

Combining Glycolic Acid Peels and Effective Home Care with Microdermabrasion Optimizes Treatment Results

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Introduction

Microdermabrasion and glycolic acid peels are common aesthetic procedures performed regularly in the physician's office. Microdermabrasion provides the benefits of exfoliation and stimulation of cellular renewal, and is often used in-office on patients with photodamage and/or acne. Like microdermabrasion, glycolic acid peels exfoliate and stimulate cell renewal in the epidermis which is useful in the treatment of acne to help smooth rough skin. Additionally, glycolic acid peels stimulate dermal biosynthesis to provide anti-aging effects on skin. When combined with microdermabrasion, glycolic acid peels plus the right supportive home care products provide effective benefits to skin without the downtime of more invasive cosmetic procedures.¹

Objective

This poster presents the clinical study results of combining two procedures, free acid glycolic acid peels and microdermabrasion, alternating every 2 weeks for a total of 8 treatments (4 free acid glycolic acid peels and 4 microdermabrasions).

Study Conduct

- Design:** Open label study of marketed products and procedures, including free acid glycolic acid peels and microdermabrasion performed alternately every 2 weeks. Bionic/PHA (polyhydroxy acid) containing products were applied post-procedurally and twice daily between procedures.
- Subjects:** Females; 40-54 years of age, Fitzpatrick skin types I-III (Caucasian and Asian) with mild to moderate photodamage and/or hyperpigmentation of the face.
- Product application:**
 - Conditioning Phase:** A 10% alpha-hydroxy acid (AHA) cream (8% glycolic acid, 2% citric acid, pH 3.8) was used once daily at night for approximately 2 weeks prior to the first free acid glycolic acid peel in order to acclimate the skin to AHAs.
 - Procedures:** Free acid glycolic acid peels and microdermabrasion treatments were performed alternately every 2 weeks for a total of 4 glycolic acid peels and 4 microdermabrasions over 16 weeks. Procedures were performed as follows: cleanse face, perform procedure as detailed below, apply cool compress (following peels) or cool water rinse of face (following microdermabrasion to remove excess crystals), apply post-procedure cream.

In-Office Procedure	Procedure Specifications	Post-Procedure Cream
Glycolic Acid Peels <ul style="list-style-type: none"> 20% free acid glycolic acid peel, pH 1.6 35% free acid glycolic acid peel, pH 1.3 	<ul style="list-style-type: none"> Initial peel was 20% for all subjects. Erythema and stinging were assessed to determine length of time of peel (maximum of 5 minutes). Peel Neutralizer was used to ensure complete deactivation of peel. Subjects moved up in peel concentration as tolerated. 	<ul style="list-style-type: none"> Bionic/PHA cream (8% gluconolactone, 4% lactobionic acid cream, pH 4.0) <ul style="list-style-type: none"> Gentle for post-procedure application Hydrating Provides anti-aging benefits (plumps and smoothes skin, diminishes appearance of fine lines and wrinkles, evens skin tone) Anti-oxidant Calms irritated skin, helps to reduce redness, helps repair skin barrier function
Microdermabrasion <ul style="list-style-type: none"> Microdermabrasion device with independent controls for vacuum pressure and crystal flow (MegaPeel Gold Series, DermaMed International, Inc.) Crystals: Aluminum oxide 	<ul style="list-style-type: none"> Initial microdermabrasion was 40 kPa (kilopascals) vacuum pressure for all subjects. Vacuum pressure was decreased 10% in the crow's feet area to minimize irritation potential. A moderate level crystal output was used throughout the study. Two passes were performed over the entire face using cross application technique of the hand piece. Erythema was assessed and pressure was modified within +/- 10 kPa depending on individual tolerability. 	<ul style="list-style-type: none"> Bionic/PHA cream (8% gluconolactone, 4% lactobionic acid cream, pH 4.0) as described above

Supportive home care regimen:

Supportive Home Care Product	Benefit
AHA Cream (8% glycolic acid, 2% citric acid, pH 3.8) <ul style="list-style-type: none"> Once a day during the 2 week conditioning phase 	<ul style="list-style-type: none"> To acclimate skin to AHAs prior to a peel Anti-aging, exfoliation
PHA Cleanser (4% gluconolactone, pH 3.3) <ul style="list-style-type: none"> Morning and evening between procedures 	<ul style="list-style-type: none"> Gentle cleanser to remove sebum, skin debris and makeup Prepare the skin for the procedure or for application of the moisturizer
Bionic/PHA Cream SPF 15 (8% gluconolactone, 2% lactobionic acid, pH 3.8) <ul style="list-style-type: none"> Morning/daytime after cleansing between procedures 	<ul style="list-style-type: none"> Provides anti-aging benefits Multiple anti-oxidants Highly moisturizing Broad spectrum UVA/UVB sunscreen protection
PHA Cream (10% gluconolactone, pH 3.5) <ul style="list-style-type: none"> Evening after cleansing between procedures 	<ul style="list-style-type: none"> Provides anti-aging and anti-oxidant benefits Helps reduce redness & repair skin barrier function
Sunscreen <ul style="list-style-type: none"> As needed 	<ul style="list-style-type: none"> UVA/UVB, SPF 30

Clinical Evaluations:

- Tolerability Assessments:**
 - Free Acid Glycolic Acid Peels:** Assessments of the level of erythema were recorded during the procedure using a 0-4 scale with half point increments (0=none, 1=mild, 2=moderate, 3=marked, 4=severe) and the level of stinging/burning was reported by the subject on a 1-10 scale (none-extreme).
 - Microdermabrasion:** Assessments for erythema before and after each treatment were recorded on a 0-4 scale with half point increments (0=none, 1=mild, 2=moderate, 3=marked, 4=severe).
- Self-Assessment** of skin condition, the procedure and product attributes were collected at each visit via a questionnaire.
- Digital Photography** was collected using the Canfield VISIA-CR camera system at baseline and monthly prior to each glycolic acid peel, and at the follow-up visit.

Clinical Photography



> Peri-ocular fine lines are diminished and pigmentation is improved after 4 free acid glycolic acid peels and 4 microdermabrasion treatments.



> Coarse wrinkles on the forehead are significantly improved after 4 free acid glycolic acid peels and 4 microdermabrasion treatments. Cross-polarized light photographs are shown.

Results

- Ten subjects completed the study.

Tolerability

- Both procedures were well tolerated throughout the study, even after later treatments when the skin was more likely to become sensitive.
- Free Acid Glycolic Acid Peels:** Assessments of erythema and stinging/burning during the peel application were all within the normal, expected range.
 - Erythema was observed to be moderate or less.
 - Stinging and burning were reported across the range with most subjects experiencing the same or less stinging/burning with subsequent peels. Two subjects reported an increase in intensity of stinging from the peels throughout the series.
 - Half of the subjects were able to increase to the 35% free acid glycolic acid peel by the fourth (final) peel.
- Microdermabrasion:** A majority of the subjects experienced mild or less erythema after each treatment. Two subjects experienced moderate erythema at various timepoints.

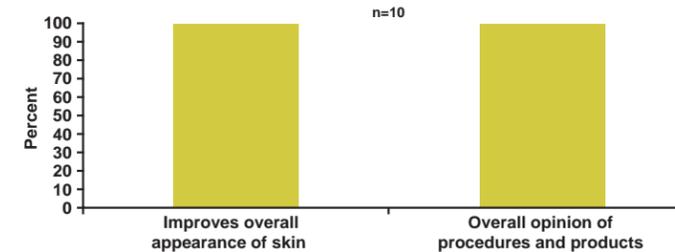
Self-Assessment

- The Bionic/PHA home care products were well tolerated post-procedurally. 100% of subjects rated compatibility of the home care regimen with the procedures to be very good or excellent.

Self-Assessed Impression of Early Effectiveness

After 1 Glycolic Acid Peel and 1 Microdermabrasion

Percentage of Subjects Responding Good or Better (9 point scale: excellent, very good, good, fair, poor with half point increments)



- 100% of subjects perceived early benefits to skin after one peel and one microdermabrasion.

Reference

- Briden E, Jacobsen E, Johnson C. Combining superficial glycolic acid (AHA) peels with microdermabrasion to maximize treatment results and patient satisfaction. *Cutis* 2007;79(suppl 1[1]):13-16.

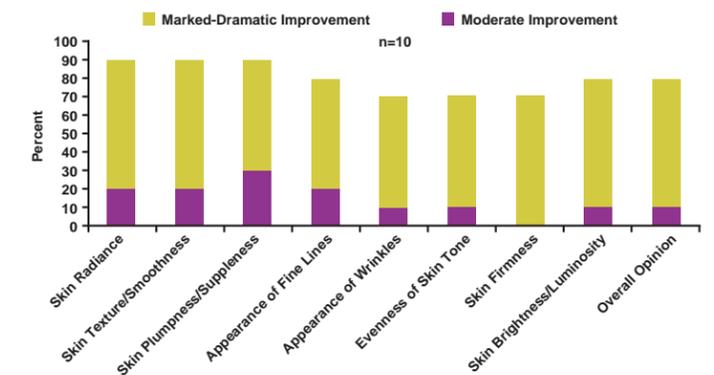
Acknowledgement

NeoStrata gratefully acknowledges DermaMed International, Inc. for providing the MegaPeel Gold Series microdermabrasion equipment for use in this clinical study.

Self-Assessed Skin Benefits

After All Treatments - 4 glycolic acid peels and 4 microdermabrasions

Percentage of Subjects with Moderate or Marked-Dramatic Improvement (9 point scale: dramatic, marked, moderate, mild, no improvement with half point increments)



- Subjects self-assessed marked and dramatic improvements across many skin attributes.

Summary

This poster demonstrates the safety and effectiveness of combining microdermabrasion with free acid glycolic acid peels in a bi-weekly treatment regimen of alternating procedures with Bionic/PHA home care products between procedures.

- Benefits to skin were perceived quickly by subjects (after one peel and one microdermabrasion), which may enhance patient commitment and compliance with procedures in the physician's office.
- Noticeable benefits were reported by subjects after completing the series of treatments (4 peels + 4 microdermabrasions), with many categorizing their improvements as marked or dramatic improvement.
- Significant decreases in pigmentation, fine lines and coarse wrinkling were observed and captured by clinical photography.
- The Bionic/PHA home care products were gentle enough to be used post-procedurally when skin can be sensitive and between bi-weekly procedures. Bionic/PHA products provide anti-aging benefits as well as antioxidant effects, redness reduction and barrier strengthening.
- Combining free acid glycolic acid peels with microdermabrasion treatments by alternating every 2 weeks is an aggressive protocol that can be managed successfully with gradual increases in both peel concentration and microdermabrasion vacuum pressure as tolerated.