

Sheri L. DeMartelaere, Todd R. Shepler,  
Sean M. Blaydon, Russell W. Neuhaus,  
and John W. Shore

1. Botulinum toxin type A injected in the glabellar area 1 week preoperatively can be a useful adjunct to promote wound healing in patients with hypertrophic corrugator and procerus muscles.
2. The endoscopic dissection is eased by the use of a tumescent injection. We prefer to use a dilute local mixture (0.3 ml of 2 % lidocaine with epinephrine 1:100,000 with 2.7 ml of normal saline) to slightly elevate the periosteum across the glabellar region. The 2 % lidocaine with epinephrine 1:100,000 is drawn from a 50-ml vial in which 150 units of hyaluronidase and 5 ml of sodium bicarbonate 8.4 % have been added.
3. An alternate “tumescent” technique is used to elevate the scalp across the forehead down to the glabellar area. A 50-ml vial of 2 % lidocaine with 1:100,000 epinephrine is drawn up and injected into a liter bag of IV normal saline or lactated Ringer (creates a mixture with 0.1 % lidocaine and 1:2,000,000 or 0.5- $\mu$ g/ml epinephrine). For an additional anti-inflammatory effect, 4 ml of Kenalog 40 mg/ml can be added to the bag. IV tubing is placed through a tumescent pump or the IV bag placed in a pump-up IV infuser. A 25-g spinal needle is attached to the tubing then placed through the skin and into the subperiosteal plane. Under pressure, the dilute local mixture is injected and spread subperiosteally down to the level of the glabella.
4. Because of the increased risk of postoperative hematoma formation, contour deformities, or unsightly splaying of the brow heads, we no longer transect the procerus and corrugator muscles unless there is significant hypertrophy of muscles in this area.
5. Some patients experience prolonged postoperative nausea and vomiting. One liter of intravenous fluid given towards the end of the surgical case lessens the risk of dehydration postoperatively.

---

S.L. DeMartelaere, MD, FACS (✉)  
Uniformed Services, University of the Health  
Sciences, Bethesda, MD, USA

Department of Surgery, Ocular and Orbital Trauma  
Service, Brooke Army Medical Center,  
San Antonio, TX, USA

T.R. Shepler, MD • S.M. Blaydon, MD  
R.W. Neuhaus, MD • J.W. Shore, MD  
Texas Oculoplastic Consultants, Austin, TX, USA