Guideline for the treatment of Dry Eye Syndrome in Primary Care

NHS Hampshire and Isle of Wight

Dry eye syndrome (DES) is the final outcome of a number of conditions which affect the tear film which affect the tear film which normally keeps the eye moist and lubricated. See NICE CKS for more details on assessment and management of DES.
DES is usually categorised into either aqueous or evaporative tear deficiency but clinically these often overlap and co-exist[1]

Aims of treatment

To relieve symptoms and improve the quality of life of patients with dry eye syndrome
To restore, and prevent or minimize further structural damage to the ocular surface

Potential causes

Medications such as antihistamines, retinoids, topical ophthalmic medications (especially those containing preservatives, in particular, benzalkonium chloride), oral contraceptives, beta-blockers, anticholinergics, and some psychotropics.

Underlying systemic conditions (e.g., systemic auto immune conditions, Sjogren's syndrome, diabetes mellitus, thyroid disease, and androgen deficiency)

Menopause

Contact lens use

Dermatological disorders such as rosacea, Steven Johnson's syndrome and mucous membrane pemphigus.

Meibomian gland dysfunction or blepharitis

Environmental causes such as low relative humidity, high wind velocity, and allergens.

Treatment options that may be used in secondary care

- Acetylcysteine eye drops or ointment
- Ciclosporin eye drops (Ikervis®)
- Punctal plugs
- Autologous serum eye drops
- Contact lens
- Oral pilocarpine
- Oral doxycycline

Symptoms

- Irritation or discomfort — this may be described as burning, stinging or a 'gritty' sensation
- Dryness
- Intermittent blurring of vision
- Redness of the eyelids or conjunctiva
- Itching
- Photosensitivity
- Mucous discharge
- Ocular fatigue
- Symptoms may worsen as the day progresses

When to refer to Secondary Care?

- Significant pain/soreness on waking with recent history of injury
- Waking in the middle of the night with eye pain
- Unable to open eye after normal night's sleep
- Uncontrolled symptoms after 6 months
- Underlying systemic condition needing specialist management (e.g., Sjogren's syndrome)
- Use of preservative free products are required for over 4 weeks
- Deterioration of vision
- After unsuccessful treatment attempts with 3 products recommended in this guidance
- Suspected serious eye condition such as acute glaucoma, keratitis, iritis, or corneal ulcer
- Abnormal lid anatomy or function

Management of dry eye syndrome in primary care:

Assess the severity of dry eye by using the OSDI score (Ocular Surface Disease Index): OD Survey (squarespace.com)

If there are no red flags for a serious condition and the person does not need referral to secondary care:

Recommend lifestyle measures

Warm compresses, lid hygiene and massage — these can be especially helpful if blepharitis or Meibomian gland dysfunction are present.

Modification of contact lens wear: Contact lens wear should be limited to shorter periods and lenses removed when dry eye symptoms appear — changing lens type or solution may help.

Environmental modification — advise the person to:

Increase relative humidity and avoid prolonged periods of computer use or time in air-conditioned environments, if possible.

Lower computer screens to below eye level (decreasing lid aperture), take regular breaks, and increase blink frequency with computer use and reading.

Avoid alcohol and exposure to cigarette smoke.

Optimise management of associated ocular or systemic conditions such as allergic conjunctivitis, blepharitis, rosacea , sleep apnoea Blepharitis (microguide.global)

If clinically appropriate, consider alternatives to medication that may exacerbate dry eye syndrome. These include antihistamines, retinoids, topical ophthalmic medications (especially those containing preservatives, in particular, benzalkonium chloride- see below), oral contraceptives, beta-blockers, anticholinergics, and some psychotropics.

Preservative toxicity:

- **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
- There are newer types of preservatives known as "**soft or vanishing "or "oxidative "preservatives**. These degrade on exposure to UV light and oxygen in the tear film. Patients with severe dry eye due to reduced teat volume may not be able to degrade these fully, so they can still cause irritation
- **Preservative –free formulations** are necessary for the following indications:
    - Person is intolerant of preservative in tear supplements
    - Soft or hybrid contact lens wearers
    - Chronic eye disease who are multiple, preserved topical medication
    - Has moderate to severe eye disease requiring drops more than 4 times/day

NHS England over the counter items should not routinely be prescribed in primary care guidance[4]:

otc-guidance-for-ccgs.pdf (england.nhs.uk)

Please note that products may have a different brand name OTC versus the prescription product.

Patients can purchase over the counter products initially. Once patients have tried OTC products and self-help, and it has not 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 then it would then be reasonable for the GP to provide dry eye treatment on FP10.

Condition	**Dry eyes/sore tired eyes**
	Dry eye syndrome or dry eye disease is a common condition that occurs when the eyes do not make enough tears, or the tears evaporate too quickly. Most cases of sore tired eyes resolve themselves.
Advice to patients	Patients should be encouraged to manage both dry eyes and sore eyes by implementing some self-care measures such as good eyelid hygiene and avoidance of environmental factors alongside treatment. Mild to moderate cases of dry eye syndrome or sore tired eyes can usually be treated using lubricant eye treatments that consist of a range of drops, gels and ointments that can be easily purchased over the counter
Exceptions	Pre-existing long-term conditions affecting the eyes.
Examples of medicines available to purchase OTC	Lubricant eye treatments include hypromellose 0.3% and carbomer Brands include • Pharmacy own brands • GelTears® • Optrex ® range of eye drops • Tears Naturale ® eye drops • Viscotears ®Eye gel • Blink® range of eye drops
OTC restrictions	Pregnancy and breastfeeding
Patient leaflets	• NHS Choices: Dry eyes syndrome • The Royal College of Ophthalmologists: Understanding Dry eye (rcophth.ac.uk) • Eye Drops and Dispensing Aids: Eye drops and dispensing aids pdf

Dry Eye Syndrome Treatment[5]

NHS Hampshire and Isle of Wight

Aqueous Tear Deficiency

Due to reduced aqueous secretion from lacrimal glands.

- Unable to produce tears when crying
- Sore eyes on waking without a history of recent eye injury
- Pain

OR

Evaporative Tear Deficiency

A chronic condition most often due to a deficient lipid layer in the tear film caused by Meibomian gland dysfunction[3].

- Excessive watering on a windy day
- Blepharitis or ocular rosacea

- Lid hygiene
- Doxycycline (Secondary care)
- Systane® Balance
- Optive® Plus

	Mild Self-care with OTC products	Moderate Self-care with OTC products	Severe Management in Primary care	Night Time Treatment	
1st Line 4-6 weeks then assess benefit	**Hypromellose preserved/PF** ➢ **Lumecare Tear® drops 0.3%** (80p/10ml; expiry 28 days) ➢ **Teardew® Hypromellose drops 0.5%** (£1.17/10ml;expiry 28 days) ➢ **Evolve® Hypromellose 0.3% PF drops** (£2.03/10ml; expiry 3 months)	**Sodium Hyaluronate 0.1% - 0.2% PF** ➢ **ClinOptic® 0.1% or 0.21% PF drops** (£4.15/10ml; expiry 6 months) ➢ **VIZhyal® 0.1% PF drops** (£4.10/10ml; expiry 3 months) ➢ **Viscotears HA® 0.1% PF drops** (£5.10/10ml; expiry 6 months) ➢ **Eyeaze® 0.1% or 0.2% PF drops** (£4.15/10ml; expiry 90 days) ➢ **Blink Intensive Tears® 0.2%** (contains oxidative preservative) (£2.97/10ml; expiry 45 days)	**Sodium Hyaluronate 0.3% - 0.4% P/PF** ➢ **Aeon Protect® 0.3% drops** (£4.60/10ml; expiry 3 months) ➢ **VIZhyal® 0.4% PF drops** (£4.10/10ml; expiry 3 months) ➢ **Eyeaze® 0.4% PF drops** (£4.15/10ml; expiry 90 days)	**Paraffin based eye ointments – preservative free**	**Hydramed® Night PF** (£2.32/5g; expiry 3 months) **Xailin® Night PF** (£2.63/5g; expiry 2 months) **Hylo® Night PF** (£2.75/5g; expiry 6 months)
2nd Line 6-8 weeks Re-assess benefit	**Carbomer 0.2% preserved** ➢ **Clinitas® carbomer 0.2% gel** (£1.49/10g; expiry 28 days) ➢ **Lumecare® carbomer 0.2% gel** (£1.58/10g; expiry 28 days)	**Carmellose 0.5% - 1% PF** ➢ **VIZcellose® 0.5% PF drops** (£2.88/10ml; expiry 3 months) ➢ **VIZcellose® 1% PF drops** (£1.82/10ml; expiry 3 months)	**Sodium Hyaluronate 0.15% with Trehalose PF** ➢ **Thealoz® Duo PF drops** (£8.99/10ml; expiry 3 months)	**Lanolin free eye ointment**	**Hydramed® Night Sensitive PF**
3rd Line 6-8 weeks - If symptoms fail to improve - refer to specialist	**Sodium Hyalonurate 0.3% - 0.4% PF** ➢ **Aeon Protect® 0.3%** (£4.60/10ml; expiry 3 months) ➢ **VIZhyal® 0.4% PF** (£4.10/10ml; expiry 3 months)		**Paraffin based ophthalmic ointments** See Night Time Treatment section		

If prescription is necessary, **please prescribe by brand** due to large variation in costs. Key: PF=preservative free. Prices are taken from Drug Tariff February 2023

Finding an effective treatment can vary between patients; **try at least TWO products prior to stepping up to next level of treatment.**

Prices listed above are NHS cost prices; they are not retail prices[6]. The brands listed are examples of cost-effective products and prices are subject to change.

References (websites all accessed on 08/02/23):

1. NICE CKS Dry eye disease (updated January 2023) Dry eye disease | Health topics A to Z | CKS | NICE
2. PrescQIPP. Eye preparations B202 | March 2018 | 2.0 (www.prescqipp.info/media/1866/b202-eye-preparations-20.pdf)
3. All Wales Medicines Strategy Group. Dry eye Syndrome Guidance. Dec 2016 (https://awmsg.nhs.wales/medicines-appraisals-and-guidance/medicines-optimisation/prescribing-guidance/dry-eye-syndrome-guidance)
4. NHS England. Conditions for which over the counter items should not routinely be prescribed in primary care: Guidance for CCGs [March 2018] (https://www.england.nhs.uk/publication/conditions-for-which-over-the-counter-items-should-not-routinely-be-prescribed-in-primary-care-guidance-for-ccgs/)
5. Fareham and Gosport and South Eastern Hampshire CCG Medicines Optimisation Team. Guideline for the treatment of dry eye syndrome in Primary Care [Feb 2021]

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