

## WORCESTERSHIRE AREA PRESCRIBING COMMITTEE

### Guidelines on the Treatment of Dry Eye

The diagnosis of dry eye disease carries a requirement to ideally discriminate **evaporative** [where enough tears are made but the oily layer of the tear film is disrupted; e.g. in blepharitis, meibomian gland dysfunction] versus **aqueous** deficiency (where tear production is inadequate). In practice the majority of patients will have evaporative dry eye associated with blepharitis. Aqueous deficiency dry eye may be associated with autoimmune diseases such as Sjögren's syndrome. A key principle for the management of dry eye disease is augmentation of the tear film through the topical administration of artificial tear substitutes. Artificial tear substitutes help to reduce patient discomfort, improve quality of life and reduce the risk of damage to the corneal epithelium.

#### MILD

Irritation,  
soreness,  
burning or  
intermittent  
blurred vision.

**Encourage self - care with over-the-counter (OTC) products for self-limiting short term use;** all preservative free drops(\*) may be a useful extended shelf life option for those not using drops regularly and those wishing to buy a lubricant for occasional use.

#### Mild Preserved lubricant when required up to 4 times daily:

##### 1<sup>st</sup> Choice - Clinitas<sup>®</sup> 0.2% Gel (carbomer 980)

NOT suitable for contact lens wearers. Products containing carbomers are longer acting than hypromellose and may present suitable alternatives if OTC hypromellose does not provide adequate symptom relief. The product is a more affordable but identical preparation to GelTears<sup>®</sup> in Primary Care.

#### [Meibomian gland dysfunction: Systane<sup>®</sup> Balance eye drops

6 month post opening sterility; suitable for contact lens wearers.]

##### 2<sup>nd</sup> Choice Optive<sup>®</sup> 0.5% eye drops (carmellose)

6 month post opening sterility; contains preserving system which biodegrades on contact with eye, suitable for contact lens wearers.

OR

##### Evolve<sup>®</sup> 0.5% preservative free eye drops\* (carmellose)

3 month post opening sterility; suitable for contact lens wearers.

#### +/- VitA-POS<sup>®</sup> eye ointment\* (6 month post opening sterility) OR Xailin Night<sup>®</sup> eye ointment\* (2 month post opening sterility)

NOT suitable with contact lenses; 300 applications per tube. *Recommended alternative to the non-formulary product Lacri-Lube<sup>®</sup> which has a 1 month expiry once opened; 210 applications per 3.5g tube and is a more expensive alternative.*

#### MODERATE

Increased discomfort and frequency of symptoms, and the negative effect on visual function may become more consistent

**Increase frequency of above; if used more than six times a day use a preservative free preparation, prescribed by brand:**

##### 1<sup>st</sup> Choice – Hyabak<sup>®</sup> 0.15% eye drops\* (sodium hyaluronate)

3 month post opening sterility, suitable for contact lens wearers. 300 drops per 10ml bottle. Soft shell bottle, may make it easier to aim, squeeze and instill.

OR

##### Hylo<sup>®</sup>-Forte 0.2% eye drops\* (sodium hyaluronate)

6 month post opening sterility, suitable for contact lens wearers. 300 drops per 10ml bottle.

*Recommended swap from Celluvisc<sup>®</sup> 0.5% single use eye drops\* (carmellose).*

*For existing patients who still require single use eye drops, the non-formulary product Celluvisc<sup>®</sup> 0.5% 30 x 0.4ml single dose unit eye drops\* should be replaced by Xailin<sup>®</sup> Fresh\* 30 x 0.4ml single dose unit eye drops which are a comparable, more affordable alternative.*

##### 2<sup>nd</sup> Choice – Thealoz<sup>®</sup> Duo 0.15% eye drops\* (sodium hyaluronate; trehalose 3%)

3 month post opening sterility, suitable for contact lens wearers. 300 drops per 10ml bottle. Soft shell bottle, may make it easier to aim and squeeze.

##### 3<sup>rd</sup> Choice - Clinitas<sup>®</sup> Multi 0.4% eye drops\* (sodium hyaluronate)

3 month post opening sterility, suitable for contact lens wearers. 250 drops per 10ml bottle.

Dry eyes often get worse at night therefore when symptoms moderate recommend:

**VitA-POS<sup>®</sup> OR Xailin Night<sup>®</sup> eye ointment\* at night as above**

<p><b>SEVERE</b> Needs drops every 1-2 hours, very uncomfortable, blurred vision, affecting quality of life or work</p>	<p>Can try increased frequency of drops suggested for moderate dry eye and suggest routine referral to Hospital Eye Specialist (HES). e.g.: <b>1<sup>st</sup> Choice – Hyabak<sup>®</sup> 0.15%* eye drops* OR Hylo<sup>®</sup>-Forte 0.2% hourly</b> <b>2<sup>nd</sup> Choice - Thealoz<sup>®</sup> Duo * 0.15% x 6 drops/day</b> <b>- REFER to a cornea specialist Ophthalmologist to correctly diagnose type of dry eye</b></p>
<p><b>RESTRICTED</b></p>	<p><b><u>Secondary care ophthalmology specialist initiation</u></b></p> <p><b>NOTES:</b> <b>Injury/Surgery to the outside layer of the cornea – limited duration</b> <b>Hylo<sup>®</sup>-Care 0.1% eye drops*</b> (sodium hyaluronate; 2% dexpanthenol), a derivative of vitamin B5. When applied to the eye, Dexpanthenol is converted to pantothenic acid, which not only provides additional moisture but has also been shown to have a beneficial effect on wound healing in many studies.</p> <p><b>Corticosteroids – Preservative free Softacort<sup>®</sup></b> (3.35 mg/ml hydrocortisone sodium phosphate) single dose container; restricted for secondary care prescribing only for those patients who may benefit from a low corticosteroid potency, preservative-free formulation; longer-term off-label prescribing may occasionally be requested of primary care if duration of recommended treatment exceeds a month.</p> <p><b>In line with NICE TA 369:</b> <b>Ciclosporin 1mg/ml single use eye drops (Ikervis<sup>®</sup>)</b> are recommended as an option, within its marketing authorisation, for treating severe keratitis in adult patients with dry eye disease that has not improved despite treatment with tear substitutes.</p> <p><b>Severe aqueous tear deficiency e.g. Sjögren’s syndrome:</b> <b>Ilube<sup>®</sup> eye drops</b> (acetylcysteine 5%, hypromellose 0.35%) 1-2 drops 3-4 times daily; Intensive (1-2 hourly)</p> <p><b>For chronic keratitis:</b> <b>VisuXL<sup>®</sup>* eye drops</b> [cross-linked sodium hyaluronate, coenzyme Q10, vitamin E (D-alpha-tocopheryl-polyethylene glycol 1000 succinate)]</p> <p>Punctual plugs or permanent punctal occlusion may be considered.</p>

\*Free from the main preservatives and potential sensitisers used in ocular preparations at time of publication. Please refer to manufacturer product information for up-to-date excipient information.

## Management Hierarchy

Most cases of sore tired eyes resolve themselves. Eyelid hygiene should be considered if blepharitis is present, also environmental changes that may help; i.e. use of humidifiers, frequent breaks from visual display equipment.

Blinking enables eyes to renew a thin film of tears and keep them lubricated. It is because of the lack of blinking at night that this thin film of tears may not refresh itself properly and the majority of ocular damage can occur. A nightly application of ocular lubricant ointment e.g. VitA-POS<sup>®</sup> or Xailin Night<sup>®</sup> eye ointment can be of great benefit to dry eye patients and used regularly may reduce the need for daytime administration of ocular lubricants.

Expiry of products once opened varies greatly amongst products; please refer to manufacturer’s storage recommendations. **Please note it is ONLY more cost-effective to start with a preparation with a 6 month expiry if patient uses it less than four times a day.**

### Supplementary Notes

Dry eye disease is common and the prevalence ranges from 5-50% dependent on the population. [1, 2] Dry Eye Workshop (DEWS) II is an international consortium providing guidance for the diagnosis, stratification and recommending management of dry eye disease. [3] Symptoms of dry eye include:

- Feelings of dryness, grittiness or soreness in both eyes worsening over the course of the day
- Watery eyes, particularly when exposed to wind
- Blurred vision that can be intermittent or more constant
- Symptoms that are worse on wakening, eyelids sticking together on waking, and redness of the eyelids suggest dry eye syndrome due to Meibomian gland dysfunction.
- Symptoms are often variable and can be worse in the evenings or when exposed to air conditioning

Ocular lubricants eye formulations are characterised by being either hypotonic or isotonic buffered solutions containing electrolytes, surfactants and various types of viscosity agents. The DEWS II report concluded that although many topical lubricants with various viscosities improve symptoms there is no evidence to suggest that any one agent is superior to another; however, ocular surface inflammation can be exacerbated by the presence of preservatives. Benzalkonium chloride is a preservative frequently used in ophthalmic preparations; evidence suggests that it can destabilise the tear film and also damage the epithelial cells. In patients with mild dry eye, benzalkonium chloride containing products may be well tolerated when used four to six times a day or less. In patients with moderate to severe dry eye, the potential for benzalkonium chloride toxicity is much higher due to decreased tear secretion.

As routine dry eye disorders are not currently commissioned, it is imperative that stratification of those who have other more insidious conditions or severe dry eye, especially with co-existing underlying systemic diseases, are identified below. Dry eye symptoms may overlap with other ophthalmic conditions and may also indicate systemic disease such as Sjögren's syndrome. DEWS II have proposed a series of screening questions to help elicit other important differential diagnoses:

How severe is the eye discomfort?	Unless severe, dry eye presents with signs of irritation such as dryness or grittiness rather than 'pain'. If pain is present investigate for signs of trauma/infection/ulceration
Do you have any mouth dryness or enlarged glands?	Trigger for Sjögren Syndrome Investigation
How long have your symptoms lasted and was there any triggering event?	Dry eye is a chronic condition, present from morning to evening, but generally worse at the end of the day, so if sudden onset or linked with an event, examine for trauma/infection/ulceration
Is your vision affected and was it cleared on blinking?	Vision is generally impaired with prolonged staring, but should largely recover after a blink; a reduction in vision which does not improve with blinking, particularly with sudden-onset, requires urgent ophthalmic examination
Are the symptoms or any redness much worse in one eye than the other?	Dry eye is generally a bilateral condition so if symptoms or redness are much greater in one eye than the other, detailed examination is required to exclude trauma and infection
Do the eyes itch, are they swollen, crusty or have they given off any discharge?	Itching is usually associated with allergies while a mucopurulent discharge is associated with ocular infection
Do you wear contact lenses?	Contact lens use can induce dry eye signs and symptoms and appropriate management strategies should be employed by the contact lens prescriber
Have you been diagnosed with any general health conditions (including recent respiratory infection) or are you taking any medication?	Patients should be advised to mention their symptoms to the health professionals managing their condition, as modified treatment may modify or alleviate their dry eye

*From DEWS II executive summary*

### References

1. [NHSE: Guidance on conditions for which over the counter items should not routinely be prescribed in primary care:](#) 4.3.4 Dry Eyes/Sore tired Eyes
2. Craig JP, Nelson JD, Azar DT, Belmonte C, Bron AJ, Chauhan SK, *et al.* TFOS DEWS II Report Executive Summary. *Ocul Surf.* 2017; 15(4):802-12. doi: 10.1016/j.jtos.2017.08.003. PubMed PMID: 28797892.
3. Stapleton F, Alves M, Bunya VY, Jalbert I, Lekhanont K, Malet F, *et al.* TFOS DEWS II Epidemiology Report. *Ocul Surf.* 2017; 15(3):334-65. doi: 10.1016/j.jtos.2017.05.003. PubMed PMID: 28736337.
4. NICE Clinical Knowledge Summaries (CKS). Dry Eye Syndrome. August 2017.

Date approved by APC: October 2018; Expiry date: October 2021. Written in collaboration with WAHT Ophthalmology  
The information contained in this document is correct at time of publication and as with all new drugs, evidence is evolving and costs may change.