PRESCRIBING GUIDELINES FOR DRY EYE July 2023

Bath and North East Somerset, Swindon and Wiltshire Together

Dry eye is a multifactorial disease of the tears and ocular surface that results in symptoms of discomfort, visual disturbance, and tear film instability with potential damage to the ocular surface. It is accompanied by increased osmolarity of the tear film and inflammation of the ocular surface. It is a common, chronic condition that occurs more commonly in women and with increasing age. It is estimated to affect between 5% & 33% of the adult population worldwide. It is loosely categorised as:

- **Evaporative dry eye:** The most common form of dry eye syndrome, often associated with increased evaporation and an unstable tear film. Dysfunction of the Meibomian glands (which produce the lipid component of tears) is thought to be the leading cause.
- **Aqueous tear-deficient dry eye:** Refers chiefly to inadequate aqueous tear secretion. It can be associated with non-autoimmune causes (including some medications such as antihistamines), as well as autoimmune diseases such as rheumatoid arthritis and Sjögren's syndrome.

Clinically, these conditions often overlap & co-exist. Symptoms of dry eye can be due to Meibomian gland dysfunction, blepharitis, age-related lacrimal gland deficiency, low blink rate (computer use, Parkinson's disease), vitamin A deficiency, malposition of the eyelids, environmental causes, iatrogenic factors such as contact lens wear and certain medications, ocular surgery and other conditions e.g. menopause.

If clinically appropriate, stop medication that can exacerbate dry eyes: Antihistamines, TCAs, SSRIs, diuretics, beta-blockers, isotretinoin, possibly, anxiolytics, anti-psychotics, alcohol.

Assess the severity of dry eye by the OSDI score (Ocular Surface Disease Index)

Preservative toxicity from eye drops.

Benzalkonium chloride (BAK) is the most frequently used preservative in topical ophthalmic preparations, as well as in topical lubricants. The toxicity of BAK is related to its concentration, frequency of use, the level or amount of tear secretion, and the severity of the ocular surface disease. If patients have more than one eye condition for which they are using eye drops, their potential exposure to preservatives is increased. In a patient with mild dry eye, preserved drops are often well tolerated when used four times a day or less.

Preservative-free formulations are necessary for the following indications (document reason in medical notes):

• Person is intolerant of preservative in tear supplements	• Chronic eye disease who are on multiple, preserved topical medications
• Soft or hybrid contact lens wearers.	• has moderate to severe dry eye disease requiring drops more than 4 times/ day

Self-help for patients with dry eyes (also see CKS and BSW formulary for further information):

- Maintain good eyelid hygiene, via use of a hot compress applied to closed eyelids for 5-10 minutes (twice daily initially, then once daily as symptoms improve). The compress should be a clean cloth warmed in hot water (but not so hot as to burn the skin), reheated frequently. (Alternatively, eye bags are available, which should be self-funded, and are much more effective). Massage closed eyelids in a circular motion across the length of each lid following heat treatment. To clean the eyelid, wet a cloth and wipe along the eyelid margins. For anterior blepharitis, OTC products to clean the eyelids are available and should be self-funded.
- Limit contact lens use to shorter periods, if possible
- Highlight the effect of cigarette smoke on dry eyes and encourage the patient to stop smoking
- Suggest use of a humidifier to moisten ambient air
- If using a computer for long periods, suggest that the patient places their monitor at or below eye level, avoids staring at the screen and takes frequent breaks. Check compliance.

Keep reminding patients to use their eye drops regularly, even if their eyes feel OK!

Patient information leaflets:

- NHS Choices: Dry Eye Syndrome 06/12/2021. www.nhs.uk/conditions/Dry-eye-syndrome/Pages/Introduction.aspx
- The Royal College of Ophthalmologists: Understanding dry eye. https://www.rcophth.ac.uk/wp-content/uploads/2020/05/Understanding-Dry-Eye_2017.pdf
- Eye Drops and Dispensing Aids: https://glaucoma.uk/wp-content/uploads/2020/07/3000_GlaucomaUK_PatientLeaflet_A5_EyeDropsandDispensingAids_Web.pdf

When to refer to Secondary Care:

- Significant pain / soreness on waking with recent history of injury
- Unable to open eye after normal night sleep
- Underlying systemic condition needing specialist management
- Signs of ulcers or corneal damage
- Abnormal lid anatomy or function
- Waking in the middle of the night with eye pain
- Uncontrolled symptoms after 6 months
- Deterioration of vision
- After unsuccessful treatment with 3 different eye drop active ingredients over 12-16 weeks.

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NHS England over the counter items should not routinely be prescribed in primary care: Guidance for ICBs:

Most cases of sore tired eyes resolve themselves. Patients should be encouraged to manage both dry eyes and sore eyes by implementing some self-care measures as per page 1. Mild to moderate cases of dry eye syndrome or sore tired eyes can usually be treated using lubricant eye treatments that can easily be purchased over the counter. NOTE that products may have a different brand name OTC versus the prescription product. ***Once patients have tried OTC products and self-help and it hasn't improved their condition, or where they are deemed to have moderate to severe dry eye syndrome, or where it is a result of a chronic condition, it would then be reasonable for the GP to provide dry eye treatment on FP10.***

All dry eye treatment should be tried for 4–6 weeks before assessing benefit

Prior to prescribing consider: Are the eyes dry due to mainly aqueous deficiency or excessive evaporation?

Aqueous Deficiency	Evaporative Deficiency
• *Unable to produce tears when crying* • *Sore eyes on waking without a history of recent eye surgery* • *Inferior corneal staining with fluorescein* • *Associated with Sjögren's syndrome.* • *Pain*	• *Excessive watering on a windy day, Meibomian Gland Dysfunction (MGD) or ocular rosacea* • *Also associated with Sjogren's syndrome*

Severity	Available OTC		Available OTC
Mild - Moderate Up to 6 drops per day **SELF-CARE OTC**	**WITH PRESERVATIVE:** • Carbomer 0.2% 10g gel (Aacomer®) **£1.34** 1/12 expiry • Hypromellose 0.3% 10ml (AaproMel®) **£0.69** 1/12 expiry	**PRESERVATIVE-FREE:** • Carmellose 0.5% 10ml (AaqEye®) **£1.73** 1/12 expiry (PF) • Sodium hyaluronate 0.1%* (Aactive HA®) 1/12 expiry	• Lid hygiene with heat bag (see self-help section overleaf) ***These products are "preservative free in the eye". They contain "Disappearing-Oxidizing Preservatives" that turn into water and oxygen upon contact with the eye:** • Optive Plus* (Carmellose 0.5%, glycerol 1%, castor oil 0.25%) 10ml **£7.49** 6/12 expiry **PRESERVATIVE-FREE:** • VisuEVO (Liposomes from soya phospholipids, omega-3 essential fatty acids, vitamin A palmitate, vitamin D) 10ml **£8.70** (PF) 2/12 expiry • Evotears (Perfluorohexyloctane) 3ml eye drops **£9.95** (PF) 6/12 expiry
Severe >4 drops/day; corneal disturbance; Schirmer's <8 mm;	**PRESERVATIVE-FREE** • Sodium hyaluronate 0.2%* 10ml (AaqEye HA®) **£3.97** 1/12 expiry (PF) • Sodium hyaluronate 0.4% 10ml (Eyeaze®) **£4.15** 3/12 expiry (PF) • Liquifilm tears® (PVA) 1.4% 30 x 0.4ml **£5.35** (PF)		

At night for both aqueous and evaporative deficiency Available OTC

Bedtime: Carbomer gel (Aacomer® **(£1.34)** 1/12 expiry, contains preservative) or Moistueyes® (White Soft Paraffin 57.3%, liquid paraffin 42.5%, wool alcohols) 5g **£2.11** (PF) 1/12 expiry **OR** Hydramed Night® (Retinol palmitate 250iu/g, liquid paraffin, white soft paraffin, wool fat) 5g (PF) **£2.32** 3/12 expiry or Hylo Night® (Retinol palmitate 250iu/g, liquid paraffin, wool fat) 5g **£2.75** (PF) 6/12 expiry

Following secondary care referral (severe disease)	**Possible treatment options would include:**
	• Thealoz Duo (Na Hyaluronate/trehalose) 0.15%/3% 10ml drops **£8.99** (PF) 6/12 expiry Specialist initiation (AMBER) • VisuXL® Eye drops (Sodium hyaluronate 0.1%, co-enzyme Q10 0.1%, vitamin E 0.5%) (PF) 10ml **£10.30** 6/12 expiry • VisuXL Gel (Carmellose sodium 0.4%, co-enzyme Q10 0.1%, vitamin E 0.5%) (PF) 10ml **£7.49** 2/12 expiry Specialist initiation (AMBER) • Carbomer gel 0.2% (Ocu-Lube®) 30 x 0.6ml **£5.25** (PF) Specialist initiation (AMBER) • Ciclosporin (Ikervis®) unit dose vials in accordance with NICE TA 369 30x 0.3ml **£72.00** (PF). Specialist initiation (AMBER) POM

NOTES: Patients requiring replacement supplies of eye drops whilst in-patients in local acute trusts may receive different brands to those listed above depending on hospital contracts. Patients might need to trial several different products to find something that works for their condition. If patients have tried all formulary options and failed, then on rare occasion, specialists might need to recommend a product that is outside of the formulary. Please note that as there can be stock shortages, if the preferred brands above are not available, please change to a different brand of similar cost with the same active ingredient. Prices from MIMS Jan 2023

References: NICE CKS Dry eye syndrome https://cks.nice.org.uk/dry-eye-syndrome August 2017; NICE TA 369 Ciclosporin for treating dry eye disease that has not improved despite treatment with artificial tears Dec 2015
Over the counter (OTC) artificial tear drops for dry eye syndrome 23 February 2016 Cochrane Review

(PF)= preservative free