Non-Surgical Facial Rejuvenation

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OPHTHALMIC PLASTIC & RECONSTRUCTIVE SURGERY

Non-Surgical Facial Rejuvenation
• Botox
• Fillers
  – Radiesse
  – Juvederm
• Laser skin resurfacing
• Chemical Peels
• Cosmeceuticals
• Radiofrequency dermal therapy

Chemical Peels & Cosmeceuticals
• A talented tailor may cut, stitch, and re-drape my wife’s polyester prom dress. Unfortunately, he cannot turn that polyester dress into a silk gown.
• Similarly, a surgeon may lift, tighten or reposition skin...but cannot change the quality or texture of the skin with surgery alone.
• *This reality is a major limitation of surgery*

Chemical Peels & Cosmeceuticals
• Skin rejuvenation techniques
  – Chemical peeling
  – Laser resurfacing
  – Dermabrasion
  – Topical cosmeceuticals

Chemoexfoliation

Chemical Peels (chemoexfoliation)
• The process by which the skin is wounded or burned with a chemical agent
  – Immediate reaction: second-degree chemical burn
  – Inflammatory response peaks at 48 hours
  – Regeneration of surface epithelium complete in 5-14 days
  – Collagen remodeling lasts for weeks-months
Chemoexfoliation

• Depth of wound dependent on
  – Chemical agent
  – Concentration of chemical agent
  – Skin thickness
  – Skin permeability
  – Actinic damage

Chemoexfoliation

• Superficial Depth Peels
  – To papillary dermis
• Intermediate Depth Peels
  – Upper reticular dermis
• Deep-Depth Peels
  – Mid reticular dermis

• The deeper the wound, the deeper the area of damaged/disorganized tissue with healthy/well-organized tissue
• The deeper the wound, greater the potential for scarring, pigment change, cicatricial ectropion, lid retraction, lagophthalmos, infection

Chemoexfoliation

• Pathophysiology
  – Papillary dermal collagen changes from wavy to straight
  – Dermis shows fibroblastic proliferation with replacement of elastic fibers
  – Loss of melanocytes in basal layer as well as in dermis

• Appearance
  – Skin becomes smoother, lighter, and more light-reflective
  – Softening of deep creases, removal of fine lines, greater elasticity

Chemoexfoliation

• Risk depending on skin pigmentation…

• Fitzpatrick I-II
  – Significant hypopigmentation (permanent)

• Fitzpatrick II-III
  – Splotchy post-inflammation hyperpigmentation (temporary)

• Fitzpatrick IV-VI
  – Significant hypopigmentation and hyperpigmentation (permanent)
Chemoexfoliation

• Relative contraindications
  – Light skinned individuals
  – Dark skinned individuals
  – Those with chronic long-standing sun exposure
  – Concurrent subcutaneous surgical dissection

Chemoexfoliation

• Post-Peel Care
  – Facial cleanser BID
  – WC/H2O2
  – No manual peeling
  – Ointment (occlusive) BID
  – Hyaluronic acid
  – Sunscreen!
  • After 1 month
What is Pellevé®?
• An essentially painless radiofrequency wrinkle reduction treatment
• Precisely heats the deep dermal layers with advanced radiofrequency technology
• Collagen contracts and tightens, resulting in reduction of wrinkles
• Elastin becomes more uniform
• Post treatment new collagen production begins
• Result is improvement in skin quality, firmness, tightness and wrinkle reduction

Benefits of Pellevé
• Customizable - dosing individualized for efficacy
• Comfortable - gradual continuous heating is more comfortable & achieves clinical efficacy
• Clinically efficacious – proven results with high response rate in clinical studies
• Cost effective - for both patient and provider
• Ideal for patient’s who are interested in
  • Non-invasive, non-surgical skin tightening
  • Reduction in skin laxity and sagging
  • Seeking overall “Facial Rejuvenation”
  • Virtually no down time – immediate return to normal activity

Pellevé S5 System
Pellevé GlideSafe™ Handpieces

- 7.5 mm - periorbital & glabellar regions
- 10 mm - periorbital, glabellar & perioral
- 15 mm - forehead, cheeks, jawline & perioral
- 20 mm - forehead, cheeks & jawline

Pellevé® Mechanism of Action

- Collagen & elastin are non-homogeneous, complex structures
  - Goal: increase the amount of collagen and make elastin more uniform
- Pellevé creates a “mini thermal wound”
  - Collagen & elastin affected when surface temperature is greater than 40°C
- Partial denaturation of collagen
  - Immediate collagen contraction
  - Dermal contraction for tightening
  - Fibrous septae contraction for contouring
- Wound healing response
  - Collagen deposition and remodeling
  - Initial wound healing response 3-4 week process
- Neocollagenesis & collagen remodeling may continue to improve for up to 6 months

Versatility

- Precision surgical procedures
- Single System
- Non-surgical skin tightening

Pellevé® Mechanism of Action

- GlideSafe™ Handpiece delivers RF energy to epidermis and deeper dermal tissues
- Minor thermal “injury” occurs at intradermal temperatures in 41 – 53°C range
- Therapeutic levels of heat induce collagen contraction, neocollagenesis and elastin uniformity
  - Existing type 1 collagen tightens in dermis and in fibrous septae subdermally
  - Contraction of skin surface and 3 dimensional tightening of deep structures
  - Controlled thermal injury attracts fibroblasts - produces new collagen in the dermis over subsequent months

Contraction of skin surface and 3 dimensional tightening of deep structures
- Thermally mediated healing response causes new collagen formation

How Much Heat is Required?

Not Safe
- Excessive heating causes complete collagen fiber dissolution
  (collagen turns into gelatin)
- Tissue necrosis, scarring, burning, etc.

Safe, Effective
- Heating partially disrupts collagen fibril structure
- Weak intermolecular bonds maintain structural stability
- Contraction along the length of collagen fibers occurs
- Thermally mediated healing response causes new collagen formation
- Treatment within Pellevé labeling

Safe, Not Effective
- Heating insufficient to disrupt collagen fibril structure
- No clinical effect observed

**Histology Study**

TEM (25,000x) shows scattered diffuse changes in collagen fibril architecture with shift from smaller diameter collagen fibers in the untreated samples (A) to larger diameter and loss of distinct borders fibers in the treated samples (B) compared with normal fibrils.


**Pellevé® Clinical Data**

- 93 patients followed for 6 months after a single treatment
- 3 independent, blinded assessors (2 facial plastic surgeons & 1 dermatologist)
- Almost 90% retained photographic improvement at 6 months

**Indications for Use**

- Ellman’s RF technology has been used for the treatment of wrinkles and rhytids in Europe since 2006
- In May 2009 Ellman Received FDA Clearance for the Pellevé System to be used for:
  - Non-ablative treatment of mild to moderate facial wrinkles and rhytids for skin photo types I – IV
- Federal law restricts this device to sale by or on the order of a Physician

**Pellevé® Clinical Data**

- 49 Men and women, ages 30-71
- Moderate to severe wrinkles, 4-9 on Fitzpatrick Wrinkle Assessment Scale
- Two treatments, one month apart
- 3-D Photographs at baseline and 120 days after 2nd treatment

**What to Expect Pre & Post Pellevé**

- A deep warming sensation each time the handpiece touches the area being treated
- Patient feedback regarding heat intensity will help to ensure the best possible results
- Typical facial procedure usually takes between 45 to 60 minutes
- Some patients may experience mild edema and erythema, typically resolving within 2 to 24 hours after treatment
Set Appropriate Expectations

- Multiple treatments suggested for most patients
  - 3 or more treatments spaced 1 month apart
- Immediate changes may be noticeable
  - Collagen contraction
  - Improved skin texture
  - Mild edema
  - Slight erythema
- Neocollagenesis occurs over time
  - Evident around 1 month
  - Continues for up to 6 months

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Brow Lift

Before
Immediately After 1st Pellevé ® Treatment

30 Days After 2nd Pellevé ® Treatment

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Brow & Upper Eyelid

Before
30 Days After 2nd Pellevé ® Treatment

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Pellevé Photo Gallery

Full Face

Single Pellevé ® Treatment After 180 Days

Crow’s Feet

Four Pellevé ® Treatments Over 90 Days
Crow’s Feet

Four Pellé® Treatments Over 120 Days

Periorbital Treatment

Pre-Treatment

60 Days Post Pellé Treatment

Nasolabial Folds

Three Pellé® Treatments Over 50 Days