

**The ZO[®] Getting Skin Ready[™] Treatment Program Improves the Quality and
Appearance of Photoaged Skin**

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Abstract

Background: Photoaged skin is associated with dry skin, loss of elasticity and unattractive appearance which may lead to decreased self-esteem and diminished quality of life.

Objective: The objective of this 8-week study was to assess the beneficial effects of the ZO[®] Getting Skin Ready[™] Treatment Program for improving the quality and appearance of photoaged skin.

Methods: Participating subjects (N=35) applied the ZO[®] Treatment Program each morning and evening. Subjects were evaluated at Baseline and Weeks 2, 4 and 8.

Results: Use of the ZO[®] GSR[™] resulted significant objective and subjective improvements in photoaged skin. As there was no moisturizing agent, the GSR[™] System did not improve skin hydration. The ZO[®] GSR[™] Treatment Program was well-tolerated.

Conclusion: The use of the ZO[®] Getting Skin Ready[™] Treatment Program improves the appearance and quality of photoaged skin.

Introduction

Photoaged skin is associated with dry skin, loss of elasticity, rhytids, rough scaly spots (actinic keratoses), loss of skin tone, mottled skin color (dyschromia) and areas of pigmentation (solar lentigines).¹⁻³ While loss of skin integrity can lead to health concerns,⁴ the primary concern for people with photoaged skin is unattractive appearance which may be the cause of decreased self-esteem and diminished quality of life.^{5,6} Not surprisingly, photoaged skin is more common among the elderly.⁷

Skin aging is a complex process due to cumulative DNA damage.⁸ Intrinsic factors responsible for skin aging include the detrimental effects of reactive oxygen species,⁹ the gradual life-long decrease in growth hormone,¹⁰ gender¹¹ and ethnicity.¹² The primary extrinsic factor responsible for premature skin aging exposure to ultraviolet radiation¹³ which especially significant among the Caucasian population.¹⁴ Other extrinsic factors include smoking¹⁵ and psychological stress.¹⁶

A facial treatment system has been developed to improve the appearance and quality of photoaged skin. The ZO[®] Getting Skin Ready[™] Treatment Program is comprised of a three-step system that restores vitality and function to the skin. These include Gentle Cleanser (lauroyl oat amino acids and a blend of botanical extracts) to remove irritants and surface debris for a clearer complexion, Exfoliating Polish (magnesium oxide crystals, *Melaleuca alternifolia* (tea tree) leaf oil and glycerin) which restores smoother skin texture and a healthy glow, and Complexion Renewal Pads (2% salicylic acid and glycolic acid) to provide dual-action exfoliation and remove surface oil and sebum. This system provides skin preconditioning in preparation for additional procedures, such as laser treatments.

The objective of the following 8-week study was to assess the beneficial effects of the ZO[®] Getting Skin Ready[™] (GSR[™]) Treatment Program for treating photoaged skin.

Subjects

Enrolled subjects were healthy women ≥ 30 years old with Fitzpatrick skin types I-III and evidence of photoaged skin, characterized by skin dullness, redness, oiliness, rough or uneven skin texture and mottled pigmentation. Subjects denied prior skin treatment by a dermatologist or other skin care professional. Reasons for exclusion from study participation included the presence of a dermatological disorder, which in the investigator's opinion, may interfere with the accurate evaluation of the subject's skin characteristics; concurrent use of any medication that could influence the study outcome; and pregnancy, breast feeding or planned pregnancy. Subjects provided written informed consent prior to participating in study-related activities and consented to facial photography.

Study Materials

Components of the ZO[®] Getting Skin Ready[™] Program Basic Treatment used in this study were:

- *Gentle Cleanser*, a gentle foaming facial cleanser for all skin types, designed to remove impurities, deep clean pores and leave the skin clean and hydrated (lauroyl oat amino acids and a blend of botanical extracts).
- *Exfoliating Polish*, an exfoliating scrub which helps remove dead skin cells and excess facial oil to keep skin and pores clean and unclogged (magnesium oxide crystals and glycerin).

- *Oil Control Pads*, to remove oil, normalize pore size, help smooth the skin surface and reduce skin irritation (2% salicylic acid and glycolic acid).

Methodology

All subjects were treated with the ZO® GSR™ Treatment System. The Gentle Cleanser, Exfoliating Polish and Oil Control Pads were used each morning and the Gentle Cleanser and Oil Control Pads were used each evening.

Subjects were permitted to use their own SPF 30+ sunscreen as needed throughout the course of the study.

Subjects were evaluated at Baseline and after 2, 4 and 8 weeks of treatment. Objective measures of efficacy included changes in hydration (Corneometry), elasticity (Cutometer), sebum (Sebumeter), and cleanliness (D-Squames). Subjective measures were assessed with a Subject Self-Assessment Questionnaire.

Efficacy and Tolerability Measures

The investigator assessed treatment efficacy using the following parameters: skin roughness/texture, pigmentation, pores, hydration, elasticity, redness, sebum, dirt removal, moisturization, clarity, smoothness, softness, firmness, texture, radiance, suppleness, and overall skin quality.

Subjects rated treatment efficacy using the following parameters: dullness, redness, oiliness, roughness, dryness, texture, tone, and overall skin quality.

The investigator and subjects each rate tolerability using the following parameters: stinging, burning, itching, tightness, redness, flaking, roughness, irritation, dryness, and overall sensitivity.

Each efficacy and tolerability parameter was rated on a 5-point scale ranging from 0 (none) to 4 (severe) at Baseline and Weeks 2, 4 and 8.

Statistical Analyses

A Wilcoxon rank-sign two-tailed test was used for longitudinal intragroup analysis. Student's t-test was used for all numerical data. Significance was established at the $p < 0.05$ level.

Efficacy Results

At Week 2, use of the GSR™ Treatment Program resulted in substantial reductions in baseline skin roughness (23%), sebum (33%), and improvements in skin cleanliness (29%) skin dryness (17%), smoothness (28%), softness (29%), and overall appearance (13%).

At Week 4, subjects demonstrated continued reduction in roughness (45%), sebum (69%), redness (15%), and dirt (68%) with improvement in skin dryness (37%), moisturization (44%), clarity (16%), smoothness (52%), softness (51%), radiance (17%), and overall appearance (24%). These improvements were all significant at Week 8 ($p < 0.001$).

No significant improvement in hydration was observed; however, this was expected as the GSR™ Treatment Program induces aggressive exfoliation to effect skin improvement.

Similar to the investigator assessments, the Subject Self-Assessment Questionnaire results revealed significant improvement in each of the eight measures of skin quality at Week 8 (for each, $p < 0.001$).

Tolerability Results

Two subjects withdrew from the study due to facial discomfort which was determined by the investigator to be due to overly aggressive product application. Several other reports of local stinging and burning at Week 2 were also due to incorrect product application; however, there were no additional reports following corrective instructions.

Conclusion

Use of the ZO® GSR™ Treatment Program resulted significant improvements in the quality and appearance of photoaged skin.

At Week 4, subjects demonstrated reduction in skin roughness (45%), sebum (69%), redness (15%), and dirt (68%) with improvement in skin dryness (37%), moisturization (44%), clarity (16%), smoothness (52%), softness (51%), radiance (17%), and overall appearance (24%). These improvements were all significant at Week 8 ($p < 0.001$).

No significant improvement in hydration was observed; however, this was expected as the GSR™ Treatment Program induces aggressive exfoliation to effect skin improvement.

Subject Self-Assessment Questionnaire results revealed significant improvement in each of the eight measures of skin quality at Week 8 (for each, $p < 0.001$).

Treatment with the GSR™ Treatment Program was well-tolerated.

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