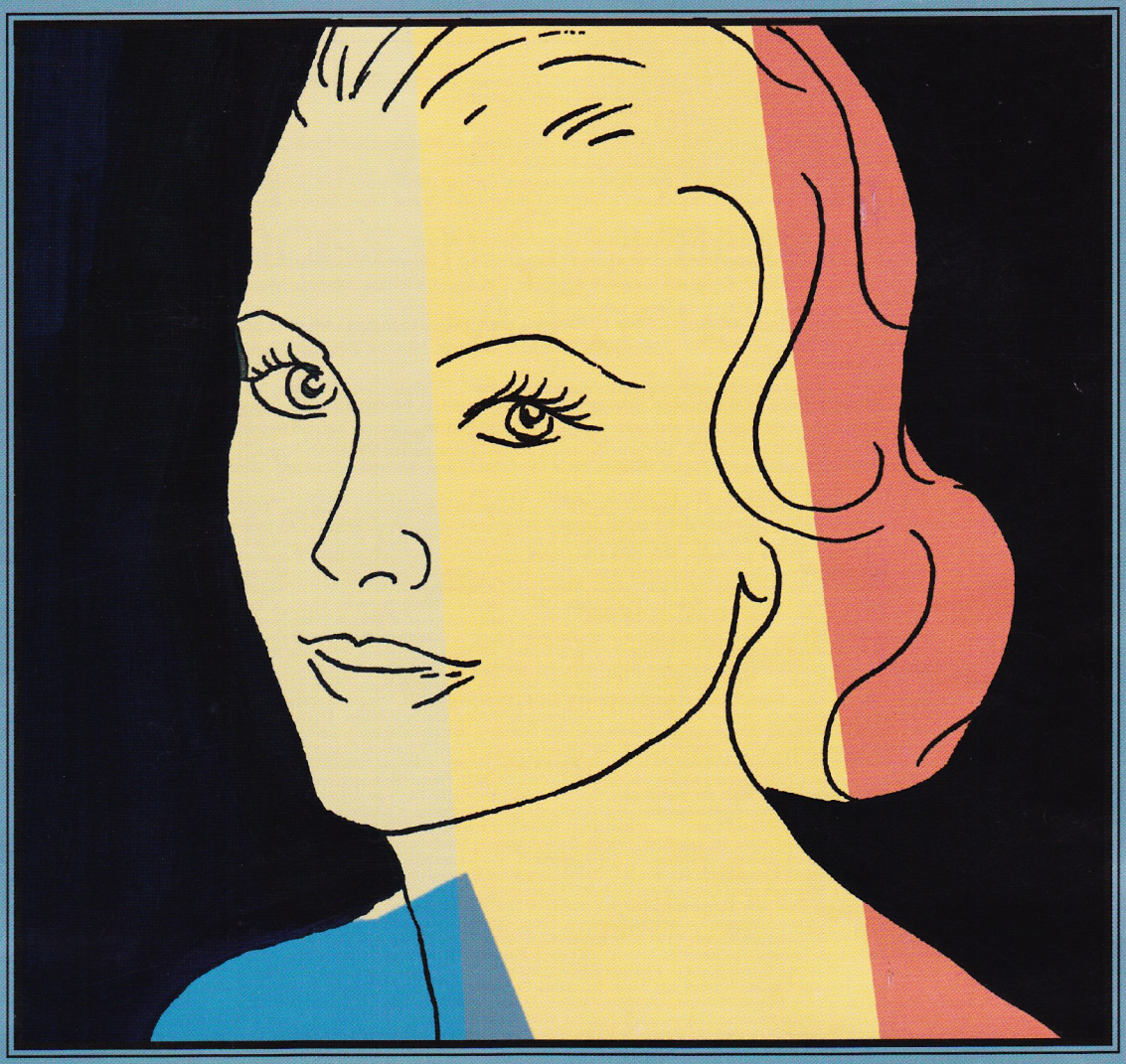
CME SPECIAL REPORT

ACT ADVANCES IN COSMETIC THERAPY

Advances in Cosmetic Therapy: A Focus on BoNT-A



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have expanded to a concept of facial rejuvenation, striving for a personalized approach and a balanced result for each patient.[43]

Cosmetic use of neurotoxin will provide some benefit to almost everyone, but will not greatly impact changes due to aging that are demonstrated by volume loss, skin laxity, photodamage, and elastosis. The "4 Rs" of facial rejuvenation (Relax, Refill, Resurface, Redrape) serve as a reminder of where BoNT-A best fits in the practitioner's armamentarium.[44]

Years of experience has revealed that a "one size fits all" approach is not sufficient for optimal BoNT-A results. The successful clinician recognizes differences in muscle mass and action, variations in aesthetic goals based on gender and patient preference, and the impact of variable factors in dosing and toxin placement. Rather than apply a template of dosing and injection points to each patient's face, best practice guides the clinician to view each treatment plan as unique, using the patient's goals, anatomical structure, and pattern of muscle mass and activity to create an individualized approach.

Macdonald and associates showed that muscle placement and depth varies between genders.[45] Their dissection and study of 50 cadaver hemibrows (24 male; 26 female) identified gender-related differences in the location and placement of key upper face musculature. Corrugator musculature in males exhibited greater thickness and depth at key measurement points (medial canthal and mid-pupil regions) versus corrugator musculature in females. Males also exhibited overall greater thickness of the frontalis musculature. The female procerus was found to be significantly longer than the procerus in males. Recognition of these basic gender-related musculature differences is an important step in achieving high levels of patient satisfaction. The DYSPORT variable-dosing study results discussed earlier demonstrate the impact of individualizing therapy based on gender and individual differences in facial musculature.[24]

Facial Muscle Anatomy

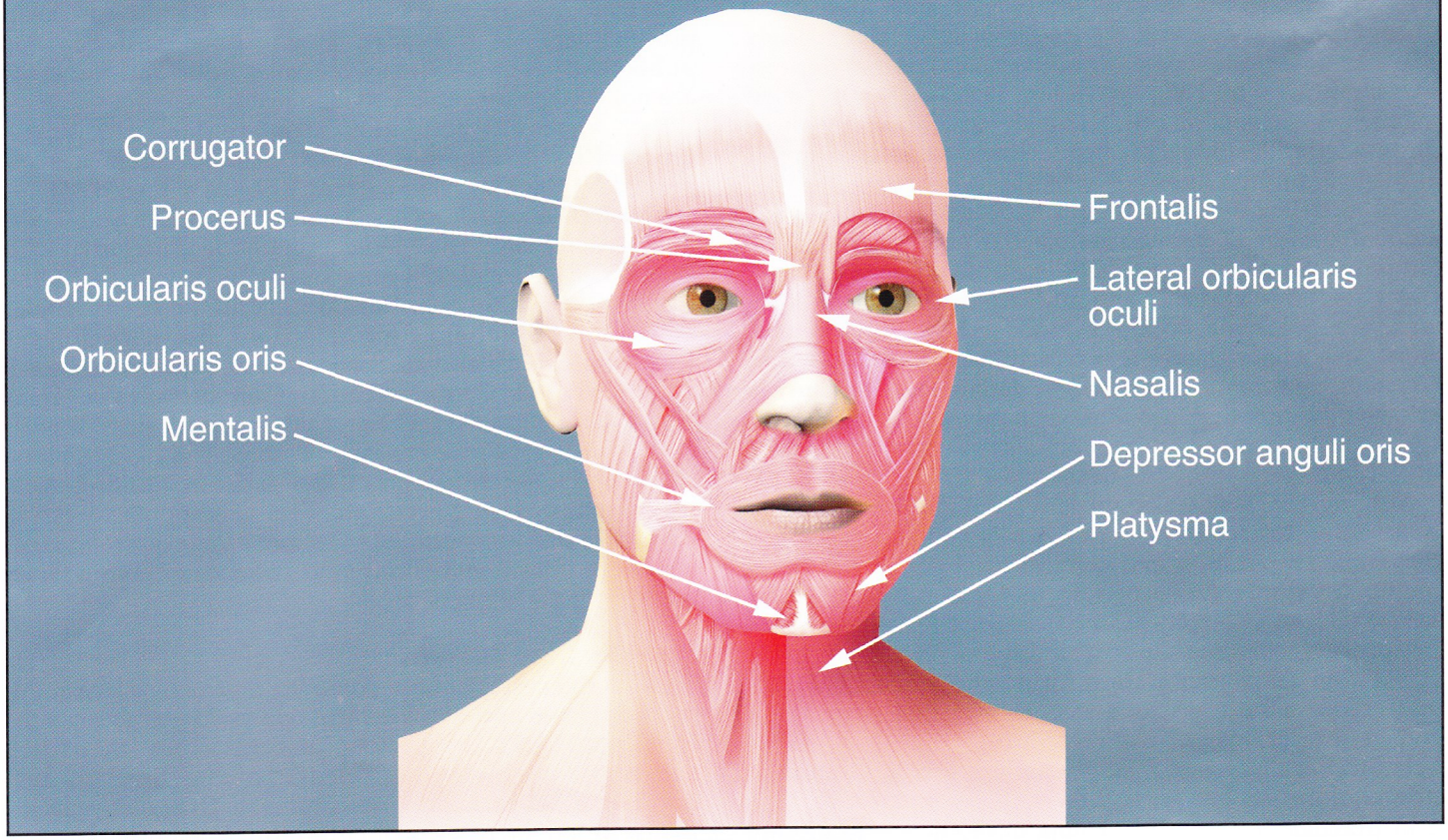
An understanding of the structure, placement, and movement of the facial muscles (Figure 1) is essential to achieve optimal results with BoNT-A therapy. The muscles of the upper face are typically the first targets for BoNT-A therapy, with the glabella area remaining the most studied. As a brief review we provide herein basic information regarding the structure, position, and movement of the most commonly-treated muscles[46,47]; however, it is worth remembering that each patient's individual muscle pattern is distinct and a careful evaluation is crucial.

The corrugator supercilii muscle moves the eyebrows centrally and inferiorly upon contraction. Its action contributes to the formation of vertical and oblique lines in the glabellar area. The corrugator originates from the supraorbital ridge of the frontal bone and inserts along and into the skin above the middle third of the eyebrow. It is located deep to the frontalis muscle, becoming more superficial laterally. The corrugator may present with either of 2 distinct patterns: a short, narrow muscle with pyramidal distribution, or a straight, narrow muscle extending to the mid-brow position.

The procerus muscle draws the medial portion of the eyebrow down, and contributes to the formation of transverse glabellar lines. The muscle originates from the nasal bone and fans upward to insert into the skin of the glabellar or mid-forehead regions.

Contraction of the frontalis muscle raises the eyebrows and upper eyelids and, over time, causes horizontal fore-

FIGURE 1
Review of Facial Musculature



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