

Linocream&Linocalp

(Exorex Cream & Exorex Scalp Conditioner)

Information Leaflet

“Whenever you see an inflamed skin, regardless of cause, the stratum corneum is leaky and permeable. But if you repair the stratum corneum, that tells the underlying tissues that they don’t have to keep reacting like there’s danger in the environment.”

Albert Kligman, M.D., Ph.D.; 1919-2010

Linocream and Linocalp form an integral part of the Linotartreatment system because they fulfill important roles in providing *ongoing* moisturisation for skin conditions such as psoriasis and eczema that are characterised by dryness of the skin.

When providing moisturisation it is important to put the right moisturiser on the skin, just as one would put the correct fuel in you motor vehicle.

Dry skin occurs when there is a problem with the skin barrier and treatment of the barrier failure is a vital part of healing the dermatitides and to prevent relapses.

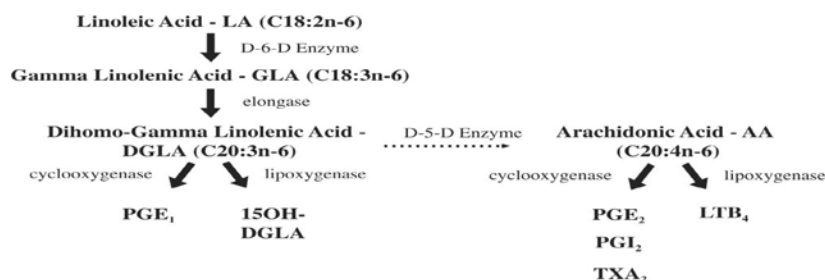
It is also important to provide the skin barrier with the ingredients that occur naturally in a normal skin barrier, the so-called ‘physiologic’ lipids. There are three such types; cholesterol, free fatty acids and ceramides.¹ When the skin barrier fails, Elias and Williams, The Inside-Out of the skin, 25 Feb 2015.

Linocream and Linocalp provide, amongst other things, free fatty acids but crucially the only two essential fatty acids, linoleic acid (omega 6) and linolenic acid (omega 3). *They are called essential because the body cannot make them and they, therefore, have to either be ingested, or in the case of a skin condition, preferably applied topically.*

Linoleic acid and linolenic acid are not only incorporated in the skin barrier to help form an impervious or impregnable barrier resulting in a waterproof skin. Linoleic acid is also incorporated to help form ceramide a critical ingredient of the skin barrier and is also converted to prostaglandin 1 (PGE₁) and 15-hydroxy-eicosatrienoic acid (15OH-DGLA) both of which have potent anti-inflammatory effects. Inflammation, of course, is another hallmark of skin diseases such as psoriasis and eczema.²

²Horrobin DF. Essential fatty acid metabolism and its modification in atopic eczema. Am J Clin Nutr 71 (1 Suppl.);2000:367S-372S.

The Metabolic Pathway for LA

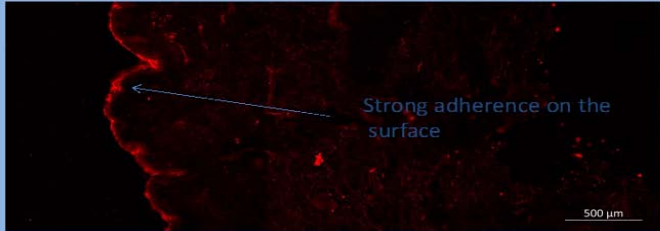


Although omega 6 EFAs appear to be more critical for normal skin structure and function³ (Kwochka KW. The structure and function of epidermal lipids. Veterinary Dermatology


1993;4(4):151-159.) one cannot negate the important role of omega 3 and other fatty acids in helping to form the lipid layer of the epidermis and providing additional anti-inflammatory effects. Oleic Acid (omega 9), palmitic and stearic acid count among those included in the formulation as Vitamin F.

Using confocal scanning electron microscopy (CLSM), Linocream has been shown to more effectively penetrate the epidermis than conventional moisturiser supplemented with essential and other fatty acids:

Aqueous cream (A) versus Linocream (B) at 30 mins + Nile Red – Vit F penetration

- A 

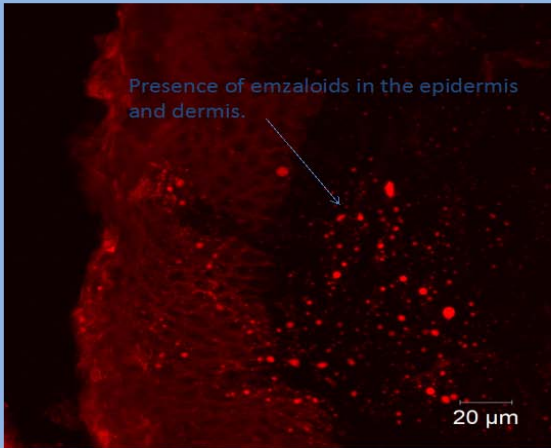
Strong adherence on the surface

500 μm
- B 

Uniform penetration through the epidermis

500 μm

Linocream (vit F) + Nile red at 40X mag



Presence of emulsoids in the epidermis and dermis.

20 μm

Linocream– additional ingredients

- **Cetostearyl alcohol**
 - A fatty alcohol derived from coconut or palm oil which acts as an emollient and thickening agent
- **Sodium laurel sulphate**
 - A surfactant to accommodate water-soluble and oil-soluble ingredients. Some negative publicity has surrounded this ingredient; there is no scientific evidence to suggest that it could cause cancer. The American Cancer Council has recommended its use at 1% or less and in Linocream it stands at 0.75%
- **White soft paraffin**
 - Helps to prevent water loss from the skin.
- **Liquid paraffin**
 - A highly refined medical grade mineral oil that helps to retain moisture in the skin
- **Glycerine**
 - Also known as glycerol, a natural alcohol that is derived from natural fats. It acts as a humectant to help absorb water that helps to moisturise the skin. It is reported to assist in helping epidermal cells to mature properly. Apparently it does so by interacting with phospholipase D to form phosphatidylglycerol that signals enzymes involved in skin differentiation.³Bolliger Bolg W, Zheng X, The Journal of Investigative Dermatology Dec 2003

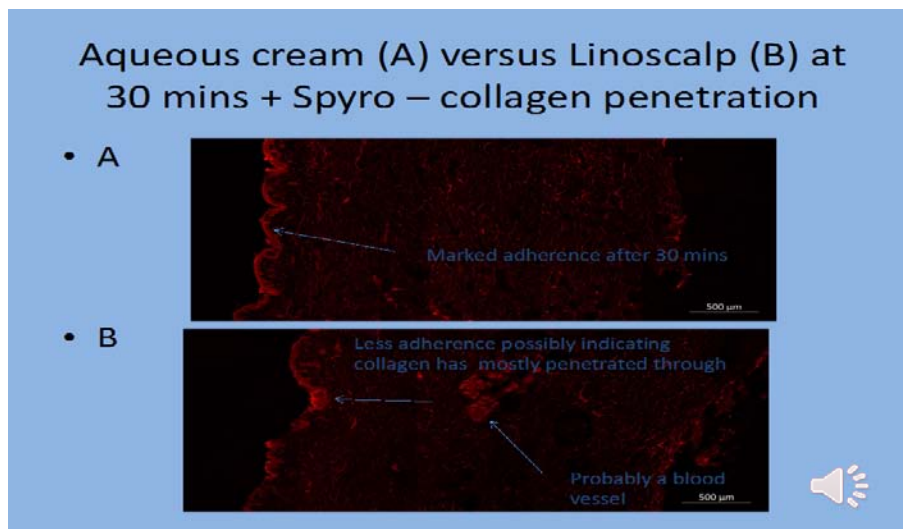
Glycerol+ phospholipase D → phosphatidylglycerol → skin differentiation

- **PEG 40 hydrogenated castor oil**
 - As the name implies it is derived from castor oil and is used to help form emulsions. This action is useful to help other ingredients dissolve in a solvent and is generally regarded as safe (GRAS).
- **Methyl paraben, sodium propyl paraben, imidurea**
 - These are included as preservatives. The parabens have been thoroughly investigated by the Scientific Committee of Consumer Safety (SCCS), one of the most stringent scientific committees of the European Commission and given the green light. The concentration of the combined parabens in Linocream is more than 50% below the SCCS permitted concentration.

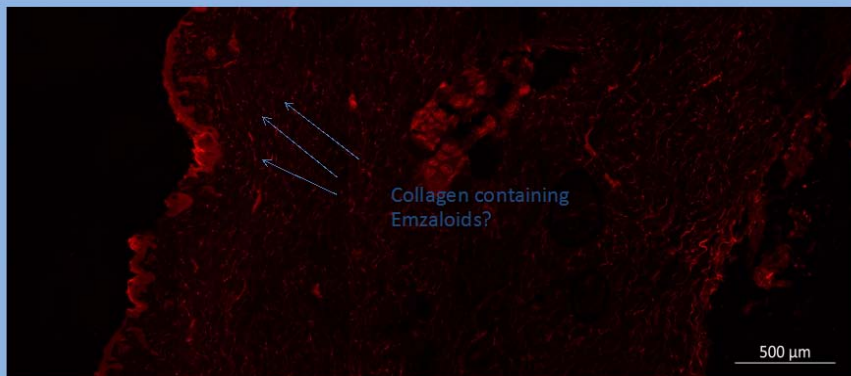
Linocalp-additional ingredients

- **Crotein A**
 - Hydrolysed collagen that helps to condition and moisturise and repair hair and skin.
- **Croquat M**
 - Hydrolysed collagen that conditions and moisturises hair and scalp leaving the hair shiny and with a silky feel.

CLSM has shown that collagen in Crotein A & M penetrates the epidermis and dermis more effectively than standard product enriched with the same collagens. The visuals below illustrate this aspect handsomely:



Linocalp at 30 mins enlarged- Collagen within emzaloids?



- **Polawax GP 200**
 - A non-ionic emulsifier with time-release moisturizing ability.
- **Incroquat**
 - A C-22 fatty acid that emulsifies and assists in detangling hair leaving a silky soft feel.
- **Cetyl alcohol**
 - Derived from coconut, this emollient and emulsifier acts as a thickening agent.
- **Stearyl alcohol**
 - Assists in preventing emulsions to separate into oil and water fractions.
- **Glycerine**
 - Also known as glycerol, a natural alcohol that is derived from natural fats. It acts as a humectant to help absorb water that helps to moisturise the skin. It is reported to assist in helping epidermal cells to mature properly. Apparently by interacting with phospholipase D to form phosphatidalglycerol that signals enzymes involved in skin differentiation.³Bolliger Bolg W, Zheng X, The Journal of InvestigatveDermatology Dec 2003

Glycerol + phospholipase D → phosphatidalglycerol → skin differentiation

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Summary: Attribute Comparison Lino-Range and Competitors

Attribute	Linotar Linocream Linoscalp	Standard Coal Tar	Calcipotriol	Corticosteroid
Restores epidermal differentiation process 1,2,3,4,5,6	☐	☐	☐	☐
Helps restore epidermal barrier 1,2,3,4,5,6	☐☐	☐	☐	☐
Reduces Trans Epidermal Water Loss 1,2,3,4,5,6	☐☐	☐	☐	☐
Reduces inflammation 7,8	☐	☐	☐	☐☐
Reduces itching 7,8	☐	☐	☐	☐
Clinically proven efficacy 7,9,10	☐☐	☐	☐☐	☐☐
Can be used on entire body 7	☐	☐	☐	☐
Cost Effective 11	☐	☐	☐	☐
South African developed and patented product 12	☐	☐	☐	☐
Can be used in switch therapy 13	☐	☐	☐	☐
Can be used long term 7,8	☐	☐	☐	☐
Total ☐	14	10	6	9