The Future of Dry Eye

Dry eye has become a dry topic. With so many treatment options and so many diagnostic tests, it can become complicated to know when and how we should use what type of treatment. The Future of Dry Eye course looks at the current systems and the way that they miss the mark. We look at ways that new and innovative diagnostic measures help to reveal the nature of the patient’s dry eye. We will review diagnostic measures of meibography, interferometry, gland expression, non-invasive tear break up time and blink assessment. Additionally we will cover new ways to treat dry eye including selection of the dry eye drop which meets the problem, warm compress, lid compression, blink training, omega 3 supplements and patient education. Through the proper diagnosis and treatment, dry eye disease can become a preventable problem.

Objectives:

1. Attendees will leave having a better understanding of the complexities and simplicity of dry eye diagnosis
2. Attendees will leave having a better understanding how to differentiate various types of ocular surface disorders
3. Attendees will leave having a better understanding of the many types of diagnostic strategies.
4. Attendees will leave having a better understanding of where to use each type of equipment to differentiate dry eye types
5. Attendees will leave having a better understanding of the management of inflammatory dry eye
6. Attendees will leave having a better understanding Meibomian gland dysfunction
7. Attendees will leave having a better understanding of the impact of dry eye for their patients and practice.

The Future of Dry Eye

1. Dry Eye Stats
	1. Current stats about dry eye
	2. Total % of population
	3. Total % break down by demographic age
2. Current Dry Eye Trends
	1. DEWS Report
		1. Classifications of dry eye
	2. Updates form DEWS 2
		1. Classification
		2. Definition
	3. Update from TFOS
3. The World of a dry eye patient
	1. Quality of life
	2. Watering eyes
	3. How does sysmptomatic complaints come into play with management and diagnosis of dry eye
4. The Tears
	1. Tear Anatomy
		1. Aqueous
			1. Creation and understanding of Lacrimal Functional Unit
		2. Mucous/Mucin
			1. Creation.
			2. The Glycocalyx
			3. Mucin and Goblet Cells
		3. Lipid Layer
			1. Components
			2. Creation and aspects of the lipid layer
	2. Creation
		1. Lipid Layer – Meibomian Gland
			1. Formation of Glands
		2. Aqueous Layer
			1. Lacrimal creating
			2. Lacrimal drainage
5. Current Trends in Dry Eye
	1. Osmolarity
		1. What is the test
		2. How is it done
		3. What does it tell us
		4. What to look for with Osmolarity
	2. Punctal Plugs
		1. Why the hype
		2. When they were big
		3. Why has it changed
		4. When should we use
		5. When should we avoid
		6. Any important tests that can show whether they will be more or less successful
	3. Drops
		1. Aqueous Drops
		2. Mucin Drops
		3. Lipid Drops
		4. When to use each type
		5. Differentiation of story brand and branded products
	4. Corneal Staining
		1. Does different areas of staining mean different things
			1. What does inferor corneal staining mean
			2. What does diffuse corneal staining mean
			3. Is contact lens staining different and how
	5. Tear Break Up Time
		1. Why does it happen
		2. Where does it happen
		3. What does different types of TBUT look like
		4. What does this tell us
6. Meibomian Gland Dysfuction
	1. MGD makes up around 86% of dry eye.
	2. What is MGD?
	3. How do we identify MGD?
	4. What are the effects of MGD upon the eye?
	5. How do we evaluate different than aqueous and how to we identify?
7. The Future of Dry Eye diagnostic measurements
	1. Meibography
		1. Evaluates the current state of the health of the meibomian gland
		2. How do we grade the status of the MG
		3. The story of the OCT of the Anterior Segment
	2. Interferometry
		1. Evaluation of the Oil upon the eye
		2. What is normal?
		3. What does abnormality mean?
		4. How to relate Oil on the eye with blink rate/quality
		5. What is the status of the tear film in its normal state
		6. Tells story of evaporation
	3. Non-Invasive Tear Break Up Time (NITBUT)
		1. NITBUT v. Standard Tear Break Up time
			1. Advantages v. Disadvantages
	4. Tear Volume Testing
		1. Measurement of tear meniscus
		2. Estimation of tear meniscus in slit lamp
		3. Advantages and disadvantages of both.
	5. Evaluation with Slit Lamp
		1. Corneal Evaluation
			1. Is there staining?
			2. What does it mean
		2. Fluorescence staining
			1. What does staining mean?
			2. What does Tear Break Up mean?
				1. Point to lipid problem
				2. Point to mucin problem
		3. Lissamine Green Staining
			1. What does Conjunctiva Staining mean?
			2. What causes conjunctival staining?
		4. Evaluation of Marx Line
			1. What is Marx Line?
			2. What does it mean?
			3. When to debride the Line?
		5. Lid Wiper Epitheliapathy
			1. What is LWE?
			2. What causes LWE?
			3. How to evaluate
			4. What does it mean
			5. How can we treat
8. The Future of Dry Eye Treatments
	1. A paradigm of diagnosis: A Dental Model of diagnosis before problems
		1. Non-obvious MGD
			1. What is NOMGD
			2. Where did it come from?
			3. How to diagnose
			4. No inflammation
			5. Plugged Glands without redness
			6. No Symptoms
		2. Obvious MGD
			1. A detailed history of MGD
			2. Symptoms
			3. Discomfort
			4. Dry Eye
	2. Look to the true cause
		1. Sjogrens advanced Testing
			1. Lab Test for dry eye screening
		2. Lacrimal Treatments
		3. Meibum Treatments
	3. When to use
		1. Plugs
		2. Omega -3s’
		3. Heat
		4. Current Views on massage following heat
	4. Treatment for MGD
		1. IPL
			1. Advantages and Disadvantages
		2. Lipiflow
			1. Advantages and Disadvantages
		3. Warmth
		4. Omega-3s
		5. Oil Tears
		6. Lid Scrubs
9. Treat the disease
	1. Treat early before it is a problem
		1. Don't wait for the cavity to treat the plaque (dental model)
		2. Treat the non-obvious even before symptoms
	2. Treat the type of dry eye
		1. Don't use a shotgun approach