**Periorbital Phenol-Croton Oil Chemical Peel in Conjunction with Blepharoplasty: An Evolving Technique for Periorbital Facial Rejuvenation**

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**INTRODUCTION:** Blepharoplasty can restore a youthful appearance to the periorbital region; however, surgery alone is often unable to address the issue of periorbital fine lines and hyperpigmentation. The literature is replete with publications regarding the efficacy of phenol-croton oil peel, yet, there is little specifically addressing peels of the periorbita. We present a series of patients who underwent a peel combined with blepharoplasty, or peel alone, in order to improve fine lines and/or hyperpigmentation. The authors describe their surgical methods and complications with this technique and how it fits into the plastic surgeon's armamentarium for periorbital rejuvenation.

**METHODS:** A retrospective chart review was done to identify patients who underwent periorbital phenol-croton oil peels performed by a single surgeon (J.E.Z) from 2003-2014. Treatment sequences included: 1) peel alone to treat hyperpigmentation, 2) peel alone to treat fine lines, 3) peel at the time of transconjunctival or pinch blepharoplasty, or 4) peel secondarily after cutaneous blepharoplasty. A standard concentration of 27.5% phenol and 0.105% croton oil was used for all peels. Patient age, Fitzpatrick type, history of prior facial surgery, blepharoplasty type, and ancillary procedures were obtained. Data was managed with RedCap database.

**RESULTS:** We identified eighty-two patients (81 females, 1 male) who underwent a blepharoplasty and phenol-croton oil peel, or a peel alone. Average age was 58.66 ± 8.05 years. Indications for peel were periorbital hyperpigmentation (n=26) and/or fine rhytids (n=63). Fitzpatrick skin type was: I (n=30), II (n=36), and III (n=16). Twenty-five (30.4%) of these patients underwent a periorbital phenol-croton oil peel combined with a blepharoplasty. Blepharoplasty techniques included: upper lid blepharoplasty (n=20), lower lid pinch blepharoplasty (n=8), and/or transconjunctival lower lid blepharoplasty (n=6). Complications of peeling were few and included: residual hyperpigmentation (n=4), prolonged erythema (n=4), and telangectasias (n=2). Twelve patients (14.6%) underwent a second peel for residual rhytids. A typical result is demonstrated in Figure 1.

**CONCLUSION:** Judicious use of dilute concentrations of phenol-croton oil in the periorbital region can be successfully performed with minimal to no complications. It can be applied as a stand-alone procedure, or as a complement to blepharoplasty surgery. When these techniques are combined there is significant improvement in upper and lower lid laxity, hyperpigmentation, and reduction of fine rhytids. It is a cost effective treatment with long-lasting results.

**FIGURE LEGEND**:
**Figure 1.** Pre-operative photos of 54 year old female who underwent upper and lower lid blepharoplasty followed by periorbital phenol-croton oil peel.

**Figure 2**. Post-operative photos of 54 year old female one month after phenol-croton oil peel and twelve months after bilateral upper and lower lid blepharoplasty.