



STUDY 1

Retinal is very well tolerated!

“Tolerance of Topical Retinaldehyde in Humans”

Sachsenberg, E.M., , Dermatology, 1999;(suppl 1)199:61-63

Key Points of Study

- ❖ This study showed that Retinal was much better tolerated (than RA) by a majority of the 357 patients tested.
- ❖ Unlike retinoic acid’s phototoxicity and inflammation potential, none of the 45 patients tested separately showed any phototoxic effects.
- ❖ Overall, Retinal had a side effect profile almost as low as the placebo as opposed to the much higher levels of irritation associated with Retinoic Acid.

STUDY 2

Retinal is the best choice when treating photodamage!

“Efficacy of Topical 0.05 % Retinaldehyde in Skin Aging by Ultrasound and Rheological Techniques”

Diridollou, S., Vienne, M.P., Dermatology, 1999;199(suppl 1):37-41.

Key Point of Study

- ❖ 40 patients were involved in this one year study that demonstrated that Retinaldehyde significantly increased both the thickness and elasticity of the skin.

STUDY 3

Retinal as effective as Retinoic Acid without the irritation!

“Profilometric Evaluation of Photodamage after Retinaldehyde and Retinoic Acid Treatments”

Creidi, P., Vienne, M.P., J. Am Acad Dermatol, 1998; 39: 960-965.

Key Points of Study

- ❖ Summary: This study showed that Retinaldehyde was very effective at reducing facial wrinkles.
- ❖ Retinaldehyde was as effective as retinoic acid with much fewer side effects in this double-blind study.

STUDY 4

Retinal shows low irritancy so patient compliance was better!

“Tolerance Profile of Retinol, Retinaldehyde and Retinoic Acid under Maximized and Long-Term Clinical Conditions”

Fluhr, J.W., Vienne, M.P., Dermatology 1999; 199(suppl 1):57-60

Key Points of Study

- ❖ Retinaldehyde had a much lower irritancy rate than retinoic acid on the 355 patients involved in this study.
- ❖ The patients on Retinal were much more compliant and had far fewer side effects than those on retinoic acid.

STUDY 5

Retinal is a powerful skin remodeler!

“Repair of UVA-Induced Elastic Fiber and Collagen Damage by 0.05% Retinaldehyde Cream in an Ex-Vivo Human Skin Model”

Boisnic, S., Branchet-Gumila, M.C., , Dermatology, 1999; 199(suppl 1):43-48.

Key Point of Study

- ❖ This study on human skin explants showed that all UVA treated skin had significant damage of collagen and elastin and ALL of that damage was repaired with the application of Retinaldehyde 0.05%.

STUDY 6

Retinal is great for wrinkles!

“Clinical Use of Topical Retinaldehyde on Photaged Skin”

Creidi, P., Humbert, Ph., *Dermatology* 1999; 199(suppl 1): 49-52.

Key Points of Study

- ❖ 85 patients with photodamage were treated with 0.05% Retinaldehyde and had an improvement in coarse and fine wrinkling rated as improving from “moderate” to “slight”.
- ❖ The 85 patients in the study showed substantial improvement in facial redness and telagestasias while a majority reported brighter, more radiant skin. This study also showed improved hydration, reduced oil and roughness in a vast majority of the patients.

STUDY 7

Retinal is great for Rosacea!

“Retinaldehyde Alleviates Rosacea”

Vienne, M.P., Ochando, N., *Dermatology* 1999; 199(suppl 1):53-56.

Key Point of Study

- ❖ In this 23 person study, 75% of rosacea sufferers had reduced redness and only one of these sensitive skin types had any side effects (and they were mild).

STUDY 8

Retinal is antibacterial, Retinoic acid is not!

“Antibacterial Activity of Retinaldehyde against P. Acnes”

Pechere, M., Pechere, J.C., , *Dermatology* 1999; 199(suppl 1):29-31.

Key Point of Study

- ❖ This study showed Retinaldehyde was highly effective at reducing P Acnes bacteria populations. All-trans retinoic acid does not have a direct antibacterial effect.

STUDY 9

Retinal is great for acne!

“Comedolytic Effect of Topical Retinaldehyde in the Rhino Mouse Model”

Fort-Lacoste, L., Verscheure, Y., *Dermatology* 1999; 199 (suppl 1):33-35.

Key Point of Study

- ❖ Retinaldehyde had statistically similar comedolytic effect to retinoic acid while showing less irritation.

STUDY 10

Retinal normalizes VEGF helping hide capillaries!

“Effects of Retinoids on Vascular Endothelial Growth Factor Production by Cultured Human Skin Keratinocytes”

Lachgar, S., Chalveron, M., Dermatology 1999; 199(suppl 1):24-27

Key Points of Study

- ❖ Retinal regulates VEGF which is increased in a variety of skin conditions.
- ❖ The normalizing ability of Retinal makes it an excellent choice for actinic keratosis, telangectasias and rosacea.

STUDY 11

“Metabolism of Retinaldehyde”

Sorg, O., Didierjean, L., Dermatology 1999; 199(Suppl 1): 13-17

Key Points of Study

- ❖ Retinal is the closest chemical form (of the retinoids) to retinoic acid and is quickly converted to retinoic acid.
- ❖ Retinal is stored by the skin for easy access unlike retinoic acid which cannot be stored and thus becomes a source of irritation.
- ❖ All-trans retinal is the most potent form.

STUDY 12

Retinal is the best retinoid available!

“Topical Natural Retinoids”

Saurat, J.H., Sorg, O., Dermatology 1999; 199(suppl 1):1-2

Key Points of Study

- ❖ Retinoids have an average of 2% penetration which means that 98% sit on the surface of the skin causing irritation.
- ❖ Retinoic Acid cannot be stored by the skin so any excess is a source of irritation.
- ❖ Retinal is the precursor to retinoic acid and is quickly converted to retinoic acid in the skin to maximize the stimulation of RA receptors.
- ❖ Retinal that is not used is stored by the skin for future use.
- ❖ The preferred form of retinal is all-trans retinal.