

Title: From Paraoptometrist to Dry Eye Advocate

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- **CPC #FORTHCOMING**
- **Description:** A third of patients in eye care clinics present with complaints about dry eye. Dry eye disease, aka Ocular Surface Disease, is chronic and drags down quality of life. Patient education regarding the numerous causes and treatment options is time-consuming; you can take this off the doctor's plate by becoming the go-to Dry Eye Expert on staff. Help promote this profit center while improving lives.
- **Course Category:** Practice Management
- **Course Format:** Live CE
- **Hours:** 1
- No financial disclosures

- Intro

- Goals: Dry Eye Disease
 1. Definition
 2. Symptoms
 3. Prevalence
 4. Causes
 5. Diagnosis
 6. Treatment
 7. Q & A

- TFOS DEW II Definition of Dry Eye Disease
 - “Dry eye is a **multifactorial** disease of the ocular surface characterized by a loss of homeostasis of the tear film, and accompanied by ocular **symptoms**, in which tear film **instability** and **hyperosmolarity**, ocular surface **inflammation** and **damage**, and **neurosensory abnormalities** play etiological roles.”
 - Graph: Aqueous-deficient vs Evaporative
 - Extrinsic vs Intrinsic

- Cross Section of Tear Film
 - Mucus Layer
 - Aqueous (watery) layer
 - Oil (lipid) layer

- Symptoms of Dry Eye Disease
 - Chronic irritation
 - Burning
 - Foreign body sensation
 - Grittiness
 - Red eyes
 - Blurred and fluctuating vision
 - Light sensitivity
 - Excess tearing – “watery eyes”
 - = **NEGATIVE IMPACT ON QUALITY OF LIFE!**

- Prevalence & Demographics of Dry Eye Disease
 - One of the most complaints voiced to ECPs
 - Public health issue
 - More than just a nuisance
 - Linked to depression and even suicide
 - Chronic pain
 - Nearly **half** of U.S. adults experience dry eye signs and symptoms
 - 33% of patients in eye care clinics present with complaints about dry eye
 - Much more common in **women**

- Causes:
 - Digital Devices
 - Impacting younger patients of both genders due to rise in smartphone and computer use
 - Device use is a recognized risk factor for DED b/c it leads to decreased blink rates and causes the tear film to evaporate faster.
 - Environment
 - Relative humidity
 - Forest fires
 - Environment & Allergies
 - Warmer air and higher levels of carbon dioxide in the atmosphere means springtime in North America has 21 percent more pollen than just a few decades ago.
 - Systemic Drugs
 - 22 of the top 100 best-selling drugs cause dry eye
 - 18 classes of drugs negatively affect dry eye
 - Several mechanisms by which systemic drugs cause dry eye
 - Polypharmacy: 37% in people over age 60
 - Review med list with all patients
 - Contact Lenses
 - Lower tear exchange
 - CLs are inflammatory
 - Multi-purpose solution
 - Eye Surgery
 - LASIK
 - Cataract Surgery
 - Temporary or life-long dry eye status-post surgery
 - Anatomical
 - Ectropion
 - Bell's Palsy
 - Lagophthalmos

- Clinical Diagnosis
 - Symptoms without signs is possible in early stages
 - Usually based on clinical findings
 - Severity will dictate appropriate treatment
 - Look at the lids!
 - PEE, SPK, TBUT, NaFL

- Speed Questionnaire
- Inflammadry
- Treatment: The Basics
 - Good hydration, good sleep, movement
 - Higher total physical activity was associated with a significantly lower prevalence of DED in both genders, even after adjusting for time spent using digital devices
 - 48-64 ounces/day
- Treatment: Lid Hygiene
 - Focus on the eyelids!
 - Remove crusts and bacteria
 - Increase blood circulation to lid margin
 - Warm compresses
 - Antibiotic ointment applied to lid margins
- Treatment: Punctal Plugs
 - Collagen (temporary) or Silicone (semi-permanent)
- Treatment: Pharmaceuticals
 - Oral Antibiotics: Doxy or Azithromycin
 - Topical Steroids
 - Topical Xiidra or Restasis
- Meibomian Gland Expression
 - Lipiflow vs Manual gland expression
 - Improves dry eye by stabilizing the oil layer of the tear film
 - EQUINOX Low Light Level Therapy (LLLT)
 - *Indications: dry eye, styles, chalazion, facial wrinkles, acne and rosacea*
 - Intense Pulse Light (IPL) Treatment
 - For pts with moderate to severe MGD/dry eye when other treatments do not work
 - Fitzpatrick Skin Type 1-4 only (Those with darker skin run the risk of the IPL laser depigmenting skin)
 - Improves dry eye by:
 1. Reducing abnormal blood vessels that cause the inflammation in MGD
 2. Heating eyelids for better gland expression
 3. Reducing load of Demodex mites on the eyelid that cause inflammation and infection
- Customized Treatment Plan for Each Patient
 - Lots of education required
 - Pictures worth a thousand words: Meibography
 - Provide written instruction sheet
 - Avoid sending patients on a scavenger hunt, sell product in-office
 - Marathon, not a sprint
- Case Study #1 JP
 - 56 yo Caucasian Female
 - CC: Watery eyes in AM, ongoing for 5 yrs "I feel like I cry when I run," worse when cold, worse outside
 - Clinical Findings: mild redness, impacted MG glands
 - Dx: Dry Eye: lipid-deficient, environmental, hormonal
 - Tx: DERM mask 2x/day, return to clinic for manual Meibomian gland expression

- Case Study #2 PR
 - 76 yo Caucasian Female
 - CC: Dry eye, worse in PM, double vision
 - h/o: LASIK, Sjogrens
 - Clinical Findings: deficient tear miniscus
 - Dx: Keratitis sicca
 - Tx: Restasis, AT gel, PFATs 2x/day, DERM mask, Fish oil, puntal plugs
 - "After the plugs I was able to stop the artificial tears!"
- Case Study #3 DW
 - 74 yo Caucasian Female
 - CC: Goopy discharge, achy, red and dry eyes
 - PCP prescribed Pataday allergy drops, not helping
 - Clinical Findings: Punctate Epithelial keratitis, TBUT 3 seconds
 - Dx: Dry eye (Environmental, hormonal, lipid deficient, Pain in or around the eye, Non-Sjogrens Keratitis sicca)
 - Tx: Lotemax Steroid drops x 1 month, Restasis drops, DERM mask 2x/day, Ocusoft lid cleanser, Omega-3s, MG expression x 3.
- Link to Products
 - **DERM Mask** <https://www.eyeco.com/derm-warm-compress-mild-dry-eye-relief.html>
 - **Lumify:** <https://www.lumifydrops.com/>
 - **Ocusoft Products** <http://www.ocusoft.com/eyelid-cleansers-2>
 - **Nordic Naturals Pro-Omega 2,000 Fish Oil:**
https://www.nordicnaturals.com/en/Products/Product_Details/515/?ProdID=1741
 - **By Prescription Only:**
 - Xiidra <https://www.xiidra.com/>
 - Restasis <https://www.restasis.com/>
 - **Consult your Eye Doctor about whether the following treatments are right for you:**
 - Punctal Plugs <https://www.aaopt.org/eye-health/diseases/punctal-plugs>
 - IPL Studies <https://www.youtube.com/watch?v=OIT6gmSn74o>
 - IPL Demo <https://www.youtube.com/watch?v=13VMh0XCEWs>
 - Lipiflow
 - Equinox Low Light Level Therapy (LLLT)!
- Questions?
- THANK YOU