growth factors released. Monthly injections, 3-4 injections. Wait 3 months and reevaluate. If did well then follow up quarterly for AGA . 0.4cc/cm2 injxns 5mm into scalp with 27g. Enhances healing, activation within 10 min, 95% secretion by 1hr. Enhances proliferation, differentiation and angiogenesis of dermal papillae and stem cells in bulge.

Synsepalum Seed Oil – improves hair damage/breakage

Fiber Hair Implant—applying for FDA approval now. Artificial polyamide fiber implant and automatic implanter where each fiber follicle holds three hair shafts.

Supplements—everyone should really be on them, there's no downfall

NUTRAFOL
Dr. Sophia Kogan

New research supports that hair loss is multifactorial, with stress and inflammation being key players. In order to be effective, want to address: stress, DHT/hormones, free radicals, inflammation, compromised circulation. Nutraceuticals—standardized most potent part of plant. Standardized key ingredients: biocurcumin, ashwagandha, tocotrienols, saw palmetto. New Nutrafol formulation for mature women includes MACA, astaxanthin, and extra palmetto. 6-month clinical trial shows significant increase in terminal and vellus hair with improvement in both hair growth and quality. Supplement also associated with decrease in stress and better quality of life.

Female Pattern Hair Loss
Dr. Matt Leavitt

Hair loss in women is more devastating. The first step is making sure that you have the diagnosis right! Most often it is a combination of things. Female pattern hair loss: autosomal dominant and can skip generations. Most patients have the most thinning and miniaturization along the hair part. Emphasis on thinning of hair, not loss of hair. Telogen may increase to 30% of hair. Telogen effluvium on the other hand is hair thinning versus hair loss. Blood tests: CBC with diff, PT with INR, free testosterone, TSH,T4 free, Hep panel, HIV, DHEAS, Ferritin.

Female hair transplant assessment needs to focus on pattern of loss, potential for additional loss and patient expectations. Female hair transplant goal is thickening of hair. Therefore want to add as many hair follicles as close as possible. Almost all patients started on 5% minoxidil and spironolactone starting at 50 and going up to 300. With spironolactone, number one thing seen is dehydration. Also consider LLLT and possibly PRP. If scarring alopecia is well controlled and stable, hair transplant is a possibility in this patient population as well.

Aesthetic Innovations in Toxins and Fillers
Susan Weinkle, MD

According to the ASDS, there were over 2 million treatments of neuromodulators in 2017. In the US, the currently-approved brands are onabotulinumtoxinA, abobotulinumtoxinA, and incobotulinumtoxinA, along with the newly-approved Prabotulinum Toxin A, as well as rimabotulinumtoxinB, a serotype B toxin generally not used in dermatology. Toxins differ in their molecular structure, including the presence or absence of hemagglutinin proteins. The different brands must be compared in their onset, diffusion, duration, safety/adverse events, and technical variables.

Daxibotulinum Toxin A has a positively-charged peptide that will increase binding of the toxin to the negatively-charged neuromuscular junction. The peptide also prevents aggregation, allowing for formulation without human serum albumin. The optimal effective dose is 40 Units, with a median duration of at least 24 weeks. Prabotulinum Toxin A has been approved without a medical indication and will be used strictly for aesthetics, allowing for greater flexibility in pricing. Head-to-head studies have shown comparable results to onabotulinumtoxinA, with one study showing that 5.2% more patients favored Prabotulinum Toxin A.

The market for fillers is also growing, with 1.6 million treatments in 2017. There are currently 15 fillers available in the US. However, this number is going to expand quickly, with many new companies that will be carrying several different products expected to arrive soon. The question of “which to use where?” is going to become even more complicated, with new product choices, indications, and delivery techniques.

Advances in Biologic Therapy
Mark G. Lebwohl, MD

The ideal biologic will be strong, require few injections, fast, durable, safe, safe in pregnancy, efficacious in obese patients, treat psoriatic arthritis, come as a pill, and be affordable. While many of the facets may not be possible, the 13 biologics currently available and in-development certainly encompass many of these ideals.

Biologic medications are becoming increasingly effective, with the IL-17 and IL-23 inhibitors achieving PASI100 scores. The fastest onset has been exhibited with the IL-17 inhibitors, with Brodalumab and Ixekizumab achieving 50% improvement in under 2 weeks, and Secukinumab

in 3 weeks. Ustekinumab, Guselkumab, Tildrakizumab, Risankizumab, and Mirikizumab require the fewest infections. While TNF-inhibitors have been shown to lose efficacy, the newer biologics have been shown to maintain efficacy for years. 5-year durability data has been demonstrated for Secukinumab, and 3-year durability data for Guselkumab and Tildrakizumab.

In contrast to their predecessor, methotrexate, biologics are very safe. All TNF-inhibitors have boxed warnings for infection and malignancy, while Infliximab has additional warnings for bone marrow suppression, rare infections, cervical cancer, and other secondary malignancies. Much of the safety data comes from long-term usage in rheumatoid arthritis patients, and TNF-inhibitors have an excellent safety profile. Additionally, they actually appear to reduce death rates by 15% due to the decrease incidence of cardiovascular events. Ustekinumab, Secukinumab, Ixekizumab, Brodalumab, and Guselkumab have no boxed warnings, though the notable side effect of IL-17 inhibitors is mucocutaneous candidiasis. The biologic that has demonstrated safety in pregnancy is certolizumab, as it does not cross the placenta.

In treating comorbid obesity, the IL-17 and IL-23 inhibitors have demonstrated the greatest efficacy. Patients with psoriatic arthritis have traditionally responded the best to TNF-inhibitors. However, the IL-17 inhibitors are now approved and work dramatically, just as well as TNF-inhibitors in reducing radiographic progression of joint disease.

Aesthetic Innovations in Body Contouring
Bruce Katz, MD

Dr. Katz recommends a multi-modal approach for optimal cosmetic results. Thread lifting has made a resurgence, after years of “over-promising and under-delivering.” Silhouette Instalift contains a bidirectional, resorbable suture and cones made of glycolide/L-lactide (PLGA). It can provide a minimally-invasive, immediate lift to the midface, jowls, neck, and eyebrows, and will continue to stimulate collagen growth over time. Further, there is a new paradigm of using threads as fillers for correcting wrinkles, laugh lines, marionette lines, and lips. Novathreads are made of resorbable polydioxanone. Results last 4-6 months or longer, due to collagen stimulation. Patients have no downtime, minimal discomfort, and the threads are very affordable.

Combination treatments with microneedling and radiofrequency have shown great efficacy in treating cellulite. The combination technique is able to dissolve fat, tighten skin, and stimulate collagen. The 1060 Diode laser has also proven to be very versatile. All skin types can be treated, non-invasively destroying fat and tightening skin in areas such as the submental region. The newest technology is high-intensity focused electromagnetic fields (HIFEM). A new device addresses the fat, but also strengthens the muscular core by stimulating 20,000 forced muscle contractions in a 30-minute period. The procedure dissolves fat, using it as a fuel source, thereby stimulating new muscle fiber development. Studies have demonstrated up to a 19% reduction in the fat layer with an increased muscle mass of up to 16% on imaging. Dr. Katz calls this new HIFEM technology a “game-changer” in the field of body contouring.

Global Toxins: What is Next for the US?
Steve Dayan, MD

Dr. Dayan provided a brief overview of injectable products coming to the US in the next few years. Daxibotulinum Toxin A has a unique, stabilizing peptide excipient that is intended and expected to make the toxin effects last longer – as long as 24 weeks, according to trial data. Head-to-head trials with onabotulinumtoxinA suggest that this difference in duration may be a dose effect, rather than a true difference in efficacy. Prabotulinum Toxin A, the most recently approved toxin, has generally demonstrated non-inferiority to onabotulinumtoxinA. Importantly, though, Prabotulinum Toxin A will cost 20-25% less than onabotulinumtoxinA, and will be targeted toward the millennial market. New products with equal or increased efficacy are going to change patient expectations, particularly if they come at a lower cost.

Botulinum NT serotype E is expected to be approved by 2024 and is being called an "emergency" botulinum toxin, with rapid onset within 24 hours and a duration of 2-4 weeks. Ietibotulinumtoxin A is repeating Phase III studies and is expected further down the pipeline. In addition to these products, new pre-mixed, liquid formulations are coming, potentially reducing errors of in-office reconstitution, as well as new topical vehicles for delivery of toxin. Finally, onabotulinumtoxinA is currently in Phase III studies for earning an FDA indication for depression, an effect that has been well-represented in the literature. These new products, formulations, and indications are going to drastically change the way we practice and market neurotoxin to our patients.

Office Based Dispensing
Michael Gold, MD

Sixty-percent of dermatologists dispense products in their office. Choosing to dispense brand or private-label products is dependent on what is best and right for your own practice. Branded products are more familiar, may provide a greater financial incentive, and have clinical trials to support effectiveness. Private-label products can be more personalized, allowing you to create unique formulations and giving your more flexibility with price points. However, caution must be exercised to choose the right company to avoid safety concerns and adverse events. Dr. Gold dispenses both private-label and branded products and devices, such as CeraVe, Cetaphil, Clarisonic, and various home "skinovation" devices for hair removal, acne, and skin rejuvenation.

Dr. Gold emphasized the benefits of selling products in your office, incentivizing patients to buy from you rather than a third-party vendor. Having samples of all products will allow patients to try before buying. Most importantly, though, be ethical and practice good medicine – never force the sale of any products or oversell patients products that they do not need.

Therapeutic Advancements in Acne Therapy
Dr. James Q. Del Rosso, DO

The majority of individuals develop acne in late childhood to adolescence. When using any therapy, it is important to educate patients on barrier therapy to increase tolerability of medications. Irritation of the skin is a common side effect to therapy and is directly related to transepidermal water loss. Thus, it is critical that patients incorporate simple, gentle skin care when addressing acne.

Topical Therapies

Combination topical therapy should be initiated for the treatment of acne to be most effective. Practitioners should experiment with employing creative combination therapies, even if there are not existent randomized, controlled trials.

Benzoyl Peroxide (BP) provides direct antimicrobial and comedolytic effects, while decreasing resistance to *Cutibacterium acnes* (formerly *Propionibacterium acnes*) when used in combination with topical/oral antibiotics. BP by prescription is often formulated in combination with other agents, i.e. Erythromycin 3%/Benzoyl peroxide 5% or Adapalene 0.3%/Benzoyl peroxide 2.5%. Many studies exist to support these formulations in combination with BP as effective acne therapy. A new phase 4 study, OSCAR Trial, demonstrates that Adapalene 0.3%/Benzoyl Peroxide 2.5% gel compared to vehicle reduces the risk of atrophic scars by rapidly and effectively treating moderate-to-severe acne. BP micronized 5.5% solution formulated with lipohydroxy acid is available over-the-counter and shown to penetrate into the skin and have good efficacy per published clinical data.

Topical Retinoids continue to be vital for acne therapy but remain underutilized. There is a new Tretinoin 0.05% lotion formulation that utilizes an acrylate mesh with droplet technology that is FDA approved for the treatment of acne vulgaris in patients aged 9 years or older. A phase III study evaluating Tretinoin 0.05% lotion for moderate-to-severe acne applied once daily for 12 weeks demonstrated that application does not increase transepidermal water loss and is well-tolerated.

Oral Therapies:

Before initiating oral therapy it is essential to maximize topical therapy. Oral therapy should be added when patients present with inflammatory lesions. There is some controversy that oral antibiotics should only be used for 3 months; however, there is no scientific data to support this. In fact, there is subset of patients who flare when oral antibiotic therapy is ceased regardless of if they are on topical therapy. These patients will need to go on hormonal therapy, isotretinoin, initiate device therapy or be restarted on antibiotic.

Doxycycline hyclate 120 mg is a modified polymer formulation that is longer release and decreases GI side effects.

Sarecycline is a new, weight-based dosed (1.5 mg/kg/day) oral tetracycline proven to be effective for both inflammatory and comedonal acne lesions. Side effect profile is low and due to the narrow therapeutic spectrum, risk of antibiotic resistance is also low.

Oral isotretinoin needs to be taken with a high fat and calorie meal (50 g of fat meal) to obtain 50-60% greater absorption in comparison to taking pill with water alone. Lidose oral isotretinoin is formulated in pre solubilized fat so patients can take without a meal. Relapse rate assessed 2 years after finishing course demonstrated great result with about only 4% requiring repeat isotretinoin therapy and 16% requiring any other form of therapy.

New in Topical Therapies
James Del Rosso, MD

Dr. James Del Rosso briefly reviewed the new topical therapies fresh to the market- specifically for axillary hyperhidrosis, impetigo, and plaque psoriasis. Not many medication options exist for patients who suffer from axillary hyperhidrosis. However, a new medication, glycopyrronium is approved for axillary hyperhidorisis in patients 9 years of age and older. This medication is an anticholinergic topical cloth wipe that is applied to the axilla once a day. It blocks acetylcholine release from the sympathetic nervous system inhibiting neurotransmitters on the sweat glands in turn reducing the amount of sweat produced. Anticholinergic adverse side effects such as dry eyes, dry mouth, or urinary retention are rare, but were reported.

A new topical antibiotic medication, Ozenoxacin 1%, is now available for those patients suffering from bacterial skin infections like impetigo. The medication covers gram positive organisms such as streptococcus and staphylococcus. This medication appears to be superior to the other antibiotics currently being used as it has been proven to work faster, with better clearance of microorganisms.

Dr. Del Rosso also briefly reviewed two topical corticosteroid and non-steroidal combination agent particularly used for the management of plaque psoriasis. Enstilar foam contains both calcipotriene 0.005% and betamethasone dipropionate 0.064%. It is a once daily application spray on foam that easily allows patients to cover larger body surface areas. Another topical combination medication is halobetasol 0.01% and Tazarotene 0.045%, which is available for those patients with moderate- to-severe plaque psoriasis.

Finally, topical corticosteroids were discussed for plaque psoriasis management. Halobetasol propionate 0.05% lotion showed good PASI scores without increasing skin epidermal water loss. Halobetasol propionate 0.01% is a lower concentration steroid, but clearance of psoriasis remained high. The medication can be used once a day for 8 weeks allowing longer use. Halobetasol propionate 0.05% foam and Bethamethasone dipropionate 0.05% spray BID both allow for the application of a topical steroid providing increased ease of medication application.

Improve Your Patients' Satisfaction Without Doing Any More Work
Charles Ellis, MD

Dr. Ellis provided “10 Easy Steps” to boost patients’ appreciation for their encounters with physicians and their office, thereby elevating patient satisfaction.

Step 1: The 4 As – Attention, Availability, Affability, Ability. You will see more and hear more when you engage fully in what you are doing by reducing stress and removing other thoughts. Breathe deeply to reset before every patient encounter.

Step 2: Making a big show of using hand sanitizer will demonstrate immediate professionalism, know-how, and competence, thus increasing patient confidence in their physician.

Step 3: Sit down. Studies have shown that the perceived amount of time spent in the room is longer than the actual time when doctors sit. The opposite is true for doctors who stand. Doctors who sit are viewed as being more compassionate.

Step 4: Emphasize and repeat the 2 most important things from a visit. Studies have shown that thirty minutes after a visit, patients only remember 2 things that the doctor said. Supplement this with written information, handouts, and asking the patient to repeat instructions.

Step 5: Empathy is a great satisfier. Empathy can be learned and projected. Pause and be thoughtful – even if not needed.

Step 6: Your last words to each patient should be “THANK YOU.”

Step 7: Incentivize your staff. Praise is better than financial rewards. Compliment in public, criticize in private. Employee satisfaction is just as important as patient satisfaction.

Step 8: Pay it forward. When referring to staff, say things such as “my best nurse is going to bandage you,” or “our resident is an expert at performing biopsies.” Not only does this further compliment staff, improving workplace happiness, it also instills patient confidence in the next person that is going to take care of them.

Step 9: Share (and expect) the behaviors you want to see. We can learn from the hospitality industry. “My pleasure” sounds better than “you’re welcome.” It truly is a pleasure to take care of people. Always be aware of how patients want to be treated. Make patients feel important.

Step 10: Measure patients’ satisfaction. High levels of patient satisfaction are associated with greater adherence to your treatment regimen. Happy patients are more likely to listen and hear you, ultimately resulting in a better outcome.

Every interaction every single day is a moment of truth. Attention to these moments by doctors and staff makes all the difference.