Filler Pearls: Refining the Art of Injection

Pain control is essential to treatment success with dermal fillers. Here’s an update on pain management and other tactics to ensure patient comfort and optimize outcomes.

BY JOSEPH NIAMTU, III, DMD

In the process of learning, new procedures are introduced by a small group of surgeons and disseminated to the mass of private practitioners. Initially, the procedure is performed verbatim as it was learned and gradually practitioners begin to adjust their technique based upon trial and error. This leads to changes in the way the original procedure was described and most often represents progress in terms of better outcomes with fewer complications. Although less evidence-based, the “how I do it” method is of great interest to all doctors. This is what I personally enjoy the most about going to meetings and lectures. Astute doctors always seek a better way to perform a procedure. So many times in my career I watched another surgeon perform a procedure that I had been doing for years, saw an innovation, and thought, “Now why did I not think of that!” The remainder of this article is in that spirit of discussing how I personally approach various filler treatment applications.

ANESTHESIA
The key to any successful cosmetic procedure is comfort. I can guarantee you that doctors that provide painless treatment will steal patients from doctors that don’t pay attention to pain control. The dental model is important to understand. Ask someone if they have a good dentist and if they say “yes,” I promise they will say that the dentist is painless. In reality, most patients cannot truly judge the technical competence of their dentist; they just equate painless treatment with good treatment.

I provide local anesthesia for 100 percent of my filler patients. Some of my colleagues scoff at this and say it is not necessary. They say their patients don’t need supplemental local anesthesia. I think that is a very unfair assumption and more often than not reflects on the practitioner. Many doctors just “don’t get” pain control, others are not proficient with local anesthetic techniques, and others are just plain lazy. Providing local anesthesia definitely takes longer and slows the procedure down, but I guarantee that it will pay off in new patients and retention of current patients. Again, patients will eventually migrate to painless practitioners.

What about the new fillers that contain lidocaine? I am not a fan of them for the simple reason that effective pain control should be delivered before the painful treatment. It takes several minutes for local anesthesia to diffuse and become effective. With filler/local products, the treatment is over by the time the

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TAKE HOME TIPS

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anesthetic is effective. Plus, you have to "hurt" the patient with the larger filler needle to deliver the local anesthesia. That is akin to having local anesthesia on the dentist’s drill. You have to feel pain to get the local. The best situation is to numb the patient before the painful procedure. This is facilitated by use of a 32-gauge needle with a 1mL syringe. This combination is important, as larger syringes produce a greater injection pressure and are more painful. Also, applying ice immediately before skin injection or using topical anesthesia before mucosal injection mitigates the local injection pain.

For nasolabial fold or winkle injection, first mark the area to be injected and ice it for about 30 seconds. Then using the 32-gauge needle, deposit 0.1ml of 2% lidocaine with 1:100,000 epinephrine in two to three areas along the fold (Fig. 1A).

Lip Anesthesia. The lips are easily anesthetized without nerve blocks by first applying topical anesthetic cream in the upper and lower sulcus for five minutes, then using the 32-gauge needle/1ml syringe combination to inject 0.2 ml of local submucosally at four to five points just below upper sulcus (or just above the lower sulcus) (Fig. 1B).

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LIP CANNULA INJECTION

Basically, lip injection involves deep volume injection and/or vermilion outline. This is most commonly performed with the 27- or 30-gauge needle that comes with the filler. When performing lip volume enhancement with the traditional needle, I inject at the wet/dry line with the target of my needle into the center of the lip. Although this works well, it requires multiple punctures with a sharp needle, which produces increased pain, bruising, and swelling. All of this can happen during the procedure, which can affect symmetry and result. A very atraumatic technique that I have been using for the past five years is deep volume lip augmentation with a micro fat injection cannula (Fig. 2). These cannulas are 0.9mm (20-
gauge) with a blunt end and are available in reusable and disposable choices. This technique is much less traumatic than sharp needle injection. I have been very impressed by the lack of pain, swelling, and bruising, as well as the ease of injection and great symmetry with this technique. It also takes much less time than standard needle injection, and the relatively larger and blunt shape of the cannula decreases the chance of intravascular injection.

The procedure is done after local anesthesia is administered as previously described. An 18-gauge needle is used to make a puncture at the proximal commissure (Fig. 2A), and the cannula is inserted to the level of the center of the lip and advanced to the distal commissure. Next, the needle is withdrawn as the filler is injected (linear threading) much in the same way one decorates a cake or caulks a window pane (Fig. 2B). The actual filler deposition is tapered on each end and fuller in the center to duplicate the youthful lip contour (Fig. 2C). Finally, the filler is massaged to homogenize the result. The puncture point is pinched with the thumb and finger to prevent the filler from being expelled during massage.

**MULTI-LAYER TEAR TRough TECHNIQUE**

Most of us were taught to inject the tear trough directly in the depth of the trough at the level of the periosteum. I too began using this approach but became disenchanted with some of my treatment results in terms of unnatural appearance and bruising. This led me to modify my technique, and now I no longer inject into the depth of the trough and I also inject in multiple layers. First, I perform a transcutaneous inferior orbital nerve block with the 32-gauge needle/1mL syringe (Fig. 3) and inject about 0.5mL of local anesthetic. My major modification is that I inject more inferiorly on the cheek instead of in the depth of the trough (Fig. 4). I have found this to be more accurate and have virtually eliminated the swelling and bruising I was seeing from injecting directly into the trough.

The other modification I have made is injecting in multiple tissue planes instead of only “at the periosteum.” I begin the injection (from the lower entry point) at the level of the periosteum and inject the base layer. I inject and then immediately massage the filler across the rim. Next, I withdraw the needle and reenter the tear trough in a more superficial plane. I always stay below the level of the orbicularis oculi muscle, and this more superficial layer produces a smoother looking augmentation.

I rarely inject above the level of the orbicularis as thinned skinned patients will show a blue hue from the clear filler (Tyndall effect). Supra orbicularis injection can be judiciously performed in thicker skinned patients. Massage is very important in evenly distributing the filler horizontally across the tear trough. This is especially important in moving filler into the medial tear trough. Minimizing sharp needle injection in the medial aspect of the trough will decrease the chance of intravascular injection and bruising.

**MULTI-LAYER Cheek Augmentation**

When injecting larger volumes of filler to restore facial volume (cheeks, jowls, and temples), I believe that multi-layered
injection that tapers from the base to the surface will produce the longest-lasting and most natural results. Anyone that understands the layers on a topographic map can apply this to multilayered filler injection. The base layer is wider than the successive layers of injection to produce a 3-D volume appearance (Fig. 5). I am often asked “How do you know exactly where to inject the cheek filler?” I decide this by several methods. One is to simply have the patient smile and mark the regions that show improvement from the repositioning of animation. Then, when the patient relaxes, the marked areas are filled. Another method I like is to place a submalar cheek implant on the cheek and trace its outline. This provides a template to guide the injection and augmentation (Fig. 6). Lifting up the cheek to massage the filler over the underlying bone will assist in homogenizing the result.

TIPS ON INJECTING THE NASOLABIAL FOLD
For superficial nasolabial folds on younger patients, I generally (like everyone) inject superficially in the depth of the fold. For older patients with deeper folds, I apply the same “layering mentality” as described in the cheek treatment: progressively layering successive tapering depositions of filler. One common pitfall sometimes encountered when injecting nasolabial folds is unintentional filler flow to the lateral portion of the fold. The nasolabial fold has unique anatomy: numerous types of tissue and tissue planes converge in this region. Due to this, filler injected in the center of the fold can have a tendency to flow lateral upon injection. If this happens, the lateral portion of the fold is augmented instead of the center. This causes the fold to look thicker and deeper and the patient to look worse instead of better. The injector may continually observe “where the filler is actually going” during all injections. I remind novice injectors that if they cannot see the augmentation happen during the injection (e.g., they don’t see the fold or wrinkle improve) then they are in wrong plane. A common injection mistake is to place the needle too deep in the nasolabial fold so that the filling effect is not appreciated.

AVOIDING FILLER COMPLICATIONS
Overcorrection and undercorrection are some of the most common filler complications. Unfortunately, many injectors have the “Wham/bam single appointment filler mentality.” Although the average patient can be treated in a single session, meticulous injectors follow their patients. I personally prefer for all filler patients to return to the office at two weeks for a quick follow-up appointment. This allows me to refine my treatments and to correct any deficiencies or symmetry problems and make sure that both the patient and I are happy. It is also a great time to obtain “After” pictures to go with the “Befores” you always take at baseline. Explaining to patients that filler treatment is a sculpting process helps convey the importance of a follow-up appointment. This also lets the patient know that you truly care about your work and are meticulous.

Although it is common for many docs to allow their staff to inject, I personally perform all injectables in my practice. It only takes minutes and is invaluable doctor/patient marketing time. Many of my facelift, eyelid, and laser patients started out as filler or neurotoxin treatments. I find it particularly humorous that some turf war-oriented doctors claim that “only my specialty is qualified to perform this work,” then allow the staff to treat their patients.

Dr. Niamtu has no relevant conflicts of interest.