COURSE DESCRIPTION: Over the last 25 years, our knowledge about dry eye disease (DED) and related ocular surface disorders has grown exponentially. Yet many misconceptions persist in the minds of both patients and practitioners. This course discusses several enduring beliefs regarding the diagnosis and treatment of DED that represent misinterpretation of pathophysiologic responses and/or clinically imprecise observations.

LEARNING OBJECTIVES: At the conclusion of this lecture, the attendee will be able to:

1. Better differentiate dry eye disease from some common “masqueraders”, including epithelial basement membrane dystrophy, blink lagophthalmos and conjunctivochalasis;
2. Understand the role of artificial tears in dry eye management, and better delineate the attributes of a product based upon its components and characteristics;
3. Comprehend the visual impact of dry eye disease in terms of glare, functional acuity and visual discomfort;
4. Discuss the value of and indications for therapeutic dry eye interventions, specifically including cyclosporine, lifitegrast, punctal plugs and contact lenses.

“When a patient presents with excess tearing, they invariably have dry eye.”¹

- Epiphora represents either hyperlacrimation or diminished nasolacrimal drainage
- In DED, reflex tearing follows ocular irritation
  - A recent study of patients presenting with epiphora found that only 4.7% had reflex tearing (DED) as the etiology
- Numerous other conditions can cause epiphora, e.g. allergic conjunctivitis, punctal stenosis, lagophthalmos and conjunctivochalasis

“A reduced tear break-up time (TBUT) with fluorescein is diagnostic of dry eye.”²⁻⁵

- TBUT is a function of tear film integrity and regularity of the corneal surface
- Diminished TBUT can portend evaporative or aqueous deficient DED, but may also be associated with corneal disorders such as basement membrane dystrophy and recurrent corneal erosion.
- Fluorescein TBUT is inherently flawed; non-invasive TBUT methods are preferable.
“Artificial tears only mask symptoms. This is not a viable therapy for dry eye.” 6-7

- Ocular lubricants are the mainstay of DED therapy for much of the population
- Mild DED can absolutely respond to regular use of quality lubricants as well as environmental adjustments, dietary changes and behavioral modifications
- Pharmaceutical intervention is not required in all cases of DED

“Restasis doesn’t work. I’ve prescribed it dozens of times, and the majority of my patients did not experience symptomatic improvement.” 8-10

- Restasis (cyclosporin A 0.05%) functions as an immunomodulatory agent to mitigate inflammation at the level of the ocular surface
- Restasis targets activated T-cells, and may require 3-6 months in order to see clinically significant improvement
  – Numerous clinical trials have demonstrated the therapeutic effect of Restasis
- The issue is not that Restasis doesn’t WORK... it’s that Restasis doesn’t work FAST ENOUGH to meet most patients’ expectations
- Lifitegrast may provide faster symptom relief for patients who have previously failed with Restasis

“Because dry eye is an inflammatory condition, punctal occlusion will only make the condition worse.” 11,12

- While inflammation is manifest in many individuals with DED, it is not inherent to every patient. It may be subclinical and non-existent, particularly in some forms of dry eye
- Studies show that punctal occlusion can help to improve signs and symptoms of DED
- According to TFOS DEWS II, the following are clinical situations where punctal occlusion may be specifically indicated:
  – DED associated with a rapid tear break-up time
  – Aqueous-deficient DED secondary to systemic disease (e.g. Sjögren syndrome)
  – Systemic medications that reduce tear production (e.g. antihistamines, antidepressants)
  – Symptomatic contact lens wear
  – DED related to refractive surgery
  – Lid closure abnormalities
  – Corneal irregularities or scarring that affects tear stability
  – Toxic epitheliopathy
“Contact lenses are contraindicated in moderate and severe dry eye.” ¹³,¹⁴

- Studies have shown that high water content HEMA lenses can exacerbate symptoms in patients with marginal or minimally symptomatic DED
- Newer lens materials and designs may facilitate cosmetic contact lens wear even in those with moderate DED
- Patients with severe DED may benefit distinctly from the bandage aspect of contact lenses, utilizing either highly oxygen permeable silicone hydrogel lenses (e.g. lotrafilcon A) OR custom-designed, large diameter scleral lenses with increased vaulting capability

“Although it can cause discomfort, dry eye has no real visual implications.” ¹⁵-¹⁷

- The first casualty of a compromised tear film is visual stability!
- Studies have shown that DED impairs “functional visual acuity” (FVA)
  - FVA is assessed by measuring changes in continuous visual acuity over time, WITHOUT blinking; indirectly, this is a measure of tear stability
  - FVA is an important indication of an individual’s performance in relation to certain daily activities such as driving, reading, and video display terminal work
  - FVA appears to IMPROVE with treatment of DED (e.g. punctal plugs)
- DED also commonly introduces “glare” and “blurred vision”
  - Tear film instability induces forward light scatter → glare
  - Corneal SPK induces backward light scatter → blurred vision
RECOMMENDED READING: