Innovations in MGD: Raising the Standard of Care

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Optometry’s Meeting 2017

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- Josh Johnson, OD – Allergan, Alcon, BioTissue, Shire, J&J
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Overview

We want you to think and behave differently about MGD by showing the importance of:

1. Utilizing evidence based medicine
2. Implementing POC diagnostics
3. Adopting current and future MGD treatments
4. Taking your practice to the next level!!

Dry Eye Market Overview

- $3.8 Billion spent on dry eye symptom relief annually in the U.S. alone
- >29 Million Americans suffer from dry eye disease
- Most frequently encountered disease state by eye care professionals

Better clinical outcomes for patients
Patient Retention & Referrals
Practice Growth

Dry Eye Supplements Fail to Address the Underlying Cause

Why Treat Ocular Surface Disease?

- Address signs/symptoms
- Provide relief to patients for which there are limited treatment options
- Improve CL intolerance
- Improve outcomes in surgical procedures
- To grow your practice
Better Comfort and Quality of Vision

- Ocular surface disease, even the mildest tear film abnormality, results in a significant reduction in quality of vision and comfort.
- Due to this, proper ocular surface treatment is critical to patient satisfaction.

Dry Eye: Increased Clinical Focus
An Important Opportunity

- Mounting patient awareness
- Progresses with age and lack of effective treatment
- Driven by tear instability
- Exacerbated by intense, prolonged visual tasks
- Impacts vision as well as comfort

DEWS II Released Soon!!!

Updated DEWS II Definition

“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.”

Growing Awareness of MGD

MEGD is the leading cause of dry eye.1
Core mechanism of MGD: Obstruction.1
Early intervention is best.2

Dry Eye

MGD is the leading cause of dry eye. 1
Long-term ocular surface rehabilitation requires functional Meibomian glands.
Core mechanism of MGD: Obstruction.1
Early intervention is best.2
Routine MG Function/ Structure evaluation.

Healthy Meibomian Gland Function is Foundational to Ocular Surface Health

MG Assessment requires the evaluation of gland function and/or structure

Early Intervention optimizies outcomes

Risk Factors for MGD

**Systemic**
- Age
- Autoimmune disease
- Rosacea
- Medications
- Diabetes
- And on and on

**Ocular**
- Aqueous deficient
- Contact lens wear
- Glaucoma
- Lid margin disease
- Cosmetics

**Environmental**
- Digital devices
- Humidity

Who has MGD?

- Peri-menopausal women study: 91% (n = 471) had DE with 87% having MGD.
- PCOS study: 73% with PCOS had MGD vs. 62% of the controls.
- Glaucoma and MGD: 96% (using Prostaglandins) had obstructive MGD vs. 58% of those on no Prostaglandin Therapy.
- Diabetes: 58% had MGD.

Contact Lens Considerations

- Contact lens wearers with unexplainable reduced wearing time had MGD.
- CL wear accelerates MGD.
- 60% of CL wearers had MGD.

Surgical Considerations

- Approximately 10–20% of post-LASIK patients may suffer from chronic dry eye disease with more severe discomfort after LASIK.
- Cataract Patients: 59% (n=233) had MGD.
- 62.3% had TBUT < 5 sec.

Digital Devices

- Approximately 65 percent spend between three to nine hours per day in front of a digital device.
- While asthenopia, glare, and accommodative difficulty are all aspects of CVS, dry eye appears to contribute to a major component of symptoms reported.
- 74.3% of VDT users had MGD.

Glaucoma Consideration

- Glaucoma medications significantly elevate the risk and progression of MGD.
- Preservative and dry eye.
Why Have We Not Seen a Paradigm Shift in the Treatment of MGD?

A. MGD is too complex
B. Cost is a barrier to entry
C. Lack of efficacy in available treatment options
D. I Love MGD – everyone else is asleep at the wheel

***Data from Audience Response 2016 AOA Panel on MGD

INNOVATIONS IN MGD: IMPLEMENTING POINT-OF-CARE DIAGNOSTICS

Josh Johnston, OD, FAAO
Clinic Director - Georgia Eye Partners
Residency Program Supervisor

INNOVATIONS IN MGD:
IMPLEMENTING POINT-OF-CARE DIAGNOSTICS

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Does this Patient have MGD?

Do You Normally Perform?

• Lid expression

• Evaluate for lid seal

Questionnaires

• SPEED Questionnaire
• OSDI

Alternative Questionnaires

Dry Eye Summit questions (2014)
1. Do your eyes ever feel dry or uncomfortable?
2. Are you bothered by changes in your vision throughout the day?
3. Are you ever bothered by red eyes?
4. Do you ever use or feel the need to use drops?
Interferometry
• Lipiview® I & II

Lipiview® II
• Uses a light-emitting lid everter
• Allows for selection of images from 3 modes
• High resolution images utilized in patient education

Keratograph® 5M
– NIKBUT
– Tear meniscus height
– Non-contact meibography (meiboscan)
– Tear dynamics
– Topography

Meibography
• Transillumination
• LipiView I, LipiView® II
• Oculus Keratograph® 5M
• LipiScan®
• Meibox

LipiScan™
• 10 seconds per eye
• High Definition
• Under normal lighting
• User-friendly
• Small footprint

LipiScan™
• PROACTIVE CARE
  • Duct dilation, sludging, and dropout
• REACTIVE CARE
  • Severe sludging and dropout
Meibography Research

Purpose: to determine if meibography could predict meibomian gland function with regard to number of functional MGs and/or estimation of functional MG volume in patients symptomatic for dry eye

- Methods: n=23 symptomatic for dry eye, mean age 48 years, 5 males: 18 females
- Scored using the SPEED questionnaire
- MG function and estimation of functional MG volume were performed with meibomian gland evaluator (MGE)
- Meibography was performed using the Modif Topographer
- Lower lids were examined in three equal sections: nasal (N), central (C) and temporal

Conclusions: There appears to be no relationship between the level of apparent drop out and the number of functional MGs and/or functional MG volume. These counterintuitive results strongly indicate that standard noncontact infrared meibography cannot be used to predict MG function in terms of number of functional glands and/or functional gland volume except in the case of total gland dropout, when the glands are completely absent.

Transillumination

Blink Evaluation

- Blink Rate
  - Various diagnostics (LipiView I, II)
  - Manual

- Blink Quality
  - Partial blinks
  - Incomplete blinks
Tear Osmolarity

Hyperosmolarity

• Central pathophysiologic mechanism for all forms of DED
• Causes inflammation and apoptosis & reduces the ability of mucins to lubricate
• Leads to a breakdown of homeostatic control causing tear film instability
• 308 mOsm/L is a highly sensitive cut-off point that delineates a normal from a mild/moderate dry eye population
• Inter-eye difference = hallmark of DED ( > 8 mOsms/L between eyes)
• Unstable tear film causes inter-eye differences

TearLab

• The TearLab Osmolarity System is the first objective and quantitative test for diagnosing and managing Dry Eye patients
• Fast and accurate results in seconds using only 50 nanoliters (nL) of tear film to diagnose Dry Eye Disease
• Enables discussion with patients around a number improving compliance
• Incorporating osmolarity into the standard of care gives the best indication of early stage disease

Tear Volume Testing

Schirmer’s Test

• Requires anesthesia
• 5 minute testing time
• Mildly irritating
• Normal results: > 10mm

Phenol Red Thread

• No anesthesia required
• 15 seconds testing time
• Little discomfort
• Normal results: > 20mm

Other Tear Tests

Red Phenol

• Tear Meniscus Height
  – Manual
  – Diagnostics
• Tear Stability: Tear Break Up Time (TBUT, NIBUT)
  – Less than 8-10 seconds abnormal
Dry Eye Survey Research

- 68 patients
- OSDI, Schirmer’s Test, Tear Break-Up Time (TBUT)
- Strong inverse correlation was found between OSDI and TBUT
- No correlation between OSDI and Schirmer’s Testing

Dry Eye Disease and MMP-9

Matrix metalloproteinases (MMP) are proteolytic enzymes that are produced by stressed epithelial cells on the ocular surface.

- MMP-9 in Tears
  - Non-specific inflammatory marker
  - Normal range between 3-41 ng/ml
  - More sensitive diagnostic marker than clinical signs
  - Correlates with clinical exam findings
  - Ocular surface disease/dry eye demonstrates elevated levels of MMP-9 in tears

InflammaDry® Limit of Detection

Normal levels of MMP-9 in human tears ranges from 3-41 ng/ml

Positive Test Result: MMP-9 ≥ 40 ng/ml
Negative Test Result: MMP-9 < 40 ng/ml

Type of Dry Eye

- Aqueous and Mucin Deficiency
- Lipid Deficiency/MGD

Meibomian Gland Evaluation

Microlagophthalmos Lid Seal Exam
INNOVATIONS IN MGD:
ADOPT CURRENT AND FUTURE MGD TREATMENTS

Tom Kislan, OD, FAAO
Medical Director - Hazelton Eye Specialists

LipiFlow
LipiFlow® Thermal Pulsation System

LipiFlow safely and effectively treats Meibomian gland obstruction in both upper and lower eyelids simultaneously

- In-office procedure
- 12 minutes per eye

LipiFlow® Offers a Solution for Patients Who Are Difficult to Treat

- Apply heat to the inner eyelids in both upper and lower eyelids simultaneously
  - LipiFlow® provides heat >40°C to liquefy obstructed glands
- Liquefy the meibomian gland contents
- Facilitate release of secretions from the meibomian glands

LipiFlow® Provides Heat >40°C to Liquefy Obstructed Glands

Disposable eyepiece connects to a console used by the physician to control the application of heat and pressure to the eyelids
Complete Gland Expression: Gland Reset

- Obstructive MGD results in an atrophic process in glandular tissue inside the tarsal plates of the eyelids (histopathologic investigations)
- LipiFlow® may provide longer-term relief due to more complete evacuation of lumen contents, “resetting the clock” so that it may take a lot longer for symptoms to recur at the same level as pre-LipiFlow

Effective therapeutic expression of obstructed glands can lead to remodeling of dysfunctional glands

LipiFlow® Provides Pressure to Evacuate Glands

Disposable eyepiece connects to a control system used by the physician to control the application of heat and pressure to the eyelids

Therapeutic Goal of Pulsation

- Transiently decrease blood flow, thus increasing heat transfer efficiency
- Evacuate liquefied gland contents to alleviate the obstruction
- Apply pressure to the eyelids during the heating phase of the treatment (as opposed to after)
- Enable patient to experience little to no discomfort during treatment

Pressure and Pulsation for MGD

- LipiFlow® expresses upper and lower lids
  - Traditional focus was on lower lids due to easier accessibility
- Treatment of all glands is important
  - ~45% of gland openings are functioning at one time point
  - ~50% decrease of active glands from age 20 to 80 years

Pressure and Pulsation for MGD

- LipiFlow® inflates and deflates in such a way as to massage the eyelids from the terminal ends of the glands toward orifices
- LipiFlow provides complete, not partial, expression of glands
- In traditional expression, only 7% of patients could tolerate the pressure (range, 10 to 40 PSI) necessary for complete therapeutic expression along entire lower eyelid
- LipiFlow needs to exert only ~0.6 PSI

Safety

• The globe is insulated/protected from heat during treatment
• Massaging pressure is not transferred directly onto the eyeball
• Pressure required is significantly less compared with unheated manual expression, which can lead to edema and bruising

MiBo ThermoFlo

• New technology
• Class II FDA approved-no 510K required vs Lipiflow is Class III w a 510K required
• No disposables
• Cost effective for practice and patient
• Easy for staff to perform
• Great ROI

3. Program 90745.
Treatment Protocol—Mild Disease
- 12 minute—one week later-10 minute-2 weeks later-8 minute with office visit and osmolarity and inflammadry
- Mibo Mask (ie $40)
- Out of pocket (ie $450)

Treatment Protocol—Moderate Disease
- 12 minute-2 weeks later-12 minute-1 week later-10 minute-1 week later-10 minute-2 week later-8 minute with office visit, osmolarity and inflammadry
- Mibo Mask (ie $40)
- Out of pocket (ie $750)

Treatment Protocol—Severe Disease
- 12 minute-1 week later-10 minute-1 week later-8 minute-1 week later office visit with osmolarity and inflammadry and lipiflow
- Mibo Mask (ie $40)
- Out of Pocket (ie $1250)

Dry Eye Yearly VIP Program
- For severe and chronic patients (this is a chronic disease, right???)
- Out of pocket (ie $875)
- Includes unlimited miboflo treatments
- Lipiflow at 50% (ie $450)
- One 240 ct bottle of PRN Dry Eye Omega Benefits
- 50% off glasses
- Doctor cell phone

Treatment Pearls
- Treat early and often
- Warm relaxing “SPA” environment
- Give patient personal pillow
- Relaxing music on with lights dim
- Some offices use essential oils for aroma
**Intense Pulse Light**

- Intense pulsed light (IPL) is a technology used by cosmetic and medical practitioners to perform various aesthetic and therapeutic skin treatments.
- Stimulates the production of collagen, plumping up the skin and giving the patient a younger, fresher look.

**IPL - Indications**

- Facial redness
- Acne
- Hyperpigmentation
- Sun damage
- Fine lines or wrinkles
- Meibomian gland dysfunction

**True Tear**

- Recently FDA approved
- Allergan supported
- Neurostimulation of all 3 layers of tear film
- Use qid to bid but approved to 10 x a day
- End of 6 month trial pts used qd to prn
- Painless
- Should be owned by ODs

**When to Treat MGD?**

A. If MGD is present, I always treat MGD first with specific MGD treatment
B. If MGD is present, I sometimes treat MGD first with specific MGD treatment
C. I never treat MGD before treating with all of the other treatments
D. I never specifically treat MGD

**Do you routinely prescribe warm compresses and for how long?**

A. I do not prescribe a specific time
B. 1-5 minutes – as in shower
C. 10 minutes
D. I do not prescribe warm compresses
INNOVATIONS IN MGD: TAKING YOUR PRACTICE TO THE NEXT LEVEL!!

Doug Devries, OD
Co-founder - Eye Care Associates of Nevada
Associate Clinical Professor - Pacific University

Implementation Billing and Coding Success With MGD

From the Patient Perspective, MGD Management has?
A. No improvement on my patients
B. Mild improvement for my patients
C. Moderate improvement for my patients
D. Significant improvement for my patients

***Data from Audience Response 2016 AOA Panel on MGD

From the Provider Perspective, MGD Management has?
A. No improvement for my patients
B. Mild improvement for my patients
C. Moderate improvement for my patients
D. Significant improvement for my patients

***Data from Audience Response 2016 AOA Panel on MGD

From the Practice Perspective, MGD Management has?
A. No/negative impact on my practice
B. Mild positive impact on my practice
C. Moderate positive impact on my practice
D. Significant positive impact on my practice

***Data from Audience Response 2016 AOA Panel on MGD

Lipiview II
Lipiview II

Static Illumination

Dynamic Illumination

ABSTRACT

New measurement options of the Keratograph 5M

The number of FUNCTIONAL Meibomian Glands correlates with dry eye symptoms

<table>
<thead>
<tr>
<th>Symptom Score, SPEED (0-28)</th>
<th>≤ 5</th>
<th>6–9</th>
<th>≥ 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of functional MGs for lower eyelid</td>
<td>(2.3 ± 0.2)</td>
<td>(7.3 ± 0.2)</td>
<td>(14.4 ± 0.7)</td>
</tr>
</tbody>
</table>


New measurement options of the Keratograph 5M

The Lipid Layer:

- coat the underlying aqueous thereby impeding evaporative
- create a hydrophobic barrier to avert the overflow of tears
- act as a lubricant to prevent friction between the eyelid and ocular surface
- facilitate in creating a smooth refractive surface of good optical quality
New measurement options of the Keratograph 5M

The Tearfilm Dynamic:
- Slow movement is associated with a thick lipid layer and a high-viscous tear film
- Rapid movement after a blink is negatively correlated with the tear film thickness and the viscosity

Lipiview
- C factor
- ICU’s/nanometers
- Partial/complete blinks
- Video display

Micro-blepharoexfolication

Pre-Treatment
Post-Treatment

BlephEx Treatment

Lid Hygiene – Surgical Considerations

- Types of Blepharitis:
  - Anterior
    - Staphylococcal
    - Seborrheic
    - Demodex
    - Angular
  - Posterior
    - Meibomian Gland Dysfunction (MGD)
Lid Hygiene – Surgical Considerations

- **Topical:**
  - Lid wipes/foam
  - Hypochlorous acid solution
  - Tea tree oil wipes/foam

- **Mechanical:**
  - BlephEx

- **Oral:**
  - Ivermectin

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**THERMODYNAMIC TX TO EXPRESS AND EVACUATE MGs**

A new thermodynamic treatment to express & evacuate the MGs

**THE LIPFLOW** (TearScience Inc., Morrisville, NC)

Heat applied to both inner lid surfaces
Pulsatile pressure applied to outer lids

The device applies controlled heat to the inner upper and lower palpebral conjunctival surfaces and lid margins, while simultaneously applying pulsating pressure over the upper and lower (outer) eyelids.

FDA approved LipiFlow July 2011

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**HydroEye®**

**Powerful Dry Eye Relief**

- Patented, clinically tested oral formula provides continuous relief from the inside out.
- Contains unique omega (GLA) – clinically backed in 7 dry eye trials, not found in diet/flax/fish. Provides other omegas, nutrient cofactors
- Stimulates tear production, eases inflammation
- Effective for almost any dry eye (i.e. contact lens, post-refractive, post-menopausal, allergy-related, Sjögren’s, other types)
- Guaranteed relief within 60 days or money back; works for 80-85% of users

**Retail:** $32.95
**Wholesale:** $19.50
**Staff:** $13.25

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**TearScience® Solution**

- LipView® OSI
- LipFlow® Auto
- Disposable

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**MGD TREATMENT**

- Warm compresses
- Meibomian gland scrubs
- Home expression
- Blinking
- Office expression
- Secretagogues – Androgens
New! Ophthalmic Surgical Instruments

Collins Expressor Forceps (Item 98610)
For aggressive expression of the Meibomian gland.

Livengood Expressor Paddles
Angled (Item 98620) & Flat (Item 98630)
For mild or gentle expression of the Meibomian gland.

MiBoFlo
Treatment 108 degrees
Initial: 12 min/lid
1 week: 10 min/lid
2 weeks: 8 min/lid
Dual eye pad cuts time in half

Maskin Probe
1) $158 box (10)
2) 1,2,4,6 MM intraductals
3) Aluminum Handle $104

What is Intense Pulsed Light (IPL)

1. Wide spectrum (400-1200 nm) to target different depths and chromophores
2. Intense energy to photocoagulate abnormal lesions and blood vessels
3. Brief pulses prevent collateral damage.
4. "Cut off" filters are used for different skin types, depths, and chromophores
5. Customization of parameters addresses different indications and individual skin properties
6. A chiller tip allows safer and better tolerated treatment

Treatment includes IPL application below eyelids, and then expression (EXP) of meibomian glands

From ear to ear, including nose
First, IPL:
Then, EXP
OSD Procedures

- Meibomian Gland Expression
  - Manual
  - MeiboFlow
- Thermal Pulsion
  - LipiFlow
- Punctal Occlusion
- Demodex Treatment
  - In Office Cliradex Swab, OcuSoft Swab
- Micro Blephroexfoliation
- Amniotic Membrane

Demodex Mite

In Office Demodex Treatments

- OcuSoft
  - Contains Tea Tree Oil + Buckthorn seed oil
  - Ung QHS
  - OcuSoft Cleansers
- Cliradex In Office Swab
  - Tea Tree Oil (4 Terpineol)
  - Preservative Free

LipiView II with Dynamic Meibomian Imaging (DMI)

Merchandising and Compliance

Bottom Line

- Re-Appointment Level II $45.30
- Re-Appointment Level III $74.09 to 88.63
- Re-Appointment Level IV $99.21 to 121.36
- Punctal Occlusion OU $231.24 to 264.21
- Ant Seg Photos $17.35 to 57.78
- Amniotic Membrane $1489.02 to 2532.51
- Osmolarity Testing $12.57 to 23.47
- Inflammadry $10.57 to 19.42
- LipiView $65.00 to 150.00
- LipiFlow OU $950.00 to 2000.00
- Manual Expression $125.00 to 300.00
Bottom Line

BlephEx $150.00 to 250.00
Demodex Tx $125.00 to 200.00
Supplements $395.40 ($161.00 Net)
Scrubs, Tears, Masks, Moisture Wear ($196.00 Net)

Bottom Line Examples

4 Visits, Tears, Scrubs, Diagnostics, Net $577
4 Visits, Plugs, Tears, Scrubs, Diagnostics, Net $768.00
4 Visits, Plugs, Tears, Scrubs, Diagnostic, BlephEx Net $948
6 Visits, Plugs, Tears, Scrubs, Diagnostic, BlephEx, LipiView, LipiFlow Net $1556.00
6 Visits, Plugs, Tears, Scrubs, Diagnostics, BlephEx, LipiView, LipiFlow, 1 Amniotic Membrane $2464.00
6 Visits, Plugs, Tears, Scrubs, Diagnostics, BlephEx, LipiView, LipiFlow, 2 Amniotic Membranes $3272.00

If you were going to start a dry eye clinic, which technology would you look invest first?

A. I would not invest in technology
B. Diagnostic technology (Anterior Segment Camera, Keratograph 5M, Lipiscan, Lipiview II)
C. Treatment/Management (BlephEx, Lipiflow, MiboThermoflo)

**Data from Audience Response 2016 AOA Panel on MGD**

LET’S DISCUSS CASES

“Unable to wear CL’s greater than 2 hours”
- K.H. 54 year old Caucasian female
- Symptoms increase with computer use and prolonged near work
- Burning, scratchy eyes OU, foreign body sensation
- OHx: Failed CL’s
- Current Tx: AT’s, Tobradex, Lotemax PRN

MGD
Clinical Data

Baseline Data
- Osmolarity 308 OD, 296 OS
- MGE: O OD, OS - >80% gland loss OU
- PB OD: 7/7, 5/6
- ICU: 32 OD, 49 OS
- MMP9 – Neg. OU

Diagnosis
- MGD & KCS
- Anterior Blepharitis
- Conjunctivochalasis OU
- Ocular Rosacea
  - main issue MGD/Ocular rosacea/Poor blink reflex/blink rate
- Mild micro lagophthalmos
- S/P Blepharoplasty OU- uppers and lowers

Treatment
- Bruder mask QHS OU, HydroEye PO, ATs PRN, Avenova QHS OU, Lotemax BID OU, start Restasis BID OU, Blink exercises, UNG/Humidifier QHS, removed plugs RLL/LLL, .003 brimonidine QD OU PRN
- Will plan for BBL and Lipiflow staged procedures later- poor potential outcome w/severe gland loss.

Treatment Update
- S/P BBL (4 treatments)
- S/P Bilateral Lipiflow
- Dispense TrueTear 5/25/17

MGD Treatment Options
- Azithromycin
- Restasis
- Lid hygiene- scrubs, foams, sprays
- Warm compresses
- Oral Doxycycline, azithromycin PO
- Antibiotic/steroid combination drops/ointments
- Lid/Gland Expression
- IPL/BBL
- Omega 3 Supplementation
- Gland Ductal Probing
- LipiFlow Thermal Pulsation System
- TrueTear
16 yo WF

- Presented for 3rd opinion
- CC can’t wear CLs more than 5-6 hours
- First OD switched from AV2 to Oasys to Ultra with no improvements
- Second OD switched from Ultra to Oasys one day to DT1 with slight improvement to 7-8 hours

ITF Guidelines

- ITF 1-lissamine stain of conjunctiva
- ITF 2-visual fluctuations and/or peripheral corneal stain
- ITF 3-central stain and/or filaments
- ITF 4-RCE/neurotrophic ulcers

Slit Lamp Exam

- Lids: telangiectasia, capped glands, atrophy
- Conj: hyperemic, lissamine green stain
- Cornea: ITF 2, severe peripheral stain along lid margins, TBUT 2 seconds
- Osmolarity: OD 330 OS 335
- Inflammdry: Positive OU
- Keratograph: See picture

Treatment

- Limit device time, discussed regular blinking
- Lotemax bid
- Restasis bid
- TG Omega 3 2668 mg/day
- Systane balance qid
10 week follow up

- ITF 2 still
- TBUT 2 sec still
- Inflammadry: positive to negative
- Osmolarity: 330/335 to 315/310
- Performed 12 minute Mibo, 1 week later 10 minute Mibo, 1 week later 8 minute Mibo
- Mibo Mask 10 minute/day

8 week follow up

- Still on lotemax, restasis, TG Omega 3, systane balance qid
- Inflammadry: still negative
- Osmolarity: 300/301
- ITF 1
- TBUT 7 seconds
- Performed Lipiflow
- Lotemax bid x 4 weeks then d/c

8 week follow up

Still on Restasis, TG Omega 3, systane balance
Inflammadry: Negative
Osmolarity: 296/301
ITF 1
Continue present treatments and MiboMask 10 min/day
Mom asked about accutane for acne-UGH!!!!

8 week follow up

- 76YOWF – Present for follow up for Glaucoma and dry eye disease. Compliant with drops OU. Vision has been blurry and eyes irritated more in the past few months
- Previous treated with topical azithromycin
- Current Ocular Meds: Restasis BiD OU, latanoprost qhs OU
- Numerous systemic meds including singulair, synthroid

Case Example

- SPEED Score: 33
- Tear Osmolarity 308 / 315
- SLE: 2+ MGD OD / 3+ MGD OS / 1+ SPK OU
- Cloud secretions OU
- MG Structure: See images
- IOP: 14/13
- HVF: Stable OU

• How do you address OSD and Glaucoma?
• Does glaucoma stage make a difference?
• What testing and treatment?
**Conclusion**

- Decide on your practice philosophy
- Educate your entire staff
- Add an MGD assessment (function/structure) to all patient encounters
- Include and prioritize the treatment of obstruction
- Know that this will benefit your patients and your practice

**Thank you!**

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