

## **THE USE OF STRONTIUM NITRATE IN REDUCING THE IRRITATION OF GLYCOLIC ACID PEELS**

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Glycolic acid has been reported to cause epidermolysis when applied to the skin with varying results depending on the skin type, thickness of the stratum corneum and the concentration of the glycolic acid. Because of the ability of the glycolic acid to alter epidermal and dermal structure, 30% to 70% glycolic acid peels are used routinely by dermatologists to treat mild photodamaged skin. However, the use of high concentrations of glycolic acid are not without side effects. Substantial burning, stinging and itching as well as erythema and edema may occur depending on the concentration and pH of the acid solution.

We report here the ability of a unique anti-irritant, strontium nitrate, to reduce the burn, sting and itch as well as the erythema which is associated with glycolic acid peels. Nine caucasian subjects entered the study and were treated in a half-face manner every two weeks for eight weeks (four peels). One side of the face received glycolic acid alone and the other side of the face received glycolic acid plus strontium nitrate. Treatment was in a stepwise manner: 30%, 50%, 70% and 70% for peels one through four, respectively. The average time for peels one through four was 3 mins, 5 mins, 5 mins and 8 mins, respectively. Erythema and edema were evaluated by a dermatologist who was blinded to the treatment assignments using the following scale: 0= none, 1= mild, 2= moderate and 3= severe. Burn, sting and itch were scored by each subject using the following scale: 0= no irritation, 1= slight irritation, barely perceptible stinging, burning and itching, 2= mild irritation, definite stinging, burning and itching, 3= moderate irritation, distinctly uncomfortable and distracting stinging, burning and itching and 4= severe irritation, intensely uncomfortable and disrupting stinging, burning and itching.

The results indicated that strontium nitrate dramatically reduced the burn, sting and itch of the 30%, 50%, 70% and 70% glycolic acid peels 90%, 90%, 74% and 79%, respectively. With regard to erythema, little erythema was seen with the 30% peel. Erythema from the 50%, 70% and 70% peels were reduced 30%, 38% and 37%, respectively. No edema was seen at anytime for either treatment. The results of this study demonstrate the ability of strontium nitrate to reduce dramatically the irritation associated with glycolic acid peels. This data would predict the more broad use of strontium nitrate in reducing irritation in cosmetics and personal care products.