EDUCATIONAL MOMENTS®

THE VISION CARE INSTITUTE® of Johnson & Johnson s.r.o.

INSPIRING CARE

How to manage your patients' Tear Film Quality

1. WHAT YOU NEED TO KNOW

Slit Lamp Viewing:

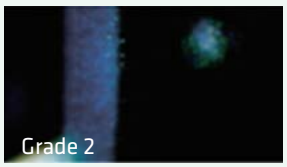
1. Low light intensity
2. High magnification (25-40x)
3. Direct focal illumination

Use fluorescein to measure tear break-up time (TBUT)

Grading:

Amorphous/marble

Polluted tear film



Lipid

Excessive lipid, foam in tears

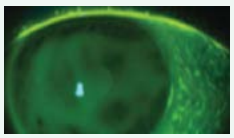
No lipid layer

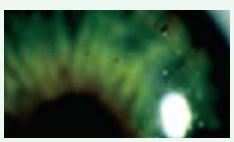
Assessment of Tear Film:

Questionnaires – such as:

- Ocular Surface Disease Index (OSDI)
- Contact Lens Dry Eye Questionnaire (CLDEQ)
- CLDEQ-8, McMonnies Dry Eye Index
- Dry Eye Questionnaire (DEQ)

- Invasive and non-invasive break-up time (TBUT, right), lipid layer presence
- Other instrumentation – Tearscope (below right), keratometer





Aetiology:

- Variation in individual tear chemistry (blinking pattern, tear film, ocular physiology, medication, age, diet)
- Reduction in lipid layer leads to marginal dry eye problems and lens contamination

- Excess lipid leads to increased spoilation
- Lid margin disease
- Contact lens (material, design, wearing schedule, care regimen)
- Cosmetics (bottom right), soap contamination
- Environment

Symptoms:

- Dryness symptoms including discomfort, grittiness and irritation
- Blurred or variable vision

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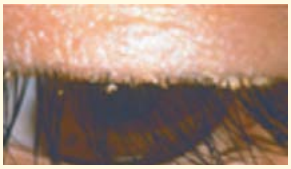
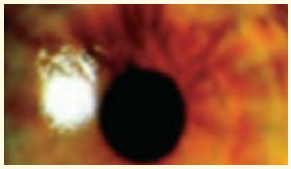
2. WHAT YOU NEED TO RECOMMEND YOUR PATIENTS

Signs:

- Low pre-ocular tear break-uptime (TBUT), poor tear mixing
- Thin (or absent) tear film lipid layer or excess lipid (debris in tear film)
- Meibomian gland dysfunction, blepharitis (bottom left)
- Bulbar conjunctival hyperaemia
- Superficial punctate epithelial erosions
- Bulbar conjunctival staining
- Reduced wettability (bottom right), deposited CL
- High tear osmolarity (>316 mOsmol/L)
- Reduced tear ferning





Recommendations:

- Manage all grades if signs or symptoms exist – improve tear film quality
- Treat any lid margin disease – lid hygiene, warm compresses
- Consider lens type (design, material, modality, replacement frequency and care system)
- Maintain good lens cleaning including rub and rinse step
- Use of lipid containing drops or sprays, visco-elastic agents or overnight lubricants
- Alter diet, alter environment, change cosmetics, blink training

Prognosis: Good, unless fundamental imbalance of tear film (keratoconjunctivitis sicca)

3. HOW TO FIND OUT MORE

- Click **here** for further reading/references
- Click **here** for our guide to assessing the tear film
- Click **here** for a refresher on slit lamp techniques
- Click **here** for short videos on slit lamp techniques
- Click **here** to read more about the role of blinking in soft contact lens wear

This series is adapted from A Handbook of Contact Lens Management (3rd Edition) published by THE VISION CARE INSITUTE®

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PATIENT CASE STUDY

When you have read this guide and our recommended resources, why not take part in THE VISION CARE INSTITUTE® self-assessment quiz to test your clinical diagnostic and management skills. Choose only one answer to each question then check the answers at the foot of the page to see whether it's correct. Good luck!

Patient TR is a 22-year-old clerical assistant who has worn daily disposable hydrogel contact lenses since the age of 16. She wears her lenses at least 16 hours a day and sometimes longer for nights out after work. She complains of dry, gritty eyes and problems seeing her computer screen towards the end of the working day.

Questions:

1. What slit lamp technique would you use to examine this patient's tear film?

- ☐ **A.** Indirect retro illumination
- ☐ **B.** Direct illumination, high magnification
- ☐ **C.** Indirect illumination
- ☐ **D.** Specular reflection

2. Slit lamp examination reveals debris in the tear film and hydrophobic spots on the lenses just after blinking but no tear foaming or lipid deposits. What grade would you give her tear film quality?

- ☐ **A.** Grade 1
- ☐ **B.** Grade 2
- ☐ **C.** Grade 3
- ☐ **D.** Grade 4

3. Which of these investigative techniques is most likely to be useful?

- ☐ **A.** Over-refraction
- ☐ **B.** Measuring pre-ocular tear break-up time
- ☐ **C.** Checking lens fit
- ☐ **D.** Checking K readings

4. Which of the following management options would you be most likely to consider?

- ☐ **A.** Switch to reusable lenses
- ☐ **B.** Refit with RGP lenses
- ☐ **C.** Discontinue lens wear
- ☐ **D.** Advice on cosmetics, lid hygiene, warm compresses and blinking

1. The correct answer is B. 25-40x magnification and direct illumination with low light intensity is best for examining tear film quality

2. The correct answer is A. Grading tear film quality depends on a number of observations. Use the grading system suggested to make these as consistent as possible

3. The correct answer is B. Removing the lenses, instilling fluorescein (right) and measuring tear break-up time is most likely to provide you with useful information

4. The correct answer is D. Manage all grades if symptoms occur and any or all of the advice listed in option D are the most likely for you to consider