

Injection technique in neurotoxins and fillers: Planning and basic technique



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Learning objectives

After completing this learning activity, participants should be able to select an appropriate injection technique for a particular patient, clinical condition, and anatomic location; describe the specific preparation, hand position, depth of injection, injection pressure, and intraoperative feedback mechanisms used to deliver an appropriate and effective treatment; and combine appropriate fillers and neurotoxins to improve the overall aesthetic effect.

Disclosures

Editors

The editors involved with this CME activity and all content validation/peer reviewers of the journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Authors

The authors involved with this journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Planners

The planners involved with this journal-based CME activity have reported no relevant financial relationships with commercial interest(s). The editorial and education staff involved with this journal-based CME activity have reported no relevant financial relationships with commercial interest(s).

Cosmetic dermatologic surgery has evolved to be a minimally invasive field that addresses patient concerns with a multimodal approach while minimizing adverse events and downtime. Within the armamentarium of dermatologic surgery, injections of soft tissue augmentation materials and neuromodulators are key tools for recontouring the aging face. Treatment of the individual patient is preceded by a comprehensive consultation that elicits patient concerns and preferences. A treatment plan is collaboratively developed to correct relevant deficits and retreat as appropriate to maintain the correction. The goal of volumization with fillers is to recreate atrophic subcutis and dermis, thereby filling the deflated face and returning it to a more youthful contour. Neurotoxins can help minimize the emergence of static wrinkles and selectively recontour the face. Treatment techniques for both filler and neurotoxin injections are customized for particular patient needs and are based on the type of deficit and the anatomic location. (J Am Acad Dermatol 2018;79:407-19.)

Key words: Bellafill; Belotero; Botox; consultation; Dysport; filler; hyaluronic; injection; Juvederm; neuromodulator; neurotoxin; Radiesse; Restylane; Sculptra; technique; Xeomin.

Cosmetic medicine has been revolutionized by the emergence and acceptance of prepackaged injectable fillers and neuromodulators. Facial rejuvenation was once only available to those who could afford major plastic/reconstructive surgery, but these modalities have now made this process safer, more affordable, and immediate. Dermatology has been at the forefront, the specialty most associated with leading innovation

in fillers and neuromodulators as judged by both primary care physicians and the general public.^{1,2}

The purpose of this review is to describe how patients are treated with fillers and neuromodulators. We focus on technique alone because a broader review is beyond the scope of a succinct narrative.³ We begin by characterizing the cosmetic consultation, treatment selection, and the way treatments are tailored to individual patients.⁴ The current thinking

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Funding sources: None.

Conflicts of interest: None disclosed.

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0190-9622/\$36.00

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<https://doi.org/10.1016/j.jaad.2018.01.034>

Date of release: September 2018

Expiration date: September 2021

regarding the process of facial aging is summarized. Finally, the specific maneuvers required for injection of fillers and neuromodulators, respectively, are delineated. The second article in this continuing medical education series discusses the specific injectable products available, particular indications, avoiding and managing adverse events, developing a treatment plan, and combining injectables with other procedures.

THE CONSULTATION: WHERE AND WHEN TO INJECT FILLER AND TOXIN

Key points

- **Elicit and address patient concerns and preferences in a preinjection consultation**
- **Smaller volume injections at fewer anatomic sites may allay anxieties in novice patients**
- **Less patient education is required with neuromodulators, which are associated with briefer downtime and less contour change**
- **Neuromodulator injections for the upper face are commenced when etched lines begin to emerge**

The filler injection process begins with the consultation. Patients who previously received filler and were pleased are easiest. A review of documentation regarding previous treatments helps ensure a comparable outcome in the future. Treatment intervals may be extended as small quantities of filler may persist. The potential utility of novel agents that have been approved by the US Food and Drug Administration since the patient's last visit may be discussed. Patients previously treated by others may be asked what was injected, where, in what amount, and how frequently. Patients may also be asked how they felt about the final look, 2 to 3 weeks after injection, when edema and erythema had subsided. Some injectors believe that patients who have received injectable silicone or other permanent fillers are not good candidates for temporary fillers, which may elicit an idiosyncratic immune reaction. Newcomers to filler injections will typically be more anxious. They are asked what most bothers them about their appearance, and if multiple areas are highlighted, which are most upsetting. The injector can also gently insert their own preferences, noting that they are trying to provide a professional appraisal likely more indicative of the opinion of friends and family. Patients are often alarmed by the immediate change in their facial contour from the first injections and are reassured posttreatment. Patients' overall satisfaction with fillers derives from comparison of the benefits, including youthful appearance, reduced wrinkles, and convenience, versus the costs, including time, expense, downtime, and injection

discomfort. The tolerance of first-time injectees is unknown, and it behooves the injector to begin by injecting modest amounts in one or two areas. In days to weeks, when swelling diminishes, other areas can be injected, and undertreated areas can be touched up.

As with filler, before neuromodulator injections, it is useful to review the patient's history to understand previous treatments. Patients may not remember the method used by other injectors but can communicate the posttreatment features that they found attractive or problematic. This information is used to deduce injection appropriate placement going forward. A history of brow ptosis, preference for brow elevation, or other considerations can guide treatment pattern. Downtime after botulinum injections is negligible as the tiny erythematous macules at injection sites resolve spontaneously, are concealed with makeup, or can be gently massaged away. Patients may be uncertain when they should begin undergoing neuromodulator treatments. It has been suggested that the time to start injecting the upper face is when dynamic creases generated by muscle movement begin transitioning to static creases, or etched lines present even at rest. In patients with fine, fair skin, like redheads, this can occur in the early twenties, while darker patients with ethnic skin may see such a change several decades later.

MANAGING PATIENT EXPECTATIONS AND DEVELOPING AN ONGOING PLAN

Key points

- **Swelling, redness, and occasional bruising can occur after injections, particularly with fillers**
- **A predetermined treatment schedule helps maintain the desired cosmetic correction**

Patients tend to be satisfied with filler injections if their expectations are coincident with outcomes. Before treatment, patient expectations may be colored by a flawed understanding of the procedure. Common misapprehensions are that injections inevitably cause an unnatural, overfilled appearance, or that fillers are risky. Conversely, patients may have unrealistically rosy beliefs about how little filler is required and how long it may last. Incorrect patient expectations should be explicitly corrected clearly and respectfully. Appropriate counseling keeps patients from unexpectedly having to cancel significant social or work events. Sticker shock, which may be associated with the realization that multiple vials may be required several times a year, can similarly be avoided with clear communication. Satisfied patients tend to return for repeat treatment.

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