

**What is**  
**Dry Eye Disease**



Dr. Daljit Singh Eye Hospital





# Dry Eye Disease

1. Tears in our eyes are necessary for lubrication and health of our eyes.
2. If our eye does not produce sufficient tears , it results in Dry Eye.
3. Dry Eye can also result if the quality of tears produced is not good.



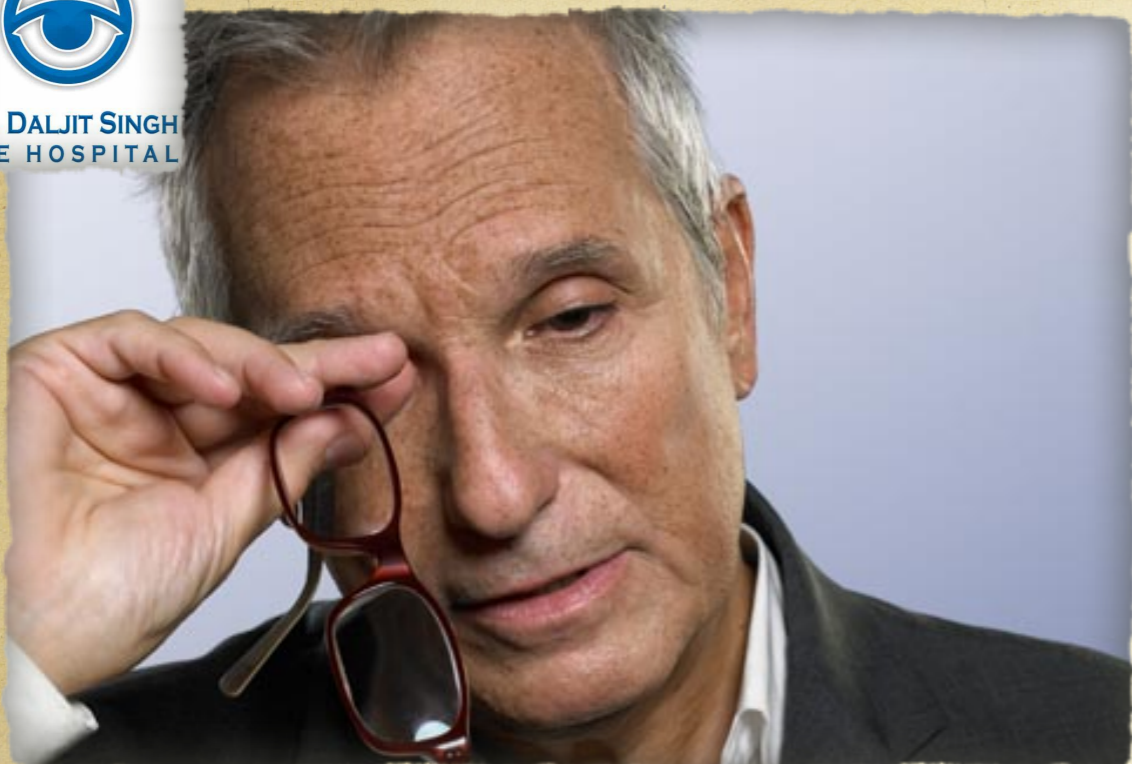
# Symptoms of Dry Eye

- Red and Irritable Eyes.
- Sensitive to Light.
- Intolerant to Air flow over the face.
- Reduced concentration on reading and computer usage.
- Increased Blinking and always feel like keeping eyes closed





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- Too much watering from the eyes can also be caused due to Dry Eye Disease.
- This happens because of poor quality of tears being produced.



# What is the cause of Poor Quality of eye tears ?



Oil making glands in the eyelids are diseased and hence produce less oil leading to early evaporation of tears and irritation.



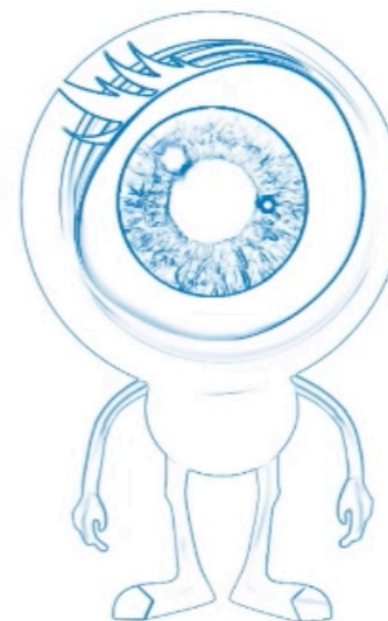


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# Meibomian Gland Dysfunction ( MGD )



IS IT DRY EYE  
OR MGD?  
86% DIAGNOSED WITH  
DRY EYE HAVE  
MEIBOMIAN  
GLAND  
DYSFUNCTION





# Causes of Dry Eye

86 % of Dry Eye Patients suffer from  
Meibomian Gland Disease

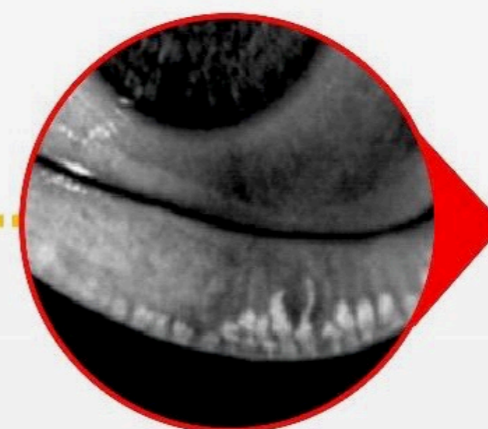
Look for what you might be missing



Normal Gland Structure



Significant Gland Loss



Severe Gland Loss

Meibomian Glands in the lid contribute  
the Oily part of the tears





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Insufficient oil layer in your tears could be due to obstruction caused by **M**eibomian **G**land **D**ysfunction leading to **D**ryness, **B**urning, **I**tching or **R**ed **E**yes.

Treat **M**eibomian **G**land **D**ysfunction by

# INCREASING NATURAL OIL IN YOUR TEARS





# MGD is treatable



**GOOD  
NEWS**

**MGD IS  
TREATABLE**





# Diagnosis of MGD Dry Eye




Fully Computerised Lipiview II Machine  
studies Tear Film and Meibomian Glands



# What is Lipiflow ?



LipiFlow is the only cleared electronic medical device for Meibomian Gland Dysfunction (MGD) shown to restore gland function. LipiFlow's Vectored Thermal Pulse™ (VTP) technology applies simultaneous heat and pressure to the eyelid to remove gland contents and obstructions while at the same time protecting delicate structures of the patient's eye.

- A single-use sterile LipiFlow Activator directs simultaneous heat and pulsed pressure to target the meibomian glands during a 12-minute in-office procedure.
- LipiFlow utilizes patented inner-lid heating with redundant mechanical and electronic safety measures.
- A phased pressure profile with adaptive force equalization and proximal to distal peristaltic motion evacuates gland contents.
- The drug-free mechanism of action is the result of over 10 years of dedicated research and 36 patents.

Potential adverse effects that may occur as a result of the LipiFlow procedure include, but are not limited to, the onset or increase in: Eyelid/eye pain; Eyelid irritation or inflammation; Ocular surface irritation or inflammation; Ocular symptoms.


**A PROSPECTIVE, MULTICENTER CLINICAL TRIAL DEMONSTRATED THAT FOR**

**86%** of patients who received only a single LipiFlow treatment over 12 months, MEAN IMPROVEMENT IN MEIBOMIAN GLAND FUNCTION AND DRY EYE SYMPTOMS WAS SUSTAINED FROM 1 MONTH THROUGH 12 MONTHS<sup>1</sup>

**OVER 31** PEER REVIEWED Reports Demonstrated Efficacy<sup>2</sup>

<sup>1</sup>Blackie CA, Coleman CA, Holland EJ. The sustained effect (12 months) of a single-dose vectored thermal pulsation procedure for meibomian gland dysfunction and evaporative dry eye. Clin Ophthalmol. 2016;10:1385-1396.

<sup>2</sup>Treatment for meibomian gland dysfunction and dry eye symptoms with a single-dose vectored thermal pulsation: a review. Blackie C, Carlson AN, Korb DR Current Opinion in Ophthalmology. 2015 Jul;26(4):306-13.



MKT-ADV-102 B

This is a fully computerised , painless 12 Minute procedure done in both eyes when the Oil Glands are stimulated and to release Oil into the tear film.

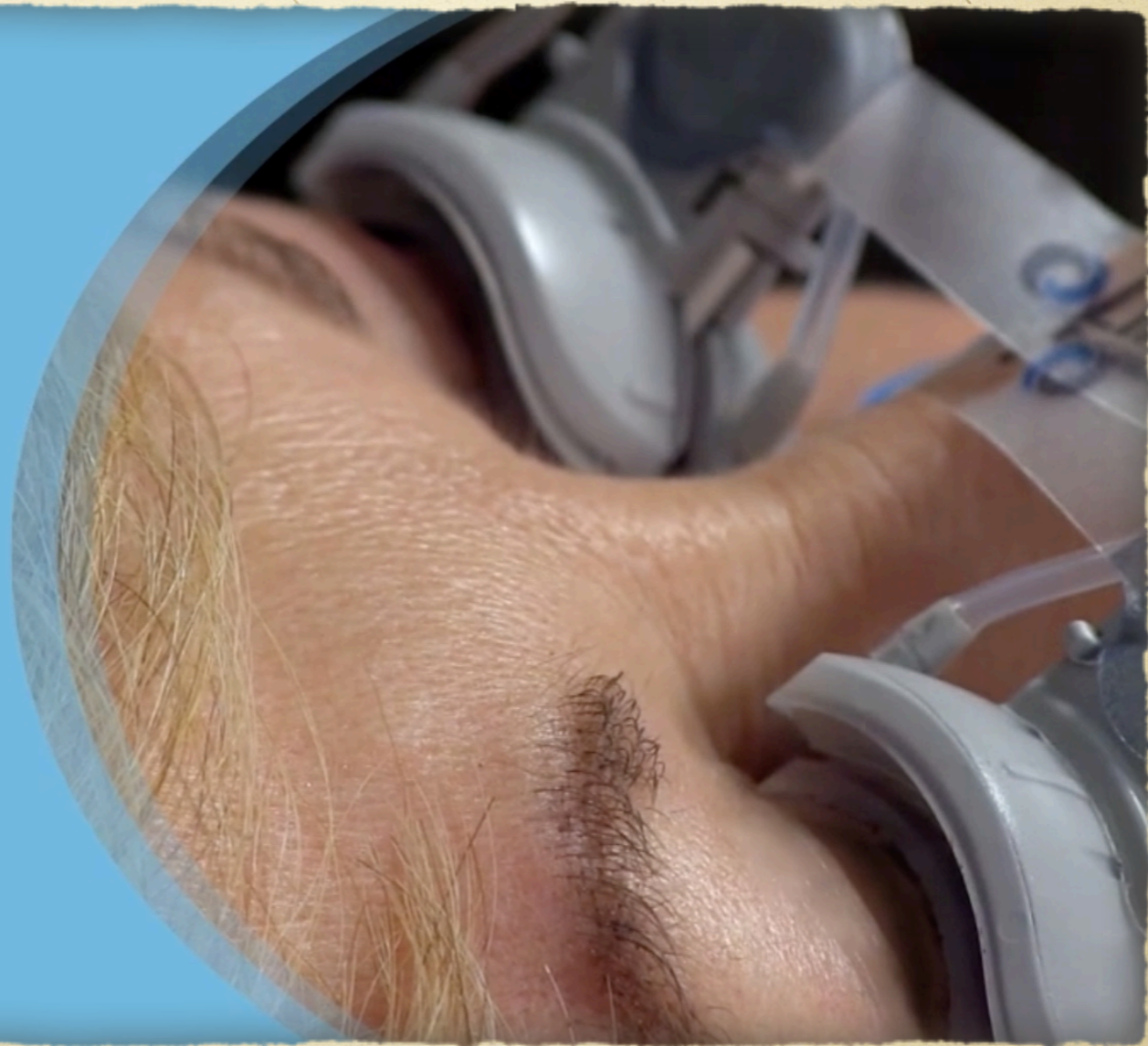




# Lipiflow Treatment

LIPIFLOW

IN-OFFICE  
TREATMENT





# Lipiflow Treatment for MGD

LIPIFLOW

RESTORES  
GLAND  
FUNCTION








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# Clinical Studies of Lipiflow

Clinical Ophthalmology

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CLINICAL TRIAL REPORT

## The sustained effect (12 months) of a single-dose vectored thermal pulsation procedure for meibomian gland dysfunction and evaporative dry eye

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On behalf of the LipiFlow  
Study Group

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**Purpose:** To evaluate the sustained effect (up to 1 year) of a single, 12-minute vectored thermal pulsation (VTP) treatment in improving meibomian gland function and dry eye symptoms in patients with meibomian gland dysfunction and evaporative dry eye.

**Methods:** The prospective, multicenter, open-label clinical trial included 200 subjects (400 eyes) who were randomized to a single VTP treatment (treatment group) or twice-daily, 3-month, conventional warm compress and eyelid hygiene therapy (control group). Control group subjects received crossover VTP treatment at 3 months (crossover group). Effectiveness measures of meibomian gland secretion (MGS) and dry eye symptoms were evaluated at baseline and 1, 3, 6, 9, and 12 months. Subjects with inadequate symptom relief could receive additional meibomian gland dysfunction therapy after 3 (treatment group) and 6 months (crossover group).

**Results:** At 3 months, the treatment group had greater mean improvement in MGS ( $P < 0.0001$ ) and dry eye symptoms ( $P = 0.0068$ ), compared to controls. At 12 months, 86% of the treatment group had received only one VTP treatment, and sustained a mean improvement in MGS from  $6.4 \pm 3.7$  (baseline) to  $17.3 \pm 9.1$  ( $P < 0.0001$ ) and dry eye symptoms from  $44.1 \pm 20.4$  to  $21.6 \pm 11.3$  ( $P < 0.0001$ ); 89% of the crossover group had received only one VTP treatment with sustained mean improvement in MGS from  $6.3 \pm 3.6$  to  $18.4 \pm 11.1$  ( $P < 0.0001$ ) and dry eye symptoms from  $49.1 \pm 21.0$  to  $24.0 \pm 23.2$  ( $P < 0.0001$ ). Greater mean improvement in MGS was associated with less severe baseline MGS ( $P = 0.0017$ ) and shorter duration of time between diagnosis and treatment ( $P = 0.0378$ ).

**Conclusion:** A single VTP treatment can deliver a sustained mean improvement in meibomian gland function and mean reduction in dry eye symptoms, over 12 months. A single VTP treatment provides significantly greater mean improvement in meibomian gland function and dry eye symptoms as compared to a conventional, twice-daily, 3-month regimen. Early VTP intervention for meibomian gland dysfunction is associated with improved treatment outcomes.

**Keywords:** meibomian gland dysfunction, dry eye, vectored thermal pulsation, LipiFlow®

### Introduction

Dry eye is currently understood to be a multifactorial disease state that afflicts many millions of people worldwide.<sup>1</sup> While our awareness of the disease has expanded exponentially since it was first documented in 1950,<sup>2</sup> as a collective, we continue to struggle with formulating a comprehensive definition for this disease.<sup>3</sup> Currently, the definition is constrained to that of measurable dry eye sequelae with no mention of an etiology. Despite the limitations of the current definition of dry eye, there is strong

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# Self Assessment of Dry Eye

## SPEED™ QUESTIONNAIRE

Name: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_ Sex: M F (Circle) DOB: \_\_\_/\_\_\_/\_\_\_

For the Standardized Patient Evaluation of Eye Dryness (SPEED) Questionnaire, please answer the following questions by checking the box that best represents your answer. Select only one answer per question.

1. Report the type of **SYMPTOMS** you experience and when they occur:

| Symptoms                            | At this visit |    | Within past 72 hours |    | Within past 3 months |    |
|-------------------------------------|---------------|----|----------------------|----|----------------------|----|
|                                     | Yes           | No | Yes                  | No | Yes                  | No |
| Dryness, Grittiness or Scratchiness |               |    |                      |    |                      |    |
| Soreness or Irritation              |               |    |                      |    |                      |    |
| Burning or Watering                 |               |    |                      |    |                      |    |
| Eye Fatigue                         |               |    |                      |    |                      |    |

2. Report the **FREQUENCY** of your symptoms using the rating list below:

| Symptoms                            | 0 | 1 | 2 | 3 |
|-------------------------------------|---|---|---|---|
| Dryness, Grittiness or Scratchiness |   |   |   |   |
| Soreness or Irritation              |   |   |   |   |
| Burning or Watering                 |   |   |   |   |
| Eye Fatigue                         |   |   |   |   |

0 = Never    1 = Sometimes    2 = Often    3 = Constant

3. Report the **SEVERITY** of your symptoms using the rating list below:

| Symptoms                            | 0 | 1 | 2 | 3 | 4 |
|-------------------------------------|---|---|---|---|---|
| Dryness, Grittiness or Scratchiness |   |   |   |   |   |
| Soreness or Irritation              |   |   |   |   |   |
| Burning or Watering                 |   |   |   |   |   |
| Eye Fatigue                         |   |   |   |   |   |

0 = No Problems  
 1 = Tolerable - not perfect, but not uncomfortable  
 2 = Uncomfortable - irritating, but does not interfere with my day  
 3 = Bothersome - irritating and interferes with my day  
 4 = Intolerable - unable to perform my daily tasks

4. Do you use eye drops for lubrication?     YES     NO    If yes, how often? \_\_\_\_\_





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EYE HOSPITAL



**IMPROVE YOUR  
QUALITY OF LIFE**







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# Dry Eye Treatment

Treatment of Dry Eye must be continued for an extended period of time with different treatment methods.

Lipiflow treatment helps in improving the quality of life of patients of Dry Eye Disease due to MGD.

This treatment may need to be repeated whenever required.



# Dry Eye Helpline

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