



MANAGING OCULAR SURFACE COMPLICATIONS FROM HARMFUL EYE BEAUTY TRENDS



Educate your patients on healthier beauty habits.

BY BRIDGITTE SHEN LEE, OD, FFAO, FBCLA, FEAOD

Many cosmetic products and eye beauty trends can cause ocular surface complications, leading some cosmetics consumers to become patients for routine or urgent eye care.¹ The convergence of social media, reality TV, and selfie culture fuels a growing obsession with long eyelashes and dramatic eye makeup.² However,

consumers are generally unaware of the many harmful ingredients found in their own beauty products (Table 1).³

It is important that eye care practitioners know how to identify, communicate about, and manage common ocular surface disease complications related to eye beauty trends¹ (Table 2), and to recommend noninvasive in-office procedures and safe products to

patients. Doing so will, in turn, expand your ocular surface disease management services.⁴ I'll explain how below.

START THE CONVERSATION AT THE SLIT LAMP

I practice in Houston, Texas, where many women regularly wear eye makeup and use lash extensions or falsies. Discussions of meibomian gland

TABLE 1. What to Avoid in Makeup Remover and Face Wash

INGREDIENTS TO AVOID	POTENTIAL OCULAR SURFACE COMPLICATIONS
Paraben	Inhibits meibomian gland cells, estrogenic effect
Methylparaben	Similar to BAK
Phenoxyethanol	Neurotoxic, common label “paraben-free,” rose smell
BAK	Epithelial cells, goblet cells, meibomian gland damage Superficial punctate keratitis, reduces wettability
Sodium laureth sulfates	Strips meibum, causes tear film instability

Abbreviation: BAK, benzalkonium chloride

Sources: Shen Lee B. Ocular aesthetics: lash obsessions. *Eyecare Business*. 2018;32:38-40. Chen X, Sullivan DA, Sullivan AG, Kam WR, Liu Y. Toxicity of cosmetic preservatives on human ocular surface and adnexal cells. *Exp Eye Res*. 2018;170:188-197.

FIVE HEALTHY EYE BEAUTY HABITS

1. Obtain baseline ocular surface exam findings before getting eyelash extensions.
2. Always remove makeup and wash your face and eyelids before going to bed.
3. Do not tightline or apply eyeliner over your waterline.
4. Avoid waterproof makeup if possible; do not use on a daily basis.
5. Do not use over-the-counter “take the red out” eye drops without first treating the underlying cause of your red eyes.

Source: Shen Lee B. Ocular aesthetics: Eyeing beauty. *Eyecare Business*. 2019;33: 34-36.

dysfunction (MGD) and dry eye disease (DED) are part of my routine eye exams. It is natural for me to ask about cosmetic habits at the slit lamp if I observe any of

the clinical signs that can lead to ocular surface disease. After the slit-lamp exam, I review the patient’s meibomian gland image. Often, the structure appearance matches the patient’s reported symptoms and observed clinical signs.

Symptomatic Versus Asymptomatic

Symptomatic patients are invited to return for a separate DED exam and are asked not to wear any makeup or use artificial tears on the day of the exam. Patients are given an educational sheet on MGD and DED, and are asked to read “Homework Before Your Dry Eye Exam” on our website.

For patients who are not symptomatic but show clinical signs, we provide education on the importance of healthy eye beauty habits (See *Five Healthy Eye Beauty Habits*).

Staged Management and Treatment of DED

It is important to follow the evidence-based protocol established by the Tear Film & Ocular Surface Society Dry Eye Workshop II (TFOS DEWS II) when we treat DED. Most patients can be managed effectively with Steps 1 and 2 of the four steps for staged management of DED (Table 3).⁵

Simplify Your Treatment Procedures

The three initial routine eye exam tips below have helped increase our success with having patients return for DED exams while also following the recommended treatments.

1. Educate patients on why they need to return to your office and what to expect at the next visit.
2. Prescribe a new preservative-free artificial tear to improve prior authorization (PA) success. PA success is improved when you document patients trying a different over-the-counter tear twice daily for at least 2 weeks.
3. Add meibomian gland image screening to your exam. Reviewing meibomian gland images with the patient helps to improve the patient’s understanding of MGD and DED.

There are several prescription drug options for DED. Although it is time-consuming to deal with health insurance regulations and coverage procedures, it is necessary to learn the PA process to help patients obtain their prescribed drops. Here are some suggestions for successfully obtaining prescription drugs:

- *Educate* patients on the process

TABLE 2. Harmful Eye Beauty Trends

EYELASH AND EYELID COSMETIC TRENDS	LEADING TOXIC INGREDIENTS AND WHAT TO AVOID	POTENTIAL OCULAR SURFACE COMPLICATIONS
Mascara	Wax, pine tar derivative; avoid waterproof mascara	Blocked meibomian gland orifices, tear film instability, difficult to remove, can lead to blepharitis
False Eyelashes		
Eyelash Extensions	Cyanoacrylate (methacrylate): adhesive Formaldehyde: preservative, used in glue	Irritation, allergic reaction, dermatitis, chemical conjunctivitis, redness, burning, itching, tearing. Lack of cleaning leads to blepharitis, <i>Demodex</i> , compensating incomplete blinks (weight of lashes)
Falsies	Formaldehyde: derivatives DMDM-hydantoin, quaternium-15	Same side effects as eyelash extensions
Eyelash Growth Serum		
Bimatoprost Ophthalmic Solution 0.03% (Latisse, Allergan, prescription required)	Prostaglandin analogue	Conjunctival and eyelid hyperemia, burning, irritation, prostaglandin periorbitopathy, loss of periorbital fat, skin darkening, change in eye color
Popular OTC Lash Enhancers (many brands, nonprescription)	Isopropyl cloprostenate (synthetic prostaglandin analogue)	Similar side effects to prostaglandin
Zoria Boost Eyelash Serum (OCuSOFT, nonprescription)	Myristoyl pentapeptide-17, cocoyl-oligopeptide-1 (patented polypeptide)	No prostaglandin side-effect profile
Eyelash Perm and Tinting		
	Paraphenylenediamine (PPD) Ammonium thioglycolate: strong alkali	Acute conjunctivitis, swelling, tearing, redness
Eyeliner		
Liquid or Pencil Eyeliner	Wax, pine tar derivative, benzyl alcohol; avoid application to waterline*; avoid tightlining** regularly	Blocked meibomian gland orifices, drying healthy meibum, tear film instability
Permanent Eyeliner Tattoo	Alkaline anesthetics, body art pigment, avoid completely	Infections, mechanical injuries, corneal staining meibomian gland loss, tear film instability, chronic lid irritation
Eyeshadow		
	Avoid glitter, metal powder	Lack of proper removal can lead to conjunctivitis, keratitis, blepharitis, contact lens intolerance

*Waterline is a beauty term for the line of skin between the eyelashes and ocular surface. It contains the meibomian gland orifices, which are often blocked by popular dark eyeliner.

**Tightline is a popular beauty technique of lining the upper waterline. The lash bed appears bold, and dark eyeliner gives the appearance of thick lashes. Sources: Shen Lee B. Ocular aesthetics: lash obsessions. *Eyecare Business*. 2018;32:38-40. Periman L, O'Dell L. When beauty doesn't blink. *Ophthalmology Management*. 2016;20:27-46. O'Dell L, Sullivan A, Periman L. Beauty does not have to hurt. *Advanced Ocular Care*. www.atascaeye-center.net/wp-content/uploads/2015/01/Beauty-Does-Not-Have-to-Hurt.pdf. August 2016.

TABLE 3. Selected Recommendations From TFOS DEWS II for Management of DED

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|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 1 | <ul style="list-style-type: none"> • Educate patient on the condition and its management, treatment, and prognosis • Educate patient on potential dietary and environmental modifications • Identify and modify systemic and topical medications • Recommend lid hygiene and warm compresses of various types |
| Step 2 | <ul style="list-style-type: none"> • Tea tree oil treatment • Tear conservation through punctal occlusion or moisture chamber goggles • In-office physical heating and expression of the meibomian glands • In-office IPL therapy for MGD • Prescription drugs to manage DED |

Abbreviations: DED, dry eye disease; IPL, intense pulsed light; MGD, meibomian gland dysfunction

Source: Jones L, Downie LE, Korb D, et al. TFOS DEWS II Management and Therapy Report. *Ocul Surf.* 2017;15(3):575-628.

PEARLS FOR BUILDING AN EYE BEAUTY STORE IN YOUR PRACTICE

- Improve understanding and increase compliance through education and communication; engage in social media.
- Sell recommended products through both an in-store beauty counter and online store.
- Ask for referrals from patients, beauty services, and other health care providers.

and fill out necessary paperwork in the office.

- *Train* a team member to be in charge of all medical prescription PA processes and associated communication with patients.
- *Schedule* regular meetings with pharmaceutical representatives, as they can provide invaluable support with training staff and supplying samples and coupons. I have steadily added diagnostic

and treatment technology, studied evidence-based research, and shared clinical success in the in-office treatment of DED in the past decade. Our in-office procedural treatment protocol has been successful in helping our patients.⁵

CREATE HAPPY, LOYAL PATIENTS

When you take the time to educate patients on their beauty habits and the potential for harm from their cosmetic

products,⁶ they are appreciative and interested in finding safe solutions.¹ Building an ocular aesthetics–focused dry eye clinic takes time, but it is achievable (see *Pearls for Building an Eye Beauty Store in Your Practice*). Focusing on creating happy patients often leads to a happy practice! ■

1. Shen Lee B, Kabat AG, Bacharach J, Karpecki P, Luchs J. Managing dry eye disease and facilitating realistic patient expectations: a review and appraisal of current therapies. *Clin Ophthalmol.* 2020;14:119-126.

2. Shen Lee, B. Ocular aesthetics: lash obsessions. *Eyecare Business.* September 2018.

3. O'Dell L, Sullivan AG, Periman LM. Uncover patient lifestyle habits that lead to OSD. *Optometry Times.* October 2016.

4. Shen Lee B. Ocular aesthetics: eyelids, exfoliation, expressions. *Eyecare Business.* April 2020.

5. Jones L, Downie LE, Korb D, et al. TFOS DEWS II Management and Therapy Report. *Ocul Surf.* 2017;15(3):575-628.

6. Gomes JAP, Azar DT, Baudouin C, et al. TFOS DEWS II Iatrogenic Report. *Ocul Surf.* 2017;15(3):511-538.

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