



By Gregory Nikolaidis, MD

## DETAILS

# Correcting Tear Trough Deformities

The tear trough deformity typically becomes apparent in patients in their mid 30s and 40s.

The use of dermal fillers in the periorbital region can correct a variety of age-related changes including volume loss and skin laxity.

One of my favorite cosmetic procedures is periorbital rejuvenation with dermal fillers. The patient is oftentimes able to receive a dramatic improvement with minimal downtime and reasonable expense. The use of fillers in the periorbital region is an advanced and off-label technique that should only be performed by injectors who have extensive experience. Ideally, one should seek out a preceptor or mentor with expertise injecting in this region. Tailoring the treatment to the specific needs of the patient rather than using a cookie cutter approach achieves optimal results.

As the face ages, it experiences fat loss in the lateral cheek area, exaggerating the appearance of the nasojugal groove. In addition to soft tissue and facial volume loss, there is resorption of bone; so much so that the ocular orbit actually becomes larger in old age. Finally, along with the atrophy of muscle, fat and bone, the patient experiences atrophy of the skin and a loss of elasticity. Many patients develop a pseudoherniation of the infraorbital fat pads which accentuates the groove between the eyes and the cheek.

The tear trough deformity typically becomes apparent in patients in their mid 30s and 40s. How-

ever, I have treated many patients in their 20s who presented with noticeable volume loss. I have also treated a number of patients in their 60s and 70s who have maintained good skin tone with appropriate skincare regimens using a combination of retinoids, sunscreen and growth factors such as Skin Medica (skinmedica.com) TNS eye repair.

Approximately 80% of

my periorbital rejuvenation patients are female, but my male patients experience equally satisfactory results. I have had great outcomes among all skin types and ethnicities, including African-American, Asian and Hispanic. I tend to exclude patients who have large bags under their eyes, as they are more suitable for surgical correction. I also exclude patients with unreasonable expectations. Patients with skin laxity may benefit from an adjunctive laser resurfacing treatment with either ablative or nonablative fractional resurfacing. I work with the Fraxel re:store (Solta Medical, [fraxel.com](http://fraxel.com)) and the Active FX (Lumenis, [aesthetic.lumenis.com](http://aesthetic.lumenis.com)).

### Optimal Fillers for the Periorbital Region

I have performed hundreds of periorbital injections over the last seven years with a number of fillers including Juvéderm (Allergan, [juvederm.com](http://juvederm.com)), Restylane (Medicis, [restylaneusa.com](http://restylaneusa.com)), Radiesse (Bioform Medical, [radiesse.com](http://radiesse.com)) and Sculptra Aesthetic (Dermik Laboratories, [sculptraaesthetic.com](http://sculptraaesthetic.com)). Each product has its own advantages and nuances. I tend to prefer Radiesse or Sculptra for filling and lifting the cheeks. My preference for the nasojugal fold and tear trough deformities are the hyaluronic acid fillers, such as Restylane and Juvéderm. My go-to filler for this region is the new Juvéderm XTC with lidocaine. I prefer the consistency and homogeneity of the product, and I find Juvéderm to be very forgiving, malleable and easy to work with. It also has a very smooth and even flow.

An important consideration with Juvéderm, as with other fillers, is to not overcorrect. In these cases the excess product may last for more than a year and should be treated with Vitrase (hyaluronidase, ISTA Pharmaceuticals, [istavision.com](http://istavision.com)). I worked with one patient, who had been treated by a physician in England. She required



Photo courtesy of Gregory Nikolaidis, MD

## DETAILS

two Vitrase treatments to correct her overfilling. The ancient Greeks had a saying, *pan metron ariston*, which loosely translated means moderation in everything...especially periorbital filling.

### Patient Preparation and Informed Consent

Prior to starting the procedure, the patient should be examined. Extreme asymmetry should be noted and pointed out to the patient. In addition to an informed consent for the procedure and a discussion of the off-label use of the dermal filler used in this region, the need for adjunctive procedures—such as cheek augmentation or laser resurfacing—should be addressed. It is advised that patients avoid medications or supplements that may increase bleeding such as aspirin, omega fatty acids and vitamin E for one week prior to the procedure. Before injecting, I numb the skin with a topical lidocaine ointment for 5 to 10 minutes. Nerve blocks are typically not needed and may obscure the deformity. I then have the patient wash off the numbing cream. I prep the skin with alcohol and perform the procedure with the patient sitting up.

### Filling Technique

The Juvéderm XTC is injected using a 30-gauge, ½-inch needle. Caution is taken to protect the globe by using the index finger of the non-injection hand to palpate the orbital rim. The injection hand is gently balanced against the patient's

face using the fifth digit of the injector hand (see image on page 10). This allows the injector to move with the patient. Injections are made primarily in the periosteal plane, using an anterograde and retrograde linear threading technique. A bolus technique may also be used in the periosteal plane. It is important to keep the needle moving to avoid cannulating an artery. To date, and to my awareness, there has been no occlusion of the central retinal artery with a hyaluronic acid product, such as Juvéderm.

Finally, care must be taken to avoid visible veins in the periorbital region. I typically start in the medial region of the nasojugal crease and extend laterally. In many patients I also fill the area adjacent to the lateral canthus. In patients with skin laxity, subdermal threading of microaliquots of material may stimulate the fibroblasts to produce collagen. I massage the Juvéderm as needed at the time of the visit, but do not require my patients to massage at home. Once the treatment is completed, the patient is given an icepack to apply as needed for swelling. Most of my patients are able to go out the night of their injection.

As mentioned earlier, I prefer to undercorrect rather than overcorrect. For most of my patients, one syringe of Juvéderm XTC in the periorbital region is sufficient. I have the patient return four to five months after her first treatment, and then every year to two years, as needed. Periorbital rejuvenation



▲ Patient before and after periorbital Juvéderm injections.

using Juvéderm XTC is one of the most gratifying procedures in my practice.

*Gregory Nikolaidis, MD, is a board-certified dermatologist and cosmetic surgeon. He is the president of Westlake Dermatology and Cosmetic Surgery in Austin, TX. He has personally trained numerous physicians on Botox Cosmetic, Radiesse, Restylane, Sculptra and other noninvasive cosmetic techniques. Dr. Nikolaidis was also selected as a Texas Super Doctor by Key Professional Media, an honor presented to the top 5% of doctors in Texas.*



▲ Dermal fillers can smooth age-related changes to the tear trough.