

Current Trends in Facial Rejuvenation with Fillers

Patients seek more and more of the nonsurgical options for antiaging. Topical therapies and lasers or energy-based devices are insufficient to create volumetric rejuvenation. Fillers have thus gained ground. Subtle enhancement in facial esthetics with an emphasis on a more natural look constitutes the current trend and popularizes minimally invasive techniques in volumetric rejuvenation. A three-dimensional view of facial changes while aging, along with a better understanding of variable and compartmental fat distribution highlighted by cadaveric studies, indicates that fat is depleted progressively and differently in different compartments, thus causing dynamic shifts in facial appearance, and this culminates in grooves and folds.^[1]

Though various permanent and semipermanent filler agents are available, hyaluronic acid (HA) fillers are the workhorse of liquid lifts among practicing physicians globally. HA has no organ or species specificity, hypersensitive reactions are less reported, and there is the ability to reverse its effect if needed, making it most popular among physicians.^[2]

Longevity of the restored volume after filler injection is one of the desired outcomes of the volumetric rejuvenation technique. It is author's observation that the fillers last in the skin for longer time than what we promise and the reason for this is newer gels which are less biodegradable, highly viscous and also due to their biostimulatory actions. New trends in injectables have led to the emergence of molecular changes and alteration in viscoelastic properties of new-generation fillers using the Vycross or hybrid matrix technologies with three-dimensional cross-linking to give G prime fillers. Due to their high viscosity and low molecular weight these fillers last longer and are less biodegradable, at the same time facilitate ease of injections.^[3]

The expertise of the injecting physician dictates the outcome of filler treatment and is influenced by product type, lifting capacity, safety, and molecular weight, especially the degree of cross-linking with HA fillers. A decade ago, filler treatments of the face were more

focused on elimination or effacement of facial lines and grooves, and treatment was more of "line chasing." The current trend revolves around the paradigm shift from focal to global corrections. Volume contouring of the face in zones such as the periorbital region, midcheek, and lower face, and layering techniques have thus evolved to make the face more natural-appearing. More knowledge on anatomical considerations with cadaveric dissection studies, the superficial muscular aponeurotic system (SMAS), retaining ligaments, and vascularity and innervations of the face have also led to safer injection practices.^[3] The practices are made less traumatic by greater use of cannulas, especially in areas of high vascularity such as the periorbital region and the lips. The advent of lidocaine-containing fillers has made injection practices less painful. Different techniques of correcting the male and the female aging face to retain gender-specific appearances have also emerged in recent times.^[4]

The gauge of the needle/cannula and its length for filler placement is important for the rate and speed of material flow, level and depth of placement, and the density as well as viscosity of filler agent used.^[5] In the current symposium on volumetric rejuvenation with fillers, the focus is on creating a lifting effect, and thus the depth of injection placement is relocated from superficial to deeper planes, medial to lateral, and superior to inferior in sequenced placements in different planes, where peripheral filling scores over central filling to prevent a "rat face" appearance, as highlighted in the article "Current concepts on facial rejuvenation with fillers: The dual plane technique" by Salti and Rauso.^[6]

With the acceptance of global filling of the face to restore volumetric harmony, a new dimension in the natural appearance of the restored face is emphasized in the article on the liquid lift: "Looking natural without lumps in your face" by De Felipe and Redondo.^[7] This article discusses the potential new technique of diluting

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the reticulated HA with normal saline and anesthetic for a more uniform placement, and a new method to prevent lumpiness and achieve a homogenous and natural-looking result. The article also emphasizes the use of cannulas for large-volume liquid lifts as an atraumatic method without the risk of bruising.

In the article on shaping the lips with fillers Luthra^[8] elaborates on the use of the cannulas and injection after careful consideration of the lip anatomy. HA fillers score over other fillers for lips, and an individualized approach forms the key. White roll-filling and vermilion-shaping are current trends in lip-shaping with fillers.

A strong regard for vascularity and minimal trauma dictates the use of cannulas over needles, progressive filling techniques over bolus techniques to prevent lumpiness, and antegrade filling or aspiration with knowledge of detailed vascular anatomy to prevent vascular filler complications. Slow injections and small-gauge needles are associated with safer filling practices.^[9,10] Supplementation with oral antioxidants increases filler longevity and injected areas especially glabellar, nose, nasolabial fold and infraorbital should be checked for capillary perfusion after the procedure.

Ultrasound-guided filler placements and detection of specific areas of fat depletion by high-resolution ultrasonic skin probes and scans constitute the future of volumetric rejuvenation with minimal side effects.^[9]

With global corrections gaining rapid ground and much safer injection practices, the focus is now on newer techniques and approaches in restoring volumetric harmony: Dual plane, dilution of filler material, and

balance between peripheral and central restoration are interesting new concepts to read about in this symposium on facial volumetric rejuvenation.

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