

# HOPE

Humectant Occlusive Protective Emollient  
NEWSLETTER

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**Dr. Abir Saraswat**, MD, DNB, MNAMS



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### CROSSWORD & QUIZ



Think **Moisturizer**  
Think **Ajanta** Dermatology

💡 Think **Moisturizer**  
Think **Ajanta** Dermatology



Glycerin, Ceramide, Butter based moisturiser  
**AQUASOFT**  
Cream/Lotion/Max Cream/Max Lotion/S Bar/CV

Facial moisturiser

**Aquasoft**  
— FC —

60 / 100 g

Cream

Aquaxyl Uvinul A Plus, Uvinul T 150,  
Tinosorb S, Vitamin E

Urea based moisturiser

**Aqurea HF** | **20** | **10**

Urea 40%

Urea 20%

Urea 10%

Ceramide & Colloidal Oat meal based moisturiser

**Biosilk**

Ceramide 1,3,6-tri-Oat Corn, Pentavitin,  
Stimulax-AS complex, Sodium Hyaluronate

Lotion/Cream

Oil based moisturiser

**Prusoft**

Cream

Sunflower Seed Oil 10.0%, Jojoba Oil 4.0%,  
Sodium Pymollidone Carboxylic Acid 2.5%,  
Sodium Chloride 0.5%

Ultra moisturising complex

**SORILAST**®  
Cream

Urea 12%, Salicylic acid  
0.5%, Lactic acid 6.81%,  
Avena Sativa 0.10%, HACE 200 0.10%,  
Witch Hazel extract 1%, Biophilic H-MB 1%

# HOPE

Humectant Occlusive Protective Emollient

## NEWSLETTER

ISSUE 2



### DOCTOR'S CORNER



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Think **Moisturizer**  
Think **Ajanta** Dermatology



## The role of ceramides in eczema treatment

### The role of skin barrier

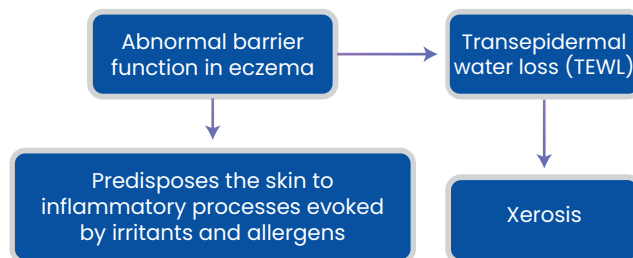
The stratum corneum (SC) is a highly organized structure that ensures the skin's integrity and function.<sup>1</sup>

The normal function of the epidermal barrier relies on several factors, such as corneocytes, lipids, enzymes, pH, and calcium gradient. However, the essential contributors are the lipids and proteins present in the SC.<sup>2</sup> Ceramides, along with free fatty acids and cholesterol, constitute the lipids present in the SC. Among these, ceramides make up half of the lipid weight.<sup>3</sup>

### The skin barrier in eczema

Atopic eczema is the most common form of dermatitis. It is commonly known as the "itch that rashes" due to dry skin that leads to a rash because of scratching or rubbing.<sup>4</sup>

The skin barrier changes and their effects in eczema are depicted below:<sup>4,5</sup>



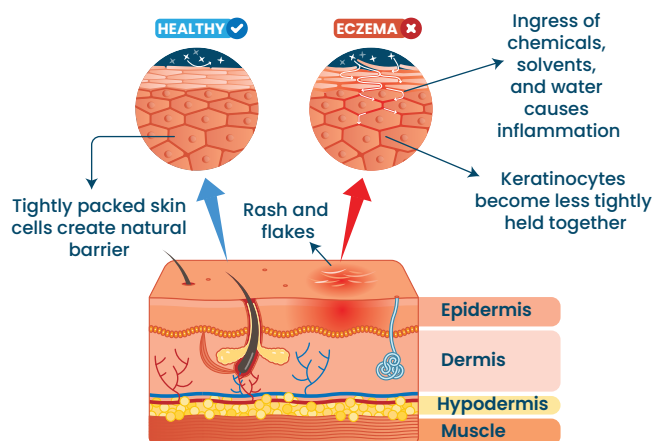
### Ceramides in healthy skin versus eczema

Ceramides are vital for water regulation and are integral to the skin's permeability barrier. They form multi-layered lamellar structures with cholesterol and free fatty acids between the cells of the SC.<sup>5</sup>

- Studies show that eczematous skin, when compared with healthy skin has:<sup>2</sup>
  - » Lower levels of ceramides 1 and 3
  - » Lower ceramide/cholesterol ratio
- Further, altered ceramide profiles, including changes in ceramide chain length, are associated with impaired skin barrier function in eczema.<sup>5</sup>

### Topical ceramides for management of eczema

While moisturizers constitute the basic treatment for all eczematous diseases, adding ceramides to moisturizers



has been thought to benefit patients with eczema.<sup>2</sup> Regular moisturizers create a superficial occlusive barrier on the skin, while physiological lipids like ceramides penetrate the SC. These lipids are produced within keratinocytes, processed in lamellar bodies, and then released back into the SC, becoming a vital component of the dermal matrix.<sup>5</sup>

A 28-day randomized study was conducted on 100 patients with eczema, where they applied either a ceramide cream and ceramide cleanser or a placebo cream and placebo

cleanser twice daily. Treatment group compared to placebo group showed:<sup>5</sup>

- Improvement in TEWL ( $p=0.0342$ )
- Improvement in skin hydration ( $p<0.0001$ )
- Better patient satisfaction with respect to relief of itch, dry skin, skin softness, and smoothness ( $p<0.05$ )

**Ceramides are key lipids in maintaining the skin permeability barrier. Disturbances in their composition are common in eczema patients. Topical moisturizing formulations with ceramides can restore skin permeability and improve the symptoms of eczema.**

**References:** 1. Abeck D, Bleck O, Ring J. Skin barrier and eczema. In: Ring J, Behrendt H, Vieluf D. (eds) New Trends in Allergy IV. Springer, Berlin, Heidelberg; 1997. 2. Jungersted JM, Agner T. Eczema and ceramides: An update. Contact Dermatitis. 2013;69(2):65–71. 3. Pacha O, Sambrano BL, Hebert AA. Skin barrier repair in eczema: A review of current understanding of pathophysiology and treatment. Curr Derm Rep. 2012;115–122. 4. Nemeth V, Evans J. Eczema. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK538209/>. Accessed on October 03, 2023. 5. Spada F, Harrison IP, Barnes TM, et al. A daily regimen of a ceramide-dominant moisturizing cream and cleanser restores the skin permeability barrier in adults with moderate eczema: A randomized trial. Dermatol Ther. 2021;34(4):e14970.

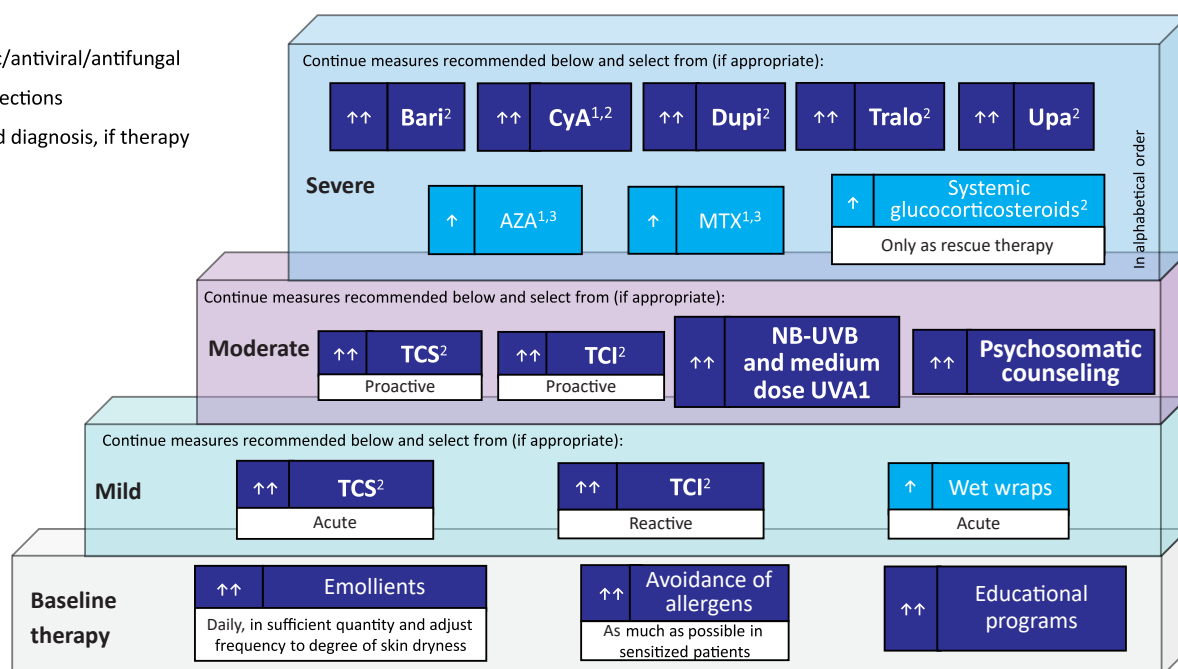


## GUIDELINE UPDATE

## EuroGuiDerm guideline on atopic eczema: Part I (systemic therapy)

### Stepped-care plans for the treatment of atopic eczema in adults

- Add antiseptic/antibiotic/antiviral/antifungal treatment in cases of infections
- Consider compliance and diagnosis, if therapy has insufficient effect



<sup>1</sup> refer to guideline text for restrictions, <sup>2</sup> licensed indication, <sup>3</sup> off-label treatment

↑↑ (Dark blue) strong recommendation for the use of an intervention / ↑ (Sky blue) weak recommendation for the use of an intervention

AZA: Azathioprine; Bari: Baricitinib; CyA: Ciclosporin; Dupi: Dupilumab; MTX: Methotrexate; TCI: Topical calcineurin inhibitors; TCS: Topical corticosteroids; Tralo: Tralokinumab; Upa: Upadacitinib; UVA1: Ultraviolet A1; NB-UVB: Narrow-band ultraviolet B.

The guideline recommends the following combinations for acute flares:

- Glucocorticoids (only as rescue therapy) with emollients
- Ciclosporin (CyA) with emollients

- Azathioprine (AZA) with emollients
- Methotrexate (MTX) with emollients

**Reference:** Wollenberg A, Kinberger M, Arents B, *et al.* European guideline (EuroGuiDerm) on atopic eczema: Part I – systemic therapy. J Eur Acad Dermatol Venereol. 2022;36(9):1409–1431.

## EuroGuiDerm guideline on atopic eczema – part II (non-systemic treatments and for special atopic eczema patients)

Recommendations and detailed information on basic therapy with emollients and moisturizers are a part of this guideline.

Recommendations/suggestions	Implications
Gentle cleansing and bathing procedures especially in acutely inflamed or superinfected skin in patients with AE	All or almost all informed people would make this choice
Bathing in moderately warm water over a short duration of time in patients with AE	Most informed people would make this choice, but a substantial number would not
Avoidance of using alkaline soaps in patients with AE	Most informed people would make a choice against this intervention, but a substantial number would not
Patients with AE should use body care products, for example gentle cleansers that do not contain potent irritants or relevant allergens	Most informed people would make this choice, but a substantial number would not
Daily use of emollients, liberally and frequently for patients with AE, as basic treatment of the disturbed skin barrier function	All or almost all informed people would make this choice
Using moisturizers with a hydrophilic formula in the summer and moisturizers with a higher lipid content in the winter in patients with AE	Most informed people would make this choice, but a substantial number would not
Applying emollients immediately after bathing or showering and soft pat drying ('soak and seal technique')	All or almost all informed people would make this choice
Using emollients as background treatment to prevent flares and to reduce the symptoms of AE	All or almost all informed people would make this choice

**Reference:** Wollenberg A, Kinberger M, Arents B, *et al.* European guideline (EuroGuiDerm) on atopic eczema – part II: Non-systemic treatments and treatment recommendations for special AE patient populations. J Eur Acad Dermatol Venereol. 2022;36(11):1904–1926.



## CONFERENCE UPDATE

# Assessing the significance of itch resolution and skin clearance on atopic dermatitis severity and quality-of-life

## Aim

A study was conducted to investigate both the individual and combined effects of itch and skin severity on patient-reported symptoms and quality-of-life outcomes in atopic dermatitis (AD).

## Methods

### TARGET-DERM AD, an observational, longitudinal study



Adult participants (age ≥18 years) with AD (n=3,158) across 43 academic/community centers in the United States and Canada



**Assessment of itch severity:** Patient-Reported Outcome Measurement Information System (PROMIS) Itch-Severity, specifically the item evaluating “itch at its worst” was used

**Assessment of skin severity:** Validated Investigators Global Assessment of AD (vIGA-AD) was used

**Other investigations:** Association of AD symptoms representing patient-reported clear/almost clear disease (Patient-Oriented Eczema Measure [POEM] 0–2) and no impact of AD on quality-of-life (Dermatology Life Quality Index [DLQI] 0/1) with itch and skin severity

## Results

- Data for vIGA-AD, POEM, Worst Itch, and DLQI were available for 95% (1702), 44% (792), 43% (783), and 43% (783) of the participants [adult participants (n=1795)] at enrollment, respectively.
- The highest proportion of individuals reporting POEM scores of 0–2 and DLQI scores of 0/1 was observed among those who had no/minimal worst itch (73% POEM 0–2; 72% DLQI 0/1) and clear/almost clear skin (46% POEM 0–2; 45% DLQI 0/1).
- As the itch and skin severity levels increased, the proportions of individuals reporting POEM 0–2 and DLQI 0/1 decreased.
- Among those with no/minimal itch and clear/almost clear skin, 87.5% (42/48) reported POEM 0–2, and 95.8% (46/48) reported DLQI 0/1.
- No/minimal itch and clear/almost clear skin were significantly associated with POEM 0–2 and DLQI 0/1, but the interaction effect was not statistically significant.
- The odds ratio of reporting POEM 0–2 and DLQI 0/1 was highest for those with both no/minimal itch and clear/almost clear skin (82.9 for POEM 0–2; 35.4 for DLQI 0/1), followed by no/minimal itch only (15.9 for POEM 0–2; 10.5 for DLQI 0/1) and clear/almost clear skin only (5.9 for POEM 0–2; 3.8 for DLQI 0/1) compared to those without these conditions.

**These results emphasize the significance of evaluating and recording both itch severity and skin clearance to facilitate shared decision-making.**

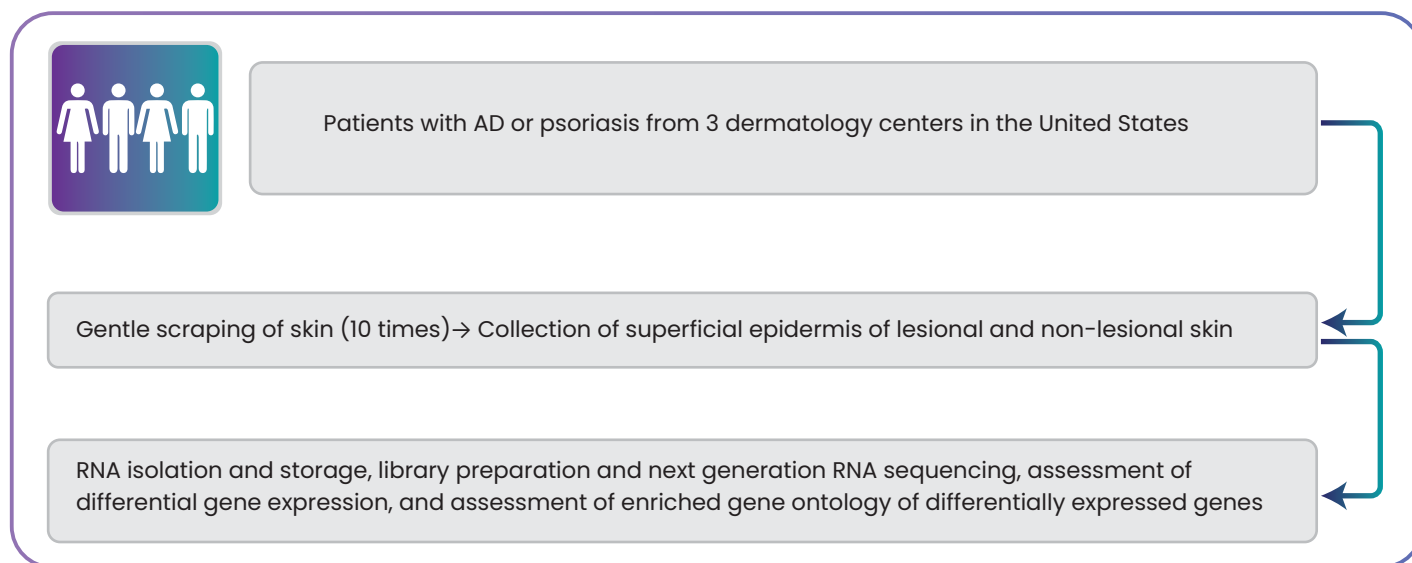
**Reference:** Silverberg JJ, Knapp KD, Munoz B, *et al.* The role of itch resolution and skin clearance in patient-reported atopic dermatitis severity and quality of life: Real-world Insights from TARGET-DERM AD. *Brit J Dermatol.* 2023;188(Suppl 3).

## Noninvasive molecular assessment of atopic dermatitis and psoriasis samples

### Aim

A study was conducted to investigate the molecular profiles of atopic dermatitis (AD) and psoriasis samples collected using a non-invasive skin scraping method.

### Methods



### Results

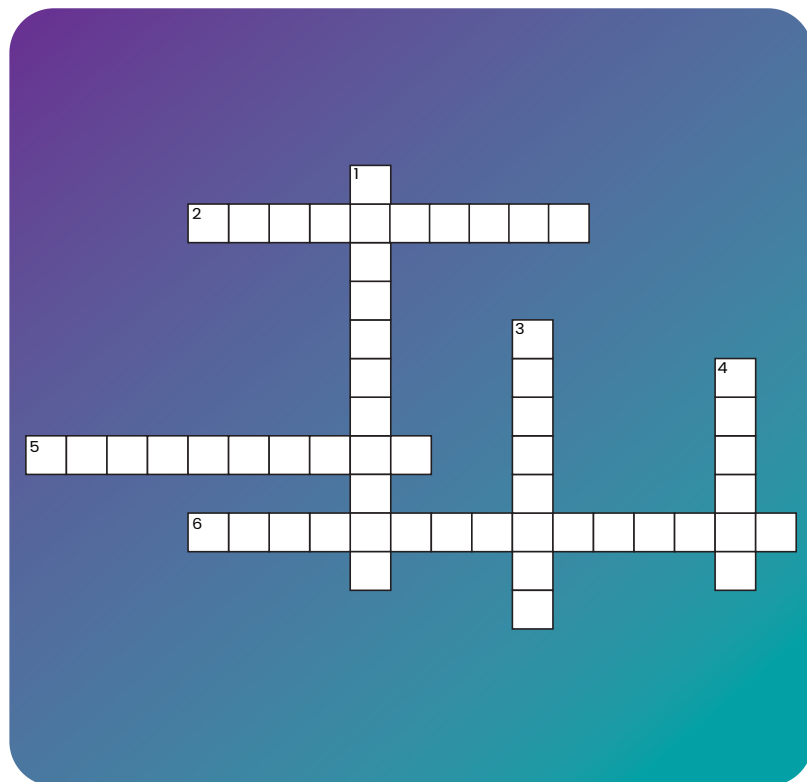
- **Comparison of lesional and non-lesional AD skin:** Differential expression of 1,633 transcripts (absolute value of log2fold change  $>1.0$  and  $p_{adj} < 0.05$ )
- **Comparison of psoriasis lesional and non-lesional skin:** Differential expression of 4,468 transcripts
- **Principal component analysis:** Gene expression profiles helped in distinguishing lesional and non-lesional samples for both AD and psoriasis
- **Gene ontology enrichment analysis:** The most frequently observed differentially expressed genes between lesional and non-lesional samples were related to innate and adaptive immune system, along with cytokine signaling
- **Comparison of lesional AD and psoriasis samples:** Differences in gene expression

The findings indicate the potential for developing a molecular test using AD and psoriasis samples obtained through a non-invasive scraping technique.

**Reference:** Quick AP, Farberg AS, Goldberg MS, *et al.* Molecular assessment of atopic dermatitis and psoriasis samples collected using a noninvasive technique. *Brit J Dermatol.* 2023;188(Suppl 3):1jad162.040.



## CROSSWORD & QUIZ



### ACROSS

- The use of \_\_\_\_\_ is recommended as part of the daily skincare routine for individuals with atopic dermatitis to keep the skin hydrated.
- \_\_\_\_\_ is a genetic skin disorder characterized by dry, scaly skin and impaired barrier function.
- Topical \_\_\_\_\_ are commonly used in the treatment of atopic dermatitis to reduce inflammation and itching.

### DOWN

- In individuals with atopic dermatitis, there is a higher risk of developing \_\_\_\_\_, a condition characterized by inflammation of the eyelids.
- The primary symptom of atopic dermatitis is \_\_\_\_\_, which can be intense and lead to scratching.
- Ceramides are a type of \_\_\_\_\_ that are essential for maintaining the skin's barrier function.

Answers: Across: 2. Emollients; 5. Ichthyosis; 6. Corticosteroids Down: 1. Blepharitis; 3. Pruritus; 4. Lipids

### 1. What is the recommended approach for managing acute flares of atopic dermatitis?

- Avoiding all skincare products
- Applying a thick layer of petroleum jelly
- Moisturizing the skin and applying topical corticosteroids
- Taking oral antihistamines daily

### 2. In atopic dermatitis, the repetitive cycle of itching and scratching is known as:

- Eczema feedback loop
- Pruritus-irritation cycle
- Itch-scratch cycle
- Dermatitis response mechanism

### 3. What is the main goal of treatment for atopic dermatitis?

- Eliminating all skin rashes
- Controlling symptoms, reducing inflammation, and preventing future flare-ups
- Reducing skin pigmentation
- Immediate relief from itching

### 4. Which of the following statements about ceramides is correct?

- Ceramides are exclusively found in plant-derived products
- Ceramides act as exfoliants, removing dead skin cells
- Ceramide levels in the skin decrease with age
- Ceramides are a type of antioxidant

Answers: 1. C; 2. C; 3. B; 4. C