

## **Aesthetics and the Ocular Surface: Understanding the Impact of Cosmetics, Beauty Procedures, and Ocular Surface Health**

1 hour

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### **Description**

The modern beauty industry continues to expand, with cosmetic products, aesthetic procedures, eyelash enhancements, and periocular treatments becoming increasingly common among patients. Many of these procedures have unintended consequences on ocular surface health, contributing to dry eye disease, MGD, blepharitis, allergic reactions, contact lens intolerance, and chronic inflammation. Learn to identify potentially harmful ingredients and practices, evaluate common aesthetic complaints, recognize complications, and provide evidence-based recommendations that support both ocular health and patient aesthetic goals.

### **Objectives**

- Identify cosmetic ingredients associated with ocular toxicity, meibomian gland dysfunction, and ocular surface inflammation, and explain the mechanisms by which cosmetics contribute to dry eye disease and chronic eyelid inflammation.
- Evaluate common aesthetic concerns including ocular redness, dark circles, and under-eye bags from both ocular health and cosmetic perspectives and develop patient-centered recommendations regarding safe cosmetic practices, surgical interventions, and product selection.
- Discuss the role of in-office procedures including IPL, radiofrequency, low-level light therapy, thermal mechanical action, dynamic muscle stimulation, and lid hygiene treatments in improving ocular surface health and periocular appearance.

### **Outline**

#### **I. Introduction: The Growing Intersection of Beauty and Eye Care**

##### **A. Growth of the Cosmetic Industry**

- Current market trends

- Cosmetic use among eye care patients
- Increasing demand for aesthetic services

#### B. TFOS Lifestyle Workshop Findings

- Impact of cosmetics on ocular surface health
- Cosmetics as a modifiable lifestyle factor
- Importance of patient education

#### C. Why Eye Care Providers Should Discuss Cosmetics

- Ocular surface consequences
- Opportunities for preventative care
- Improving treatment outcomes

### II. Cosmetic Products and Ocular Surface Disease

#### A. Defining Ocular Cosmetics

- Eye makeup products
- Skincare products
- Lash enhancement products
- Cosmetic procedures

#### B. Cosmetic Ingredient Safety

- FDA regulation of cosmetics
- Limitations of cosmetic oversight
- Ingredient transparency challenges

#### C. Toxic Ingredients and Ocular Surface Damage

- Benzalkonium chloride

- Formaldehyde-releasing preservatives
- Parabens
- Phenoxyethanol
- Chlorphenesin

#### D. Effects on Ocular Tissues

- Conjunctival toxicity
- Corneal epithelial damage
- Meibomian gland dysfunction
- Chronic inflammation

### III. Cosmetics and Meibomian Gland Health

#### A. Meibomian Gland Structure and Function

#### B. Cosmetic-Induced Gland Dysfunction

- Product migration
- Gland obstruction
- Chronic inflammatory changes
- Meibomian gland atrophy

#### C. Clinical Implications

- Evaporative dry eye disease
- Contact lens intolerance
- Ocular discomfort
- Long-term gland preservation

#### IV. Evidence-Based Cosmetic Best Practices

##### A. Makeup Application Guidelines

- Eye shadow selection
- Eyeliner placement
- Contact lens considerations
- Product storage and replacement schedules

##### B. Cosmetic Practices Associated with Increased Risk

- Waterproof cosmetics
- Tightlining and water lining
- Glitter-containing products
- Shared cosmetics

##### C. Makeup Remover Categories with Pros and Cons of each type

- Micellar water
- Oil-free removers
- Oil-based removers
- Cleansing wipes and cloths

#### V. Chronic Eyelid Inflammation, Biofilms, and Red Eye

##### A. Red Eye as an Aesthetic Concern

- Patient motivations
- Common causes

##### B. Eyelid Biofilms

- Biofilm development
- Relationship to blepharitis

- Impact on ocular surface disease

#### C. Demodex and Chronic Inflammation

- Clinical presentation
- Collarettes as a pathognomonic sign
- Psychosocial impact of lid erythema

#### D. Evidence-Based Treatment Approaches

- Lid hygiene
- Hypochlorous acid
- Microblepharoexfoliation
- Lotilaner therapy
- Intense pulsed light

### VI. Eyelash Enhancement and Ocular Surface Complications

#### A. Eyelash Biology and Ocular Protection

- Protective role of eyelashes
- Importance of appropriate lash length

#### B. Eyelash Growth Serums

- Prostaglandin analog-containing products
- Mechanisms of action
- Ocular side effects

#### C. Prostaglandin-Associated Peri-orbitopathy

- Periorbital fat atrophy
- Hyperemia

- Hyperpigmentation
- Meibomian gland dysfunction

#### D. Lash-Lengthening Mascaras

- Fiber-containing products
- Wax-containing formulations
- Ocular surface implications

#### E. Eyelash Extensions

- Adhesive composition
- Formaldehyde exposure
- Mechanical consequences
- Blepharitis and allergic reactions

#### F. False Eyelashes

- Adhesive-associated complications
- Magnetic lash systems
- Best-practice recommendations

### VII. Periocular Aesthetic Procedures and Ocular Surface Health

#### A. Eyeliner Tattooing

- Long-term ocular surface consequences
- Meibomian gland damage
- Meibography findings

#### B. Cosmetic Injectables and Surgical Procedures

- Fillers

- Blepharoplasty
- Patient selection considerations

#### C. Screening Prior to Cosmetic Procedures

- Ocular surface evaluation
- Dry eye risk factors
- Meibomian gland assessment

### VIII. Common Cosmetic Concerns Encountered in Eye Care

#### A. Dark Circles

- Etiologies
- Ocular and systemic contributors
- Evidence-based management

#### B. Under-Eye Bags (Festoons)

- Aging changes
- Inflammatory contributors
- Medical and cosmetic treatment options

#### C. Periocular Skin Health

- Sun protection
- Skin barrier function
- Safe skincare recommendations

### IX. Therapeutic Aesthetic Technologies in Eye Care

#### A. Intense Pulsed Light (IPL)

- FDA-approved indications

- Mechanisms of action
- Effects on rosacea and MGD

#### B. Radiofrequency (RF)

- Tissue remodeling
- Collagen stimulation
- MGD treatment applications

#### C. Low-Level Light Therapy (LLLT)

- Photobiomodulation
- Clinical evidence
- Applications for MGD and ocular rosacea

#### D. Thermo Mechanical Action

- Melts and expresses meibum to increase tear film stability
- Stimulated collagen and elastin production
- Reduces wrinkles
- Reduces dark circles and periorbital fat

#### E. Dynamic Muscle Stimulation

- Improves blink stability
- Stimulates collagen and elastin production
- Reduces under eye puffiness – festoons
- Reduces fine lines, wrinkles, and dark circles

#### F. Integrating Technology into Ocular Surface Management

## X. Case Studies and Clinical Decision-Making

### Case 1:

- Severe reaction to eyelash extensions

### Case 2:

- Contact lens intolerance caused by cosmetic practices

### Case 3:

- Meibomian gland dysfunction associated with eyeliner tattooing

### Clinical Discussion

- Diagnostic approach
- Treatment planning
- Prevention strategies

## XI. Incorporating Aesthetic Conversations into Clinical Practice (3 Minutes)

### A. Identifying Patient Concerns

- Effective screening questions
- Understanding patient goals

### B. The Optometrist as a Trusted Advisor

- Balancing aesthetics and ocular health
- Patient communication strategies

## XII. Summary and Questions

### Key Take-Home Messages

- Cosmetics and aesthetic procedures can significantly impact ocular surface health.
- Meibomian gland preservation should remain a priority when counseling patients.

- Demodex, biofilms, and chronic inflammation frequently contribute to cosmetic complaints.
- Safe cosmetic practices can reduce dry eye symptoms and improve long-term outcomes.
- Eye care providers are uniquely positioned to guide patients toward healthier aesthetic choices.