

EDUCATIONAL MOMENTS®



INSPIRING CARE

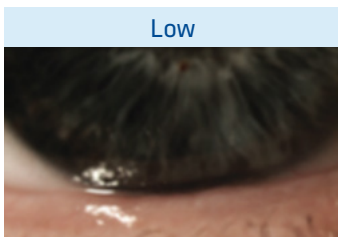
How to manage your patients' Tear Film Quantity

WHAT YOU NEED TO KNOW

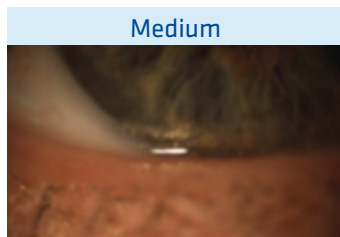
Slit Lamp Viewing:

1. Narrow slit beam with low intensity to measure (with eye-piece graticule) or grade inferior tear meniscus height in primary gaze and with normal blinking
2. High magnification (40x)
3. Direct focal illumination

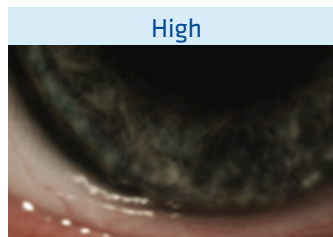
Grading: Tear meniscus height:



Low



Medium



High

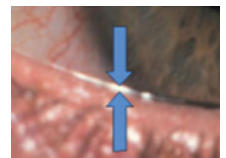
Low: ≤ 0.1 mm or a difference of at least 0.06 mm between the eyes

Medium: 0.1 mm to 0.25 mm

High: ≥ 0.25 mm (indicates reflex tearing and / or deficiency in naso-lacrimal drainage)

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)
- Combination of questionnaires and other tests / signs / symptoms
- Non-invasive tests – Tear meniscus height (lower lid margin to top of specular reflex, right) and regularity, non-invasive break-up time, lipid layer presence
- Invasive tests – Schirmer, Phenol red thread (right), Invasive break-up time



Aetiology:

- Multifactorial, including age, medication, systemic or ocular conditions, environment
- Contact lens wear interferes with normal tear film structure and function
- Increased tear film evaporation leads to thinning of pre- and post-lens tear layers

Symptoms:

- Dryness, discomfort, grittiness, irritation, sensitivity to adverse environments

EDUCATIONAL MOMENTS®



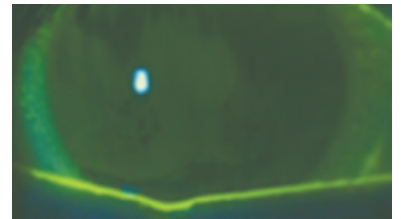
INSPIRING CARE

How to manage your patients' Tear Film Quantity

WHAT YOU NEED TO RECOMMEND TO YOUR PATIENTS

Signs:

- Reduced tear meniscus height, irregular tear meniscus (notching, right, or scalloped edge), concave tear profile
- Low Schirmer test scores (at 5 mins, normal >10 mm, borderline 5-10 mm, severe dry <5 mm) or low Phenol red thread test scores (at 15 secs, dry eye <10 mm)



Recommendations:

- Address associated systemic or ocular conditions
- Artificial tear supplements
- Change lens type (RGP to silicone hydrogel or hydrogel, hydrogel to silicone hydrogel or vice versa), material or wearing schedule (monthly replacement to two weekly or daily disposable)
- Maintain good lens cleaning including rub and rinse step
Manage all grades if signs or symptoms exist – improve tear film quality
- Change lens care solution to latest generation of products
- Manage any tear quality issues
- Rewetting drops or liposomal sprays
- Attention to nutrition or nutritional supplements (essential fatty acids)
- Tear retention measures (to reduce drainage and increase tear contact time) such as punctal plugs or surgery

Prognosis:

Generally good resolution of symptoms with appropriate management unless intractable underlying systemic or ocular condition

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

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

EDUCATIONAL MOMENTS®



INSPIRING CARE

How to manage your patients' Tear Film Quantity

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 ME is a 55-year-old teacher who has worn monthly replacement hydrogel contact lenses for more than 30 years. Over the past few months she has needed to remove her lenses after 8 hours' wear due to dry and irritated eyes, especially in heated and air-conditioned environments

Quiz:

1. What methods would you use to examine this patient's tear film quantity?

- A. Phenol red thread test
- B. Schirmer test
- C. Measuring tear meniscus
- D. Any of these methods

2. The tear film meniscus height is measured at 0.05 mm using the eye-piece graticule. What grade would you record?

- A. Low
- B. Medium
- C. High

3. What factors could be affecting this patient's tear quantity?

- A. Age
- B. Environment
- C. Medication
- D. All these factors

4. Which of the following management options could you consider?

- A. Discontinue lens wear
- B. Modify lens fit
- C. Refit with a lens with shorter replacement frequency in a material that are known to perform well in challenging environment
- D. Refit with RGP lenses

Correct answers:

- 1: **D.** These methods all assess tear quantity but measuring tear meniscus height is a non-invasive test and the recommended technique
- 2: **A.** A tear meniscus height of less than 0.1mm is considered low and indicates reduced tear quantity
- 3: **D.** Dry eye is multifactorial and any or all of these factors could be involved, as could systemic / other ocular conditions
- 4: **C.** Changing to a material known to perform well in challenging environment and replacing lenses more frequently are among the options to consider

