PRESCRIBING GUIDELINES FOR DRY EYE

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):
https://static1.squarespace.com/static/51ba5346e4b09459e2a8c0aa/t/55e5e844e4b0b7789bdf80f2/1441130564021/osdi.pdf

Preservative toxicity from eye drops[2].

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:

• 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:

- 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 but should be self-funded.
- Limit contact lens use to shorter periods, if at all 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 17/03/2016. www.nhs.uk/conditions/Dry-eye-syndrome/Pages/Introduction.aspx
- The Royal College of Opthalmologists: Understanding dry eye. https://www.rcophth.ac.uk/wp-content/uploads/2015/02/RCOphth-RBUIB-Understanding-dry-eye-2013.pdf
- Eye Drops and Dispensing Aids: https://www.glaucoma-association.com/media/wysiwyg/Leaflet_PDF_Files/Eye_Drops_and_Dispensing_Aids_for_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.

NHS Wiltshire Clinical Commissioning Group

PRESCRIBING GUIDELINES FOR DRY EYE

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

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 be 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 aqueous deficiency or excessive evaporation?

Aqueous 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*

Evaporative Deficiency

- *Excessive watering on a windy day, Meibomian Gland Dysfunction (MGD) or ocular rosacea*
- *Also associated with Sjogren's syndrome*

Severity	First line Available OTC (low viscosity)		Second line Available OTC (medium to high viscosity)
Mild - Moderate Up to 6 drops per day **SELF-CARE OTC**	**WITH PRESERVATIVE:** ***all 1/12 expiry*** • Clinitas® 0.2% 10g gel (Carbomer 980) **£1.49** • Viscotears® 0.2% 10g liquid gel (Carbomer) **£1.59** • Hypromellose 0.3% **£1.62**	**PRESERVATIVE-FREE** • VIZcellulose® (Carmellose) 1% 10ml **£1.80** 3/12 expiry (PF) • Evolve® Hypromellose **£1.98** 3/12 expiry (PF)	**PRESERVATIVE-FREE** • VIZ-Hyal® (sodium hyaluronate) 0.4% 10ml **£4.19** 3/12 expiry (PF) **OR** **If patient finds VIZhyal 0.4% too viscous:** • Hydramed® (sodium hyaluronate) 0.2% 10ml **£5.60** 3/12 expiry (PF)
Severe >4 drops/day; corneal disturbance; Schirmer's <8 mm;	**PRESERVATIVE-FREE** • Hydramed® (sodium hyaluronate) 0.2% 10ml **£5.60** 3/12 expiry (PF) **OR** • VIZ-Hyal® (sodium hyaluronate) 0.4% 10ml **£4.19** 3/12 expiry (PF)		

Available OTC

- Lid hygiene with heat bag (see self-help section overleaf)

The following products are "preservative free in the eye". They contain "Disappearing-Oxidizing Preservatives" that turn into water and oxygen upon contact with the eye:

- Systane® (Propylene glycol 0.3% and polyethylene glycol 0.4% drops with hydroxypropyl guar) 10ml **£4.66** 3/12 expiry
- Optive Plus® (Carmellose 0.5%, glycerol 1%, castor oil 0.25%) 10ml **£7.49** 6/12 expiry
- Systane Balance® (Propylene glycol) 10ml **£7.49** (also licensed for Meibomian Gland Dysfunction) 6/12 exp

At night for both aqueous and evaporative deficiency Available OTC

Bed time: Carbomer 980 gel (Clinitas® **(£1.49)** 1/12 expiry) or VitA-POS® (Retinol palmitate 250iu/g, liquid paraffin, wool fat) 5g **£2.75** (PF) 6/12 expiry or Hydramed Night® (Retinol palmitate 250iu/g, liquid paraffin, white soft paraffin, wool fat) 5g (PF) **£2.32** 3/12 expiry

Following secondary care referral (severe disease)

Possible treatment options would include:

- VIZ-Hyal® (sodium hyaluronate) 0.4% 10ml **£4.19** 3/12 expiry (PF) VisuXL® (Sodium hyaluronate 0.1%, co-enzyme Q10 0.1%, vitamin E 0.5%) (PF) **£10.30** 2/12 expiry Specialist initiation (AMBER)
- Ciclosporin (Ikervis®) unit dose vials in accordance with NICE TA 369 30x 0.3ml **£72.00** (PF). Specialist initiation (AMBER) POM
- Night time chloramphenicol ointment if evidence of staphylococcal colonisation or hypersensitivity

NOTE: 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.

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

NHS Wiltshire CCG on behalf of BaNES CCG in conjunction with local opthalmologists. Updated December 2019 v13.