CASE SERIES

Use of Polymeric Membrane Dressings* Immediately After Fractionated Facial Laser† Resurfacing Procedures Improves Outcomes

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PURPOSE:

Pain, edema, extensive drainage, scabbing, long lasting redness, pigment alterations, milia formation and delayed healing are common after extensive facial laser skin resurfacing procedures. Effective management of these outcomes is important in promoting early return to daily activities as well as achieving desired final outcomes.

PRE-PROCEDURE:

Microfractional laser skin resurfacing performed along with blepharoplasty of the upper eyelids.

RATIONALE:

The microfractional laser skin resurfacing system dramatically improves deep wrinkles, laxity, and sun-damaged skin using an advanced state-of-the-art process that delivers thousands of laser pulses to the skin.

Polymeric membrane dressings are non-adherent to the wound and actively draw wound fluid, which is known to contain natural growth factors and nutrients to the wound site. The dressings contain glycerol, which has been shown to stimulate the body's natural healing processes through multiple mechanisms.

The active drawing of wound fluid to the dressing, combined with release of soluble components from the dressing continuously cleanses the wound so manual cleansing during dressing changes is usually unnecessary. The reduction of manual cleansing during dressing changes reduces the risk of contaminating the wound during the change process and helps assure the newly forming tissues are not removed during a manual cleansing process.

Additionally, polymeric membrane dressings help reduce edema, pain, and inflammation when applied to burns, abrasions and other wounds. The dressings have also been shown to reduce inflammation, edema, bruising and pain when applied over injury sites where the skin is unbroken, such as sprains, strains and contusions. The dressings have been shown to achieve these results by altering the nociceptor response at and around the injury site. The nociceptor response to injury results in inflammation, edema, and bruising, as well as the sensations of pain, itching and burning at and around the site of injury.

METHODS:

Retrospective case series analysis of 20 patients undergoing fractionated facial laser resurfacing† was conducted.

Immediately following the procedures, appropriately sized sterile polymeric membrane dressings were applied to the faces. The dressings were replaced at 24 hour intervals until the drainage stopped — usually 2 to 3 days. Usually the continuous cleansing provided by the dressing eliminated the need for manual cleansing during the initial healing which is marked with extensive drainage. After final removal of dressings, bismuth powder was applied daily for 3-5 days.

The results were evaluated compared to the historical outcomes achieved by the practice which included: rinses of saline, water, vinegar and antibacterial soap to clean the wounds; antibacterial ointment was then applied.

24 HRS POST-PROCEDURE:

Initial dressing change. The patient reported she was pain-free prior to, during and after dressing change. The limited amount of bruising and edema associated with the blepharoplasty is typical when polymeric membrane dressings are used post-surgically. Removal of large clumps of clotted blood was the only cleansing performed during dressing change.

APPLICATION OF NEW DRESSING:

Notice the care used in conforming the dressing to the face in order to assure direct contact between all resurfaced areas to achieve maximum benefit.

2 WKS AFTER PROCEDURE:

Notice the excellent skin condition and excellent eye lift outcome.

LEARNING OBJECTIVES:

1. Discuss the benefits of using a dressing that continuously cleanses the wound while also helping to reduce pain, edema, inflammation, and bruising associated with fractional laser resurfacing procedures.

2. Indicate the evidence for the use of polymeric membrane dressings to decrease inflammation, edema, bruising and pain and the relevance to plastic surgery practice.

RESULTS:

The facial laser skin procedures were performed on 2 males and 18 females with an average age of 62-years (range 45-80). The use of the polymeric membrane dressings resulted in significant reduction in drainage, and edema. Use of the dressings eliminated scabbing which helps eliminate risk of scarring. The patients' faces were pain-free allowing patients to greatly reduce and often eliminate post-procedure pain medication. The use of the dressings shortened the healing time to 6-7 days from the anticipated 10-21 days. The expected post-procedure severe skin redness was greatly reduced in 2-4 weeks compared to the customary 2-3 months. The dressings also reduced the bruising, itching and stinging often seen 12-72 hrs after the resurfacing procedure. Use of polymeric membrane dressings reduced post-procedure skin pigmentation alterations, milia and post-procedure skin dryness patients often experience.

*PolyMem® Dressings are made by
Ferris Mfg. Corp., Burr Ridge, IL 60527 USA
800.POLYMEM (765.9636) • www.polymem.com

†eCO2 (Lutronic, USA)

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CONCLUSIONS:

Polymeric membrane dressings provided improved outcomes compared to the facility's previous post-laser facial skin resurfacing standard of care. The dressings optimized the final outcome in a shorter amount of time and the patients were much more comfortable. Polymeric membrane dressings are now a standard part of treatment.

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