**Periorbital and Midfacial Volume Enhancement With Cannula**

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**Introduction**

Periorbital and midfacial filling with cosmetic injectables has become ubiquitous, with the primary targets being the central, anterior cheek and the medial tear trough. However, these may not be the most important areas to fill, and to achieve an excellent result requires a balanced strategy of injecting multiple areas rather than only 1 or 2 areas. I find it better to partially correct multiple shadow points on the face that impart aging rather than to try to ameliorate only 1 or 2 principal shadows perfectly. I liken it to remodeling a house: If the bathroom is fixed up nicely, the kitchen now looks old. I notice the same thing in the face: If I fix the tear trough well but not other surrounding shadows, I find that the result looks unbalanced or the individual simply does not look better. What I mean by better is the conclusion drawn by my synthetic right brain that reads whether someone looks more attractive rather that of my left brain, which tells me whether a line or hole is properly filled (Figure 1). It is critical to engage both sides of the brain when designing the face, as illustrated in the **Video**.

**The Midface**

I am starting my discussion with the midface because I believe that with a deflated periorbital region, filling the midface first can partially or entirely correct the deflated tear trough region. Filling the lateral cheek just above the zygomatic arch can transform the tear trough by making the area unnecessary to fill or make the task easier to perform with less product, especially for a deep tear trough or even moderate steatoblepharon.

The anterior cheek, which was my favorite site to fill in the past, has become one of my least favorite sites. This overfilled appearance is particularly noticeable when someone smiles and looks too “cheeky.” I rarely fill much if any in the anterior cheek, preferring now the outer face for most filling work. If I should fill the anterior cheek, I often have the patient repeatedly smile and stop smiling to see how the area appears in both dynamic and static states. The reason that the outer face is so important is that the perimeter of the face creates a halo that contributes to the subconscious way in which we see aging. The double concavity of the temple and the subzygomatic region bridged by the convex zygomatic arch should ideally be transformed into a smooth single convex oval arc. Thus, I always evaluate the patient from the frontal view to see whether this aesthetic goal is achieved and to avoid overfilling these critical areas. Even in wider faces, judicious placement of product in the outer face can make the face appear slimmer compared with the full lower outer face, if not also provide some potential lifting of the descended lower face. How much to fill depends on the product, the patient, and one’s aesthetic eye. The key is to ensure that everything appears blended and balanced, and this requires judgment acquired through experience.

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**Figure 1. Clinical Photograph**

*Photograph of a woman in her 60s before and after insertion of fillers for the face (and neuromodulators) in the upper and lower eyelid region, temple, lateral cheek, prejowl, anterior chin, and marionette line.*
The Periorbital Region

Although not as critical for the midface, I do use disposable cannulas for all injections, especially around the eyes, with the sole exception of perhaps the marionette lines or tethered scars, where I may use a needle. The cannula that I prefer for injecting almost all products is a 27-gauge SoftFil. I have no issue passing Juvéderm Voluma (Allergan, Inc) through it, and I believe that it causes less discomfort for the patient. I also use the SoftFil vibration device for injections to minimize pain.

As mentioned, I start with the midface to build the cheek area first to determine how much product to use in the periorbital region. However, if the patient does not require midfacial enhancement or has a minimal periorbital deficit, I inject only the periorbital region. The periorbital hollow can be envisioned as 2 asymmetric triangles with the bottom triangle having a longer medial limb corresponding to the tear trough and a shorter outer limb corresponding to the outer canthal depression. Conversely, the upper eyelid/brow triangles exhibit a longer outer limb and a shorter triangular medial limb. The outer limb corresponds to the lateral brow depression, and the medial brow (short limb) is situated at the so-called A-frame deformity at the supraorbital notch.

Typically, the medial segments of both the upper and lower limbs are the most important to fill aesthetically. I believe that the sagging outer brow appears this way due to loss of medial volume. Accordingly, when I fill the inner brow first (which is what I recommend), it transforms the brow into a more horizontal configuration and less ptotic laterally in appearance. If needed, the lateral brow can now be augmented, but care should be taken not to make this area too protuberant. The cannula should almost always pass parallel to the orbital rim for both the upper and lower triangles (Figure 2). The medial tear trough (long limb of the lower triangle) can now be filled in the same parallel fashion starting laterally because this is the longer limb. The lateral canthal depression (short limb of the lower triangle) should also be filled; I find it easy to approach this from the same entry point but aiming the cannula laterally along the orbital rim (Figure 2). Sometimes there remains a small depression at the apex of these triangles, so I make a separate entry laterally to fill it (Figure 2B).

Conclusions

Today, I perform many more filling procedures than fat grafts to achieve volume because of the precision afforded by excellent products and, more particularly, the advent of the disposable cannula. Learning to see the face as a set of shadow points that benefit from correcting rather than isolated defects can help one to achieve more natural, more balanced, and more aesthetically effective outcomes.

ARTICLE INFORMATION

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Figure 2. Schematic Diagram

A, Asymmetric triangles of aging that would benefit from filling using cannulas. The dots indicate skin entry points for the cannula, and the arrows indicate the author’s preferred direction of passage for the cannula. B, Additional injection needed on occasion to fill the apex of the triangles that may exhibit a residual deficit.

A, Asymmetric triangles of aging that benefit from cannula filling. The dots indicate skin entry points for the cannula, and the arrows indicate the author’s preferred direction of passage for the cannula. B, Additional injection sites needed to fill the apex of the triangles that may exhibit a residual deficit.