A Topical Effervescent Mask Provides Oxygen With Polyhydroxy/Bionic Acids to Help Calm Skin Immediately After Non-Invasive Cosmetic Procedures

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Introduction

As non-surgical topical cosmetic procedures continue to grow, there is a demand for immediate relief of post-procedure redness and discomfort. Procedures including superficial glycolic acid peels, non-ablative laser resurfacing, microneedling and photodynamic therapy can leave the skin erythematous, sensitive and irritated. Topical oxygen treatments are gaining use in wound healing/dermatology to help increase cellular energy and encourage skin recovery.[1-4]

A soothing, post-procedure oxygenating mask was developed incorporating an encapsulated, gas-carrying perfluorocarbon that is activated upon application. The mask produces bubbles and forms a froth as the gases, including oxygen, are released before dissipating after approximately 5 minutes. A 6% polyhydroxy acid (PHA) and Bionic acid blend was included for their known antioxidant and barrier strengthening properties[5-8] along with a biosaccharide gum and glycerin to hydrate the skin.

This poster presents case studies conducted by a dermatologist to evaluate skin compatibility and redness reduction of an effervescent oxygenating mask when applied after non-ablative (1440nm) laser and microneedling (Part 1). Compatibility was also assessed in a separate evaluation following other cosmetic procedures including free-acid superficial glycolic acid peels, photodynamic therapy, intense pulsed light and infrared tissue tightening (Part 2).

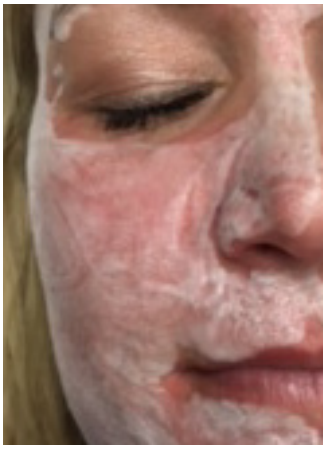
Post-Procedure Oxygenating Mask Use

Application After Non-Ablative Laser, Microneedling & Other Cosmetic Procedures

- Gently apply a generous, even layer onto skin immediately after procedure or after cool compresses
- Wait 5-10 minutes allowing a thick, oxygenating froth to form (Figure 1) and then dissipate
- Gently remove any remaining product with cool, wet gauze
- Apply a post-procedure moisturizing and protective product to the treated area

The oxygenating mask was stored in the refrigerator (4C) for added cooling and soothing benefits.

Figure 1. Oxygenating Mask on Face After 1440 Non-Ablative Laser



Effervescent areas (white) are releasing oxygen on the skin.

Test Product

The oxygenating mask (*NeoStrata® ProSystem Bionic Oxygen Recovery*) was used post-procedure to soothe and calm the skin. It was formulated for use post-procedure and is fragrance free, oil free, color free, paraben free and pH balanced (4.5).

Key Benefit Ingredients

- **6% PHA/Bionic acid blend:** antioxidant properties, barrier strengthening
- **Triple Oxygenating Blend** (perfluorohexane, perfluorodecalin, perfluoromethylcyclopentane): Colorless, inert liquids that deliver gases (oxygen) to the skin
- **Biosaccharide gum:** Fucose rich polysaccharide produced from raw plant material via fermentation; hydrating effect due to humectant and film forming effects
- Vehicle is a self-foaming gel cream and contains 5% glycerin for hydration

Case Studies – Part 1: Oxygenating Mask After Microneedling & Non-Ablative Laser

Method: The compatibility and efficacy of the oxygenating mask immediately after cosmetic dermatological procedures on the face was assessed with the following devices:

- Microneedling: DermaPen®, 2-2.5mm depth
- Non-ablative laser: Palomar 1440 Fractional Laser, 1-2 passes

Products were used concomitantly in these procedures as indicated in Tables 1 & 2

- 2% Hydroquinone Gel *(NeoStrata® HQ Skin Lightening Gel)* ***– HQ***
- 2% N-acetyl tyrosinamide Serum with AHA *(NeoStrata® ProSystem Aminofil® Complex)* ***– AF***
- Physical Sunscreen SPF 50 (TiO_2 and ZnO) with 4% PHA/Bionic acid blend *(NeoStrata® Sheer Physical Protection SPF 50)* ***– SPF 50***

Evaluation Tools

- **Dermatologist Clinical Impression** – Overall clinical impression of the oxygenating mask compatibility post-non-ablative procedures was conducted
- **Irritation Grading** – Irritation was graded by the dermatologist immediately post-procedure and post-mask
  - Irritation Scale: 0=None, 1=Barely Perceptible, 2=Mild, 3=Moderate, 4=Severe
- **Subjective Measures** – Self-Assessment questionnaires were completed by subjects

Dermatologist Grading of Irritation and Overall Impression of Oxygenating Mask Benefit Post-Procedure

Table 1. Case Studies: Microneedling

Subject Initials	Condition Treated	Order of Application: AF=Aminofil Serum, HQ=Skin Lightening Gel, MN=Microneedling, O2=Oxygenating Mask	Post-procedure Irritation (see scale below)	Irritation After the Effervescent Oxygenating Mask Has Dissipated (see scale below)	Dermatologist Impression: Did you feel the Mask decreased erythema and/or edema in comparison to not using the Mask?
CAG	Photoaging/Rosacea	AF, MN, O2, Compress, AF, SPF 50	3-4	2	Yes; redness was less after mask
DAB	Photoaging/Rhytides	AF, MN, O2, Compress, AF, SPF 50	3	1	Yes; noticeable decrease in erythema post mask; further decreased after compresses
BCB	Photoaging/Acne	AF, MN, O2, Compress, AF, SPF 50	3	1	Yes; noticeable decrease in erythema post mask
CLJ	PIH/Acne Scars	HQ, AF, MN, O2, Compress, AF, SPF 50	3	2	Yes; slight decrease in erythema after mask; greater reduction after compresses
JP	Melasma	HQ, AF, MN, O2, Compress, AF, SPF 50	2-3	2	Yes; minimal decrease in erythema post mask and again after compresses
LAD	Melasma/Photoaging	HQ/AF, MN, HQ/AF, O2, SPF 50	3	2	Yes

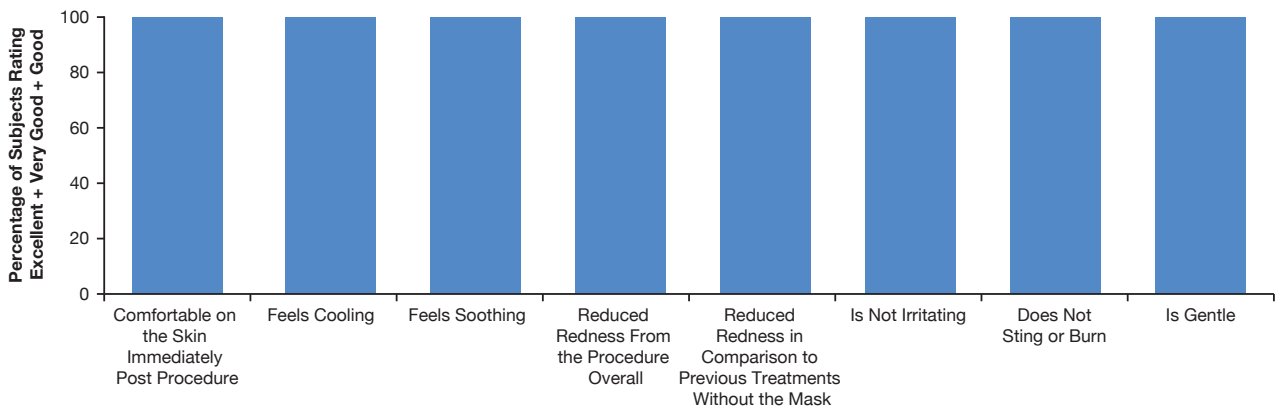
Irritation Scale: 0=None, 1=Barely Perceptible, 2=Mild, 3=Moderate, 4=Severe

Table 2. Case Studies: Non-Ablative Laser

Subject Initials	Condition Treated	Order of Application: AF=Aminofil Serum, HQ=Skin Lightening Gel, MN=Microneedling, O2=Oxygenating Mask	Post-procedure Irritation (see scale below)	Irritation After the Effervescent Oxygenating Mask Has Dissipated (see scale below)	Dermatologist Impression: Did you feel the Mask decreased erythema and/or edema in comparison to not using the Mask?
MKM	Photoaging/Rhytides	Laser, AF, Compress, O2, AF, SPF 50	4	2	Yes
DA	Photoaging/Rhytides	Laser, AF, Compress, O2, AF	4	3	Yes
KB	Photoaging/Rhytides	Laser, AF, Compress, O2, AF	4	2+	Yes
CS	Photoaging/Rhytides	Laser, AF, Compress, O2, AF, SPF 50	4	3	Yes
KO	Photoaging/Rhytides	Laser, AF, Compress, O2, AF, SPF 50	4	2+	Yes

Irritation Scale: 0=None, 1=Barely Perceptible, 2=Mild, 3=Moderate, 4=Severe

Figure 2: Self-Assessment of Oxygenating Mask Use After Microneedling and Non-Ablative Laser



Eight to ten subjects answered a self-assessment questionnaire

Case Studies – Part 2: Self-Assessed Compatibility After up to 1 Week of Home Use

- Compatibility with skin after various procedures was demonstrated immediately after use and up to one week post-procedure
  - Procedures included
    - High Strength Superficial Free Acid Glycolic Acid Peel (70% N=1)
    - Intense Pulsed Light (N=3)
    - Photodynamic Therapy (N=1)
    - Infrared Tissue Tightening (N=1)
    - Non-Ablative Laser (additional N=3)

Figure 3a. After Home Use

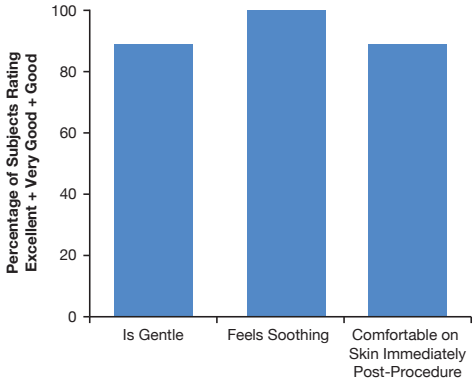
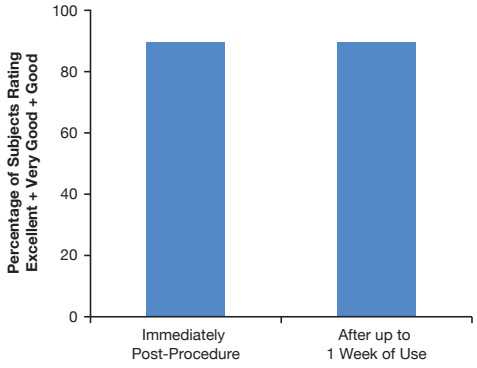


Figure 3b. Skin Compatibility



n=9

Conclusions

- **OVERALL DERMATOLOGIST IMPRESSION** noted
  - A reduction in procedure-induced erythema
  - Oxygenating mask was well-tolerated and compatible with skin when used after microneedling and non-ablative laser
- **This unique, effervescent oxygen-releasing mask with skin conditioning polyhydroxy acids and Bionic acids calms and soothes the skin**
  - Patient self-assessment showed the mask was comfortable on the skin, perceived to help reduce redness from the procedure and was gentle and soothing
  - Skin compatibility and product desirability was further supported by the additional post-procedure cases including home use application
- **The oxygenating mask was found to be compatible and beneficial for use after non-invasive cosmetic dermatological procedures**

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