One of my anatomy instructors was fond of saying, “There are few straight lines on the face.” This rings true every time I inject.

The youthful face is a symphony of gentle curves, largely due to plentiful volume. As we age, volume loss (combined with other aging changes) produces a deflated and drawn appearance. Astute injectors realize that yes, restoring volume enhances rejuvenation, but overdoing it will look worse than the aging. If one Googles “bad cosmetic surgery” or “bad celebrity surgery,” over-treated midfaces jump off the screen.

The aging midface is characterized by volume loss of the lower eyelid and cheek complex (Figure 1). Although frequently referred to as the “tear trough,” I think of this area as the “cheek trough” because proper rejuvenation requires correction of both cosmetic units. Put another way: The lower lid is the upper cheek and the upper cheek is the lower lid.

Some of the classic features of the youthful face are the gentle “S” curve of the cheeks. (also referred to as the Ogee curve) (Figure 2).

When injecting the midface, the best results occur when the “cheek trough” is addressed. Classic measurements, such as Hinderer’s Lines, have long existed in the cosmetic literature (Figure 3). This measurement and others like it may serve to guide the injector to the proper regions of augmentation, but master injectors possess a three-dimensional understanding of what a youthful midface should look like. This may or may not correspond with classic measurements, but it will produce great results.

RETHINKING THE AGING MIDFACE

When diagnosing the aging midface, the “cheek trough” region is frequently the most important. Nasolabial fold treatment is also important, but the more cheek augmentation I perform, the fewer isolated nasolabial folds I inject.
This is due, in part, to the improved balance of the curva-
ceous midface and possibly from some lifting that occurs
when the cheeks are projected.

Before injecting older patients, I like to recline them in
the chair as gravitational shifts fill out the deflated cheeks
and associated anatomy. This gives me a guide as to where
to inject and also allows me to show the patient what we
are trying to accomplish (Figure 4). Injections are never
performed in this position. It is only for diagnosis.

Diagnosis and treatment are often defined by the
patient’s budget. Unfortunately, most filler patients do
not have unlimited income to spend. Undertreatment can
be as problematic as overtreatment. Most adult patients
who present with midfacial volume loss will require a min-
umum of 1mL of filler on each side. While younger patients
or “top offs” can split a single syringe, restoration requires
2-4mL total. When an adult in his or her 50s only wants to
purchase a single syringe, I ask them to come back when
they can afford at least 2 mL. The reason for this is that
when a patient is on a tight budget and they spend $600-
$800 on a single syringe and do not see a significant treat-
ment difference, they feel they wasted their money. They
forget that you, your staff, and your consent discusses the
fact that a single syringe is usually not enough. They only
remember that they spent $700 “for nothing.” When I
teach residents, I say that the No. 1 rule is to use enough
product.
SWEET CHEEKS

Painless injections are paramount, and I don’t rely on the lidocaine in the syringe. I use a 1cc syringe and a 32-gauge needle and inject 0.1ml of 2% lidocaine with epinephrine in each circle as described below (Reference 2). I have seen many experienced injectors scoff at pre-filler numbing, but I have stolen many patients from previous injectors whose patients felt pain during the procedure. A numb patient is relaxed and the injector can do a better job.

As to what filler to inject, it's all about doctor/patient preference. An experienced injector can achieve a great result with any product. I prefer fillers that I can reverse. For years I used Perlane (now Restylane Lyft) with success. The introduction of Juvederm Voluma has become a game changer as it is really well suited for the midface and provides great lifting. Many injectors favor Radiesse in this region.

There are as many techniques to inject the midface as there are injectors. One of the things I have found to be most helpful is to have a 3D mental picture of what you are trying to accomplish with rejuvenation. My extensive experience with cheek implantation has imprinted the augmentation pattern in my head as to what volume goes to what part of the cheek (Figure 5). The infraorbital region has mass which increases at the malar region and then tapers out in the "tail" section of the cheek at the zygomatic region. Tracing a submalar style cheek implant over the area can serve as a useful guide for novice injectors and/or illustrate the anticipated augmentation for the patient.² Another useful method of addressing the midface is to think of the cheek in a circular pattern where three concentric circles converge (Figure 6). The first circle (Area 1) is the infraorbital region and requires plumpness. The second circle

Figure 5. Tracing a cheek implant on the face can serve as a template for augmentation.

Figure 6. This image illustrates the 4 main regions I address with midface filling. 1 is the infraorbital region, 2 is the tear trough, 3 is the malar and 4 is the zygomatic. The order of injection is less important than regions addressed.

( Area 2) is the tear trough region. The third circle ( Area 3) is the malar region which will generally have the largest amount of filler and subsequent projection. The fill is completed with a zygomatic taper ( Area 4). I usually treat the tear trough as the second injection in this sequence.

The circles only serve as a guide to the subunits of the
cheek. Different patients will need different fill patterns within the circles. For instance, a patient that desires “high cheekbones” will require more fill in Area 3.

I treat the cheeks in a triplanar manner to provide a base, midsection and superficial augmentation. Level 1 is the deep subcutaneous level which forms a foundation. Level II is the midlevel injection in the more superficial dermis. The final injections are in Level III, which is the deep dermis, which is closer to the surface and “smooths” out the augmentation.

While many injectors state that Voluma is not for dermal injection, I use this tri-level method and even inject Voluma in the suborbicularis region of the tear trough when treating the cheeks.”

For all of the described techniques, the tear trough is treated simultaneously. Importantly, injecting the cheeks without the tear trough can create a ledge between the two anatomic units, which looks unnatural. When treating the deflated midface, think “cheek trough!” Figures 7 and 8 show patients treated with the described technique of cheek trough injection.

It is important to stop after filling one side to show the patient the progress in a mirror. There is usually a big difference between treated and untreated side and it is much more evident when the patient can see a unilateral treatment. This is a huge confidence builder. Most patients truly appreciate the difference at “half time.”

It is important to ask the patient to refrain from excessive smiling or oral function for 48 hours as filler can easily be displaced in the midfacial tissue planes. When a patient looks in the mirror immediately following injection in the office, they may see a great change, but after a day or so when the edema resides, they may be less impressed. The consent is an important tool to explain all of this and makes it much easier to deal with the occasional unhappy patient who had unrealistic expectations.

Treating the midface is now a cornerstone of minimally invasive rejuvenation and contemporary patients and injectors realize the importance of inflating this area, even in younger patients. Patients in their late 30s and early 40s experience minor cheek volume loss which can frequently be treated with a single syringe of filler. Virtually every patient who walks into my office is a candidate for some form of cheek- or cheek-trough filler.