Every now and then, a patient turns poet while consulting with me. It’s invariably to recite that old adage about the eyes being the window to the soul, followed by the puzzled complaint that “my eyes don’t look the same any more.”

Aging around the eyes is insidious…and it’s also counter-intuitive to patients. While they report that their eyes have become smaller and differently-shaped, we as cosmetic dermatologists recognize that it is not the window (the eyes), but their frame—the periorbital region—that has changed, as evinced by the cardinal signs of the aging process: volume loss, loss of skin elasticity, and muscle hyperactivity. Patients notice bags under their eyes and ask for removal of volume, whereas we seek to replace it. Some patients fear Botox, oblivious to its pivotal role in periorbital rejuvenation. And some patients request us to pull sinking brows and lids up and out, unaware that this may merely exacerbate the effects of volume loss, hence worsening the problem by making them look “done,” rather than younger.

Periorbital rejuvenation affords me the opportunity to both educate and inspire my patients. It is immensely satisfying to restore eyes to magnificence by perfecting their frame through filling, resurfacing, and muscle relaxation. Any patient who does not have grossly drooping eyelids is a good candidate for minimally invasive techniques.

Volume Replacement
Restylane (Medicis) is my filler of choice for volume replacement around the eyes. I prefer Restylane to other fillers for its stable volume and contours and for its lack of mobility after injection in this anatomically unforgiving area. Much has been made of the importance of injecting fillers slowly to decrease tissue trauma. I have found that a steady rate of injection is as important as a slow one. The slight traction of Restylane against its syringe facilitates injections that are both controlled and even. Another key to ensuring that my injections are slow, gentle, and smooth is that in over 10 years of filling faces with fat, collagen, and now hyaluronic acid, I have yet to use a nerve block on any patient. My reliance on topical anesthetic and ice packs disciplines me to maintain the good injection technique that is essential to minimize patient discomfort. This also minimizes post-procedure swelling and bruising. The majority of my patients walk out of my office and straight back to their daily lives, even if I have injected them with several syringes of Restylane in one session.

Safety is an even more important consideration guiding my preference for Restylane in the periorbital region. There are few reported cases of orbital artery occlusion from filler injection, and fewer still of consequent ocular morbidity. However, I recently served as the expert witness on fillers for a malpractice lawsuit brought by a patient who had lost sight in one eye after injections with a cadaver-derived micronized dermal filler. What particularly struck me about this tragedy was that the patient had received no injections within the orbital rim. The injection that allegedly caused the orbital artery occlusion was high up on the forehead. There was absolutely no evidence that either the injector or the injection technique was to blame. It was a stark reinforcement of my strict policy of avoiding viscous, large-particle fillers, including autologous fat, when treating the upper half of the face. Eleven years after the approval of Restylane worldwide, there has been no oculocutaneous morbidity reported from arterial occlusion or embolic phenomena. This gives me high confidence in my margin of safety when injecting Restylane slowly and with minimal force within the orbital rim, into the glabella, or into other areas of the upper face. Restylane also provides far more precision than can be achieved with a less free-flowing filler injected through a larger needle.

My strategy for filling the lower eyelid depends on the patient’s age, rather, on the physiological age of the patient’s skin, since this does not always correspond to chronological age. For youthful eyelids with good skin elasticity, I inject with a 30-gauge needle at one or at most two points on each side, just outside of or just within the orbital rim. These injections are deep, laying the Restylane over the periosteum of the orbital rim with the aim of stimulating collagenesis. I advance the needle about...
half a centimeter forward from the injection point towards the medial canthus. After aspiration to determine that I have not entered a blood vessel of significant size, I inject slowly and continuously while pulling back the needle along the same plane. After injecting the desired amount of Restylane, I release all pressure on the syringe plunger. I then withdraw the needle from the patient’s skin, massage the Restylane to achieve a smooth contour (usually for a few seconds up and in towards the medial canthus of the eye) and then immediately apply pressure to the injection point. This technique minimizes discomfort and bruising; most patients have only a pinpoint bruise at each injection point. It also eliminates any risk of blue discoloration from the hyaluronic acid being placed too superficially. This discoloration is a particular problem in patients whose youthful eyelids lack flaws to camouflage it and who are not inclined to wear concealer regularly.

For lower eyelids that have aged and lost elasticity, I overlay the deeply injected Restylane with a mid-level layer injected through a 32-gauge needle via a point on each side, with medial and lateral fanning and post-injection massage. This fills and elevates loose skin within the orbital rim. Again, I stop injecting before withdrawing the needle to avoid blue discoloration. Some patients may experience bruising for three to five days, but this is usually mild.

I treat the medial cheeks as part of the periorbital frame in all but the youngest patients, who have not yet developed central facial volume loss. Although volume restoration to the medial cheeks requires extra filler, I find that patients are very receptive to this once I explain to them the aesthetic value of perfecting their facial contours. I inject Perlane (Medicis) over the periosteum of the medial cheeks with gentle massage, periodically viewing the patient from below to avoid under-correction or a shelf between cheek and lower eyelid due to over-correction. With this technique, most patients require surprisingly little Perlane—no more than a total of 1 to 4cc for both cheeks—to reach this endpoint. I complete my volume restoration in the periorbital region by injecting 0.1 to 0.3cc of Restylane, with lateral massage post-injection, under the outer one-third of my female patients’ eyebrows, in order to lift them subtly and restore youthful fullness below the eyebrow arch.

**Muscle Relaxing**

My patients usually receive Botox (Allergan) treatment in combination with fillers. I dilute 100 units of Botox with 2.5cc of preserved normal saline. My current favorite syringe is the Injekt-Flow waste 1cc luer slip syringe (available from Physician Sales & Service, Inc. and other medical supplies companies). Although it costs considerably more than the standard tuberculin syringe, I find that it increases treatment precision and decreases Botox waste. I inject with a 32-gauge needle to minimize tissue trauma. For the lateral orbital rhytides, I start with 12-25 units of Botox on each cheek.
## Periorbital Injection Pearls

1. **Be safe.**
   Safety is paramount when injecting the upper face, including the periorbital region. Choose a small-particle, homogeneous filler with a proven record of safety, and inject slowly and mindfully. Tissue trauma is minimized by allowing filler to flow ahead of the needle across the injection plane.

2. **Avoid over-correction.**
   It is better to inject the periorbital region conservatively and then to inject more filler later if needed for fine-tuning rather than run the risk of aesthetically undesirable results, such as ridging due to over-correction. A hyaluronic acid filler offers the great advantage that over-correction can be rectified with hyaluronidase.

3. **Stay deeper.**
   Avoidance of superficial injections into the thin-skinned periorbital region ensures smooth contours and prevents blush discoloration due to the Tyndall effect if you use a hyaluronic acid filler. I inject the periorbital region in two planes: directly over the periesteum and into the mid-dermis.

4. **Minimize injection points.**
   I usually inject the periorbital region at no more than two points on each side, just at or within the periorbital rim, avoiding obvious blood vessels. This minimizes bruising and maximizes safety.

5. **Encourage point massage.**
   The periorbital region is one of the few areas that I encourage patients to manipulate after injection. Point massage immediately after injection and during the subsequent week or two facilitates settling of the injected filler in this loose-skinned area and optimizes results.

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### Resurfacing

Fractional laser resurfacing has eliminated my previous reliance on the traditional CO₂ laser for facial rejuvenation. I prefer Palomar’s Lux 1540 device, an add-on to my versatile StarLux IPL/laser platform that is easily transported between my two offices. For the lateral and inferior periorbital regions, I perform two to three passes with the 10mm handpiece, using a typical fluence of 50-55 joules/cm², pulse width of 15 milliseconds, and pulse frequency of 0.6 Hertz. Treatment is virtually painless and produces minimal to mild edema for a day or two and mild erythema for a few days after. The results are as good as or even better than what I achieved previously in over a decade of ablative CO₂ laser resurfacing. I advise patients to have three or four Lux 1540 treatments with an interval of two to three weeks between sessions. I include trichloroacetic acid chemical peeling of the upper eyelids for those patients that will benefit from it.

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### Thinking Inside The Frame But Outside The Box

Christine Eads, the creator and co-host of XM Radio’s talk show “Broadminded” vividly remembers the most embarrassing moment of her broadcasting career. Mid-interview with George Clooney, her false eyelashes detached themselves from one of her eyelids and began a slow, spider-like descent down her cheek. (To his credit, Clooney apparently did the gentlemanly thing and ignored the errant lashes.) Christine now sports eyelash extensions applied by my senior aesthetcian, Rania Elbashir, who is a certified advanced trainer for Xtreme Lashes. Besides saving one from a red face on the red carpet, eyelash extensions and other ancillary aesthetic procedures such as eyebrow shaping and tinting of the brows and lashes, can be as dramatic as any cosmetic surgery in offsetting drooping eyelids, enhancing definition of the eyes and, by doing so, bringing back the apparent proportions of a woman’s face towards the rounded or heart-shaped ideal with high brow and tapered chin.

Our literature through the ages is replete with lyrical odes to the eyes. Though I’ve yet to read any paean of praise for the eyelids, I do receive plenty of appreciation from patients when I’ve restored that all-important frame to their eyes and made them “look like myself again.” Perhaps our poets were wrong: In the world of rejuvenative cosmetic surgery, it is not the eyes that have it, but the eyelids.

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**Dr. Sundaram serves on the Advisory Board and as a Clinical Investigator and Consultant for Medicis Pharmaceutical Corporation and serves as a Speaker for Allergan, Inc. and for Palomar Medical Technologies, Inc.**

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