Clinical Benefits of Adjunctive Periocular Skincare in Dry Eye Patients

A Retrospective Analysis of Periocular Erythema, Tear Film Stability, MGD & Symptom Burden

Lisa Hornick, OD, MBA, FAAO[1] • **Edel Duffy, PhD**[2] • **Shovan Bhattacharrya, MD, MBA**[2]

[1] Stanford Ranch Optometry, Rocklin, California, USA [2] Scope Eyecare, Westland House, Willow Road, Dublin 12, Ireland

Contact: lmhornick1@gmail.com • medical@scopeeyecare.com

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CONFLICT OF INTEREST DISCLOSURE

Hornick Lisa

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I have the following potential disclosure to report

Scope Eyecare provided study samples for this research. I have previously provided consultancy services to Scope Eyecare and received honoraria from the company. Edel Duffy & Shovan Bhattacharrya are employees of Scope Eyecare.

BACKGROUND & AIM

The Overlooked Interface: Periocular Skin in DED

Thin, fragile eyelid skin[1]

Eyelids have ~1 mm thickness, a weaker barrier, and fewer sebaceous glands — prone to dehydration and cosmetic-related damage.

Cosmetics & MUR migrate onto the ocular surface[2],[3]

Eye cosmetics and make-up remover (MUR) residue migrate onto the tear film, disrupting the lipid layer and triggering inflammation.

Cosmetics exacerbate DED[4]

71.6% DED prevalence in cosmetic users vs 32.1% general population; eye make-up users have ~2.2× higher dry-eye risk.

Preservative-containing MUR are cytotoxic[5]

Common MURs would contain preservatives like BAK- and PHMB. These MURs show significant corneal-epithelial cytotoxicity; preservative-free MUR maintains viability comparable to saline.

AIM To evaluate periocular erythema, TBUT, MGD grade, and SPEED in DED patients treated with a comprehensive regimen including Optase Life Eye Make-Up Remover and Eye Cream as adjunctive periocular skincare.

MUR: Make Up Remover; BAK-Benzalkonium Chloride PHMB- Polyhexamethylene Biguanide TBUT-Tear Break Up Time MGD-Meibomian Gland Dysfunction; DED-Dry Eye Disease

1.Wolf R, Orion E, Tüzün Y. Periorbital (eyelid) dermatides. Clin Dermatol. 2014;32(1):131–140.
2. Ng A, Evans K, North RV, Jones L, Purslow C. Impact of Eye Cosmetics on the Eye, Adnexa, and Ocular Surface. Eye Contact Lens. 2016;42(4):211–220.
3. Wang MTM, Craig JP. Investigating the effect of eye cosmetics on the tear film: current insights. Clin Optom (Auckl). 2018;10:33–40.
4. Albdaya NA, Binyousef FH, Alrashid MH, et al. Prevalence of Dry Eye Disease and Its Association With the Frequent Usage of Eye Cosmetics Among Women. Cureus. 2022;14(7):e27142.
5. Duffy E, et al. Evaluating the safety & cytotoxic effects of make-up remover in a human corneal epithelial cell line / dead-cell model. AAO 2025 Poster.

METHODS

Retrospective Chart Review — Single Optometric Practice

27 **Patients**
female, MGD + DED, cosmetic users

53 **Mean age (yrs)**
adult female cohort

28 **Days follow-up**
Baseline & Day 28

STUDY DESIGN

Adjunctive Skincare	Optase Life (preservative-free) — Eye Make-Up Remover + Eye Cream
Assessments Baseline & D28	Periocular erythema • TBUT (s) • MGD severity grade • SPEED • Corneal / conjunctival staining
Statistical Analysis	α = 0.05 two-sided • Paired t-tests (Shapiro-Wilk) • McNemar (paired binary erythema) • Descriptive MGD shifts

CONCOMITANT THERAPIES *n = 27*

Artificial Tears	27 (100%)
IPL	14 (52%)
Supplements	11 (41%)
Cyclosporine	11 (41%)
Warm Compress	9 (33%)
Miebo (Perfluorohexyloctane)	6 (22%)
Allergy meds	2 (7%)
Steroids	2 (7%)
MGD Probing	2 (7%)
Tyrvaya (varenicline)	2 (7%)
Punctal Plugs	1 (4%)
Doxycycline	1 (4%)

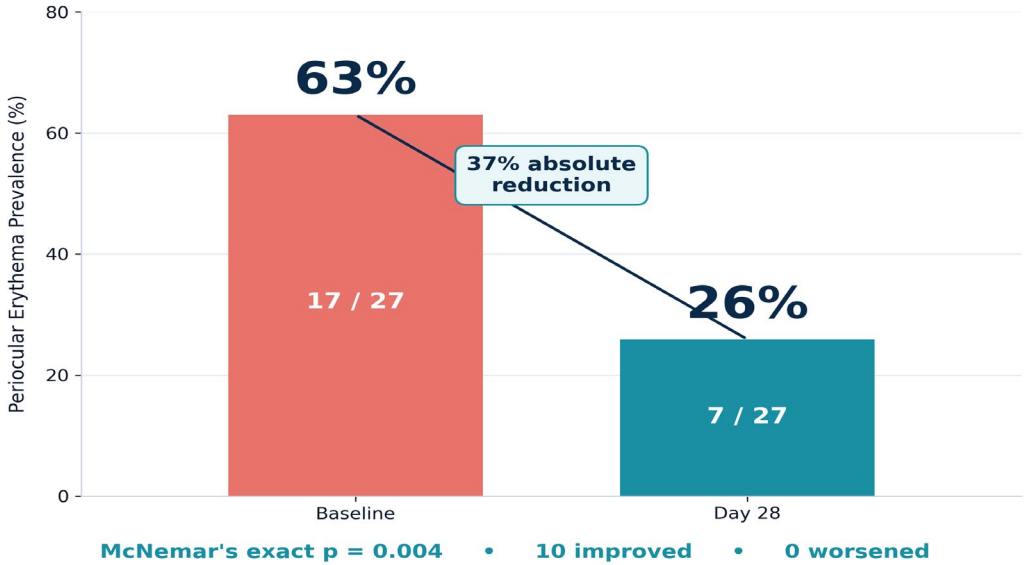
DED — Dry Eye Disease; MGD — Meibomian Gland Dysfunction; TBUT — Tear Break-Up Time (in seconds) ;SPEED — Standard Patient Evaluation of Eye Dryness (questionnaire)
IPL- Intense Pulsed Light

PRIMARY RESULT

Periocular Erythema — Significant Reduction at Day 28

✓ PRIMARY ENDPOINT

McNemar exact p = 0.004



McNemar paired test • significance p < 0.05

KEY FINDINGS

63% → 26%

Periocular erythema prevalence

37%
absolute reduction

10 / 27
patients improved

0
patients worsened

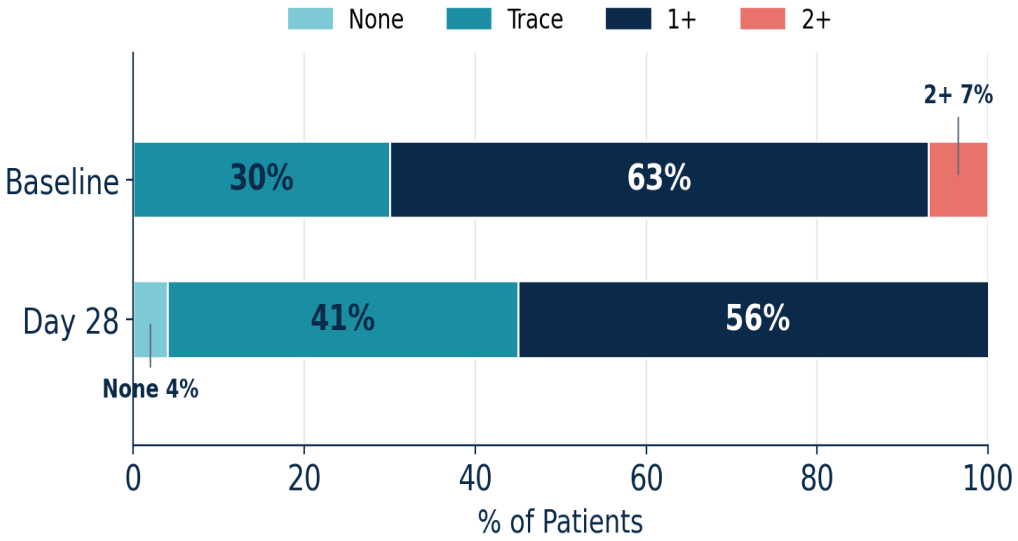
17 → 7
absolute count

SECONDARY RESULT

Meibomian Gland Dysfunction — Significant Improvement

✓ SIGNIFICANT

p = 0.020



30%

Improved (8/27)

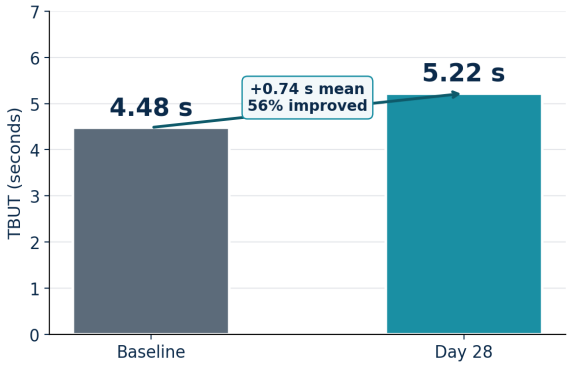
INTERPRETATION

- MGD grades shifted favourably across the cohort over 28 days.
- Net positive direction — fewer 2+ grades, more 1+ / Trace.
- Consistent with overall lid-margin & surface improvements.
- Effect attributable to full regimen with periocular skincare adjunct.

Tear Film, Symptom Burden & Tolerability

Tear Break-Up Time (TBUT)

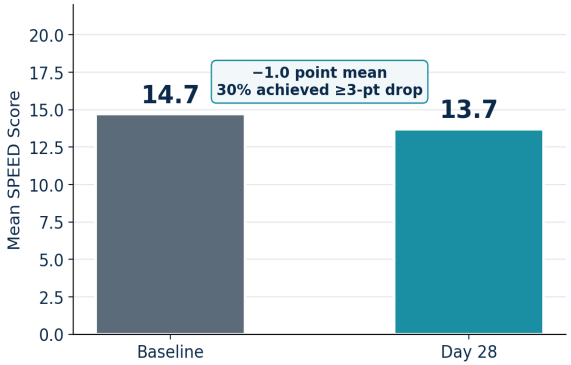
p = 0.180 (NS)



+0.74 s mean • 56% improved

SPEED Symptom Score

p = 0.313 (NS)



−1.0 pt mean • 30% ≥3-pt drop

Tolerability & Safety

Local AEs over 28 days

15%	**Stinging** 4 / 27
15%	**Warm / Burning** 4 / 27
0%	**Itching** 0 / 27
1	**Discontinuation** undesirable effect
0	**Serious AEs** none reported

✓ **Excellent overall tolerability** — 1 patient discontinued due to an undesirable effect; 0 serious AEs; 0% itching reactions across 28 days.

Clinical Implications, Limitations & Take-Home Messages

KEY CONCLUSIONS

✓ Significant reduction in periocular erythema (63% → 26%, p=0.002) over 28 days.

✓ Significant improvement in MGD grading (p=0.020); 30% improved.

✓ Positive numerical trends in TBUT and SPEED — DED measures preserved.

✓ Excellent tolerability — 1 discontinuation (undesirable effect); 0 serious AEs.

CLINICAL IMPLICATIONS

→ Ask cosmetic-using DED patients about make-up removal practices and periocular skin symptoms.

→ Consider gentle, preservative-free periocular skincare as an adjunct to standard DED therapy — particularly for lid erythema and MGD.

→ Adjunctive periocular skincare may address overlooked complaints without compromising existing DED treatments.

LIMITATIONS

- Retrospective, single-centre design with small cohort (n=27, all female) limits generalisability.
- No control arm; multimodal therapies limit attribution to any single product.
- Prospective, randomised, controlled trials with longer follow-up and standardised PROMs are warranted.

TAKE-HOME Adjunctive preservative-free periocular skincare delivers measurable, statistically significant reductions in periocular erythema and MGD grade — with excellent safety — supporting routine consideration.