In the US, an estimated 3.2 million women age 50 and over, and 1.68 million men age 50 and over are affected by dry eye syndrome.
MGD is the leading cause of evaporative DED. Patients who suffer from this disease produce an abnormal meibum that is more viscous than the usual olive oil like secretion. These patients can have inflammation and bacterial overgrowth that exacerbate the problem.

Meibomian Gland Dysfunction
Standard Treatments

- Warm Compresses & Lid Scrubs
- Anti-Inflammatory Drops or Ointments
- Oral Antibiotics

While treating patients for a facial skin condition known as Rosacea, it was discovered that the Intense Pulsed Light (IPL) therapy also benefited those with Dry Eye Syndrome.
How the IPL Device Works

A Xenon flashlamp emits (like a camera flash) energy in a band from the base of the visible spectrum (500 nm) to the border between the near and mid-IR (1,300 nm). The flashlamp is filtered to allow light of 500 to 800nm to pass through. The light is pulsed in milliseconds depending on the setting.
Visible light

From 500 nm to 800 nm
- penetrates to the deeper dermis
- subsurface heating is variable

Who are IPL candidates?

- Patients with MGD
- Patients with OSD
- Patients with evaporative DED
- Patients with Ocular Rosacea
IPL Criteria

- Abnormal OSDI
- Abnormal Tear Osmolarity
- Abnormal Lissamine Green Staining
- Persistent FB Sensation Despite Maximal O3 Therapy
Tear Osmolarity Machine

Matossian Eye Associates
Tear Osmolarity (TO) Criteria

• Do TO on all patients 40 and older at time of their annual Full Exam
• Do TO on all pre-cataract surgical patients
• Do TO on all patients who are expressing Dry eye issues -- gritty eyes, fluctuating vision, sandy sensation, tired eyes, etc.
• Do TO on all patients who wear contact lenses who complain of an inability to wear them as long as they would like, etc.
• Do TO on all patients who are on chronic eye medications (glaucoma, etc.)
Treatment Paradigm

- Artificial tear solution and/or ointment
- Thermal lid massage
- Omega 3 oral supplements
- Cyclosporin ophth emulsion 0.05% BID
- IPL

Artificial Tears
Bruder Moist Heat Compress

Omega 3 Oral Supplement
Cyclosporine Ophthalmic Emulsion 0.05%

OU BID

IPL
**FITZPATRICK CLASSIFICATION**

<table>
<thead>
<tr>
<th>SKIN TYPE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Caucasian: Very light complexion, light eyes, freckles, usually blonde or reddish hair color.</td>
</tr>
<tr>
<td>II</td>
<td>Caucasian: Light complexion, light eyes, occasional to frequent freckles, blonde, reddish, light brown hair color.</td>
</tr>
<tr>
<td>III</td>
<td>Darker Caucasian, light Asian: Medium complexion, light to dark eyes, hair color usually brown to dark.</td>
</tr>
<tr>
<td>IV</td>
<td>Mediterranean, Asian, Hispanic: darker complexion, dark eyes, dark brown to black hair color.</td>
</tr>
<tr>
<td>V</td>
<td>Middle Eastern, Latin American, light-skinned black, Indian: Dark complexion, dark eyes, usually black hair color.</td>
</tr>
<tr>
<td>VI</td>
<td>Dark-skinned black: Black complexion, black eyes, black hair color.</td>
</tr>
</tbody>
</table>

**Contraindications for IPL**

The contraindications for the Quadra Q4® Diamond Series II procedure are minimal, however the following exclusion from treatment criteria is recommended:

- Tanned skin (active tan)
- Pregnancy
- A history of keloid scarring
- Use of medication that may induce photosensitivity to the skin
- Any inflammatory skin condition at the treatment site
- A history of skin cancer
- A history of poor wound healing including Type I Diabetes
- Vitiligo
- Treatment over certain skin areas such as tattoos, moles, semi-permanent make-up, lip vermilion or mucous membranes
IPL Every 4 – 5 Weeks for a series of 4
Why the IPL Works

- The immediate effect of the most intense and effective warm compress ever.
- Closes off blood vessels that are sending Inflammatory Mediators to the gland.
- Decreases Demodex and Bacteria.
- Decreases Inflammatory Mediators on the skin.
- May have other factors.

ARVO (2013)

Intense Pulsed Light as a Treatment for Dry-eye Disease

*A Retrospective Study of Effectiveness, Satisfaction and Adverse Effects*
Over 90% of all respondents appeared to improve across three matrices:

- 94% Meibum
- 98% Lid Margin
- 93% of patients reported satisfaction with the improvement in their DED symptoms (N = 88)

No patient failed to improve on at least one of these metrics.
User Friendly Interface

Simple setting adjustment
Select the program number appropriate to the patient’s skin condition and skin type.
Proprietary pre-set DES program developed by Dr. Toyos.
Quadra Q4® units require no specialist installation, it is ready to use immediately.
Maintenance Treatment is Individualized
Every 4 – 6 Months

Performed by the MD
### Revenue Projections

15 Treatments per Month

<table>
<thead>
<tr>
<th># of Treatments per Month</th>
<th>Charge per Treatment</th>
<th>Annual Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Monthly/180 Yearly</td>
<td>$300</td>
<td>$54,000</td>
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<tr>
<td>15 Monthly/180 Yearly</td>
<td>$350</td>
<td>$63,000</td>
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<tr>
<td>15 Monthly/180 Yearly</td>
<td>$400</td>
<td>$72,000</td>
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<tr>
<td>15 Monthly/180 Yearly</td>
<td>$450</td>
<td>$81,000</td>
</tr>
</tbody>
</table>

- Laser head contains 5000 shots
- Average number of shots per treatment 30 – 35
- Averages to 143 to 167 treatments per laser head
- Replacement laser head $750
THANK YOU

Cynthia Matossian, MD FACS