

Jemshed A. Khan

Cosmetic injection of botulinum toxin for glabellar rhytids was approved by the FDA in April 2002. To reduce pain and avoid blunting the needle tip during injection, avoid injecting too shallow or too deep: stay deep enough to be subdermal, but not so deep as to engage the periosteum. Pain may be reduced by palpating the supraorbital notch and thereby avoiding the vertical course of the supraorbital nerve. Stay 5 mm superior to the eyebrow to reduce the risk of eyelid ptosis (Fig. 126.1a, b).

The procerus muscle may be injected in the midline or by pinching the nasal bridge and entering the procerus tangentially. The drug is deposited in the midline. Generally, a single procerus injection is placed over the upper nasal bridge either at or up to 7 mm higher than the level of the medial canthal tendon.

Reprinted from Chen WPD, Khan JA, McCord, Jr, CD. *Color Atlas of Cosmetic Oculofacial Surgery*. Philadelphia, PA: Butterworth Heinemann/Elsevier; 2004. With permission from Elsevier.

J.A. Khan, MD
Department of Ophthalmology,
Kansas University School of Medicine,
Kansas University Medical Center,
Kansas City, MO, USA

Corrugator Treatment Keys

- Perpendicular or tangential injections.
- Insulin syringe with integrated 30-gauge needle.
- Avoid supraorbital neurovascular bundles.
- Avoid dulling the needle against the periosteum.
- Inject at subdermal or intramuscular depth.
- Deeper injection is more painful.
- Injection sites placed at least 5 mm superior to the upper eyebrow border.
- Injection sites placed at least 5 mm medial and lateral to the path of the supraorbital nerve.
- Two injections of 5 units each delivered to each corrugator muscle and 5 units into the procerus.
- Apply pressure after each injection.

Procerus Treatment Keys

- Procerus muscle is a midline structure.
- Procerus action creates horizontal furrows.
- Emotional signal created by procerus action is aggression.
- Inject 5 units into the midline procerus.

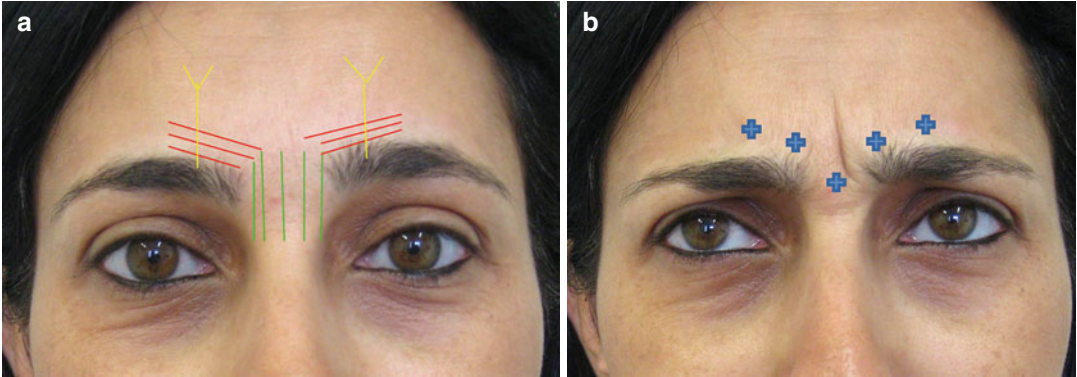


Fig. 126.1 (a) The corrugator muscles are represented by red lines and the procerus muscle by green line. Note the course of the supraorbital nerve (yellow) located 2.5 cm lateral to the midline. The inferior portion of the nerve

should be avoided because of postoperative ecchymosis. (b) Five injection sites of 5 units each are typically used. The lateral site is never placed directly superior to the supraorbital notch