



HANDBOOK OF BOTULINUM TOXINS FOR AESTHETIC INDICATIONS

THEORY AND PRACTICE



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Injection techniques: forehead and eyebrow shaping

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Introduction

In the last decade, the aesthetic use of botulinum toxins (BTXs) has extended far beyond its original glabellar area US Food and Drug Administration (FDA) indication. In 2013, onabotulinum A received an indication for the treatment of lateral canthal lines, or crow's feet, and we would expect that other areas will also gain approval in the future. Even without FDA approval for specific sites, BTXs are being used in many regions of the face and neck for both wrinkles and for facial shaping with great success. At the time of the publication of this chapter, the forehead area and brow shaping are both considered 'off label' uses for BTXs.

Anatomy

Understanding muscular anatomy and how it affects the movement of the areas being injected is vital to a successful treatment outcome. The forehead and glabellar anatomy play an important role in the shape and height of the brows. The forehead is the area surrounded superiorly by the hairline, inferiorly by the brow and the supraorbital ridge laterally as well as the glabellar region medially. As the hairline recedes, the anatomical landmarks of the upper forehead will change and it is important to understand how this region may be affected over time. The forehead comprises the upper third of the face and is comprised of five layers: skin, subcutaneous tissue, galea aponeurotica/muscles, loose areolar connective tissue, and periosteum. These five layers originate in the scalp and continue down onto the forehead area. The scalp galea aponeurotica continues onto the forehead where it turns into the muscles of facial expression. The primary muscle of the upper face and forehead is the frontalis. This is the only elevator muscle in this region. The frontalis is a paired muscle that inserts into the aponeurosis superiorly on the scalp and inferiorly into the brow depressor muscles. It also inserts into the dermis on the forehead, but has no bony attachments. It is the only elevator of the brow and is also responsible for the horizontal forehead lines due to this levator muscular action. The frontalis fibers run vertically across the forehead region and can be either contiguous or separated by a region of no muscle in the midline forehead. The glabellar complex is technically also part of the forehead