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

RATIONAL:

The microfractional laser skin resurfacing system dramatically improves deep wrinkles, laxity, and sun-damaged skin using a dermabrasion-like/fractional technique that delivers thousands of laser pulses to the targeted area. Microfractional laser skin resurfacing is designed to create thousands of microscopic punctures at all levels of the skin to resurface the skin, resulting in increased collagen production and delayed healing are common after dressing change. 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 photocry, 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 tissue is 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 scars, spironolactone 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:

Prospective case series analysis of 20 patients undergoing fractional facila lar laser resurfacing was conducted. Immediately following the procedures, appropriately sized sterile polymeric membrane dressings were applied to the face. 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: rinse of saline, water, vinegar and antibacterial soap to clean the wounds; application of antiseptic and antibiotics; and delayed healing which is commonly seen 12-72 hrs after the resurfacing procedure. Use of polymeric membrane dressings reduced the bruising, itching and stinging often experienced.

RESULTS:

The facial laser skin procedures were performed on 2 males and 18 females with an average age of 50 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 3-6 months. The dressings also reduced the bruising, itching and stinging often seen 12-72 hrs after the resurfacing procedure. Use of polymeric membrane dressings following post-procedure skin pigmentation alterations, telangiectasia and post-procedure skin dryness patients often experience.

POLYMEM® Dressings are made by Ferris Mfg. Corp., 1120 El Dorado Dr., Las Vegas, NV 89127 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 contributed to 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.