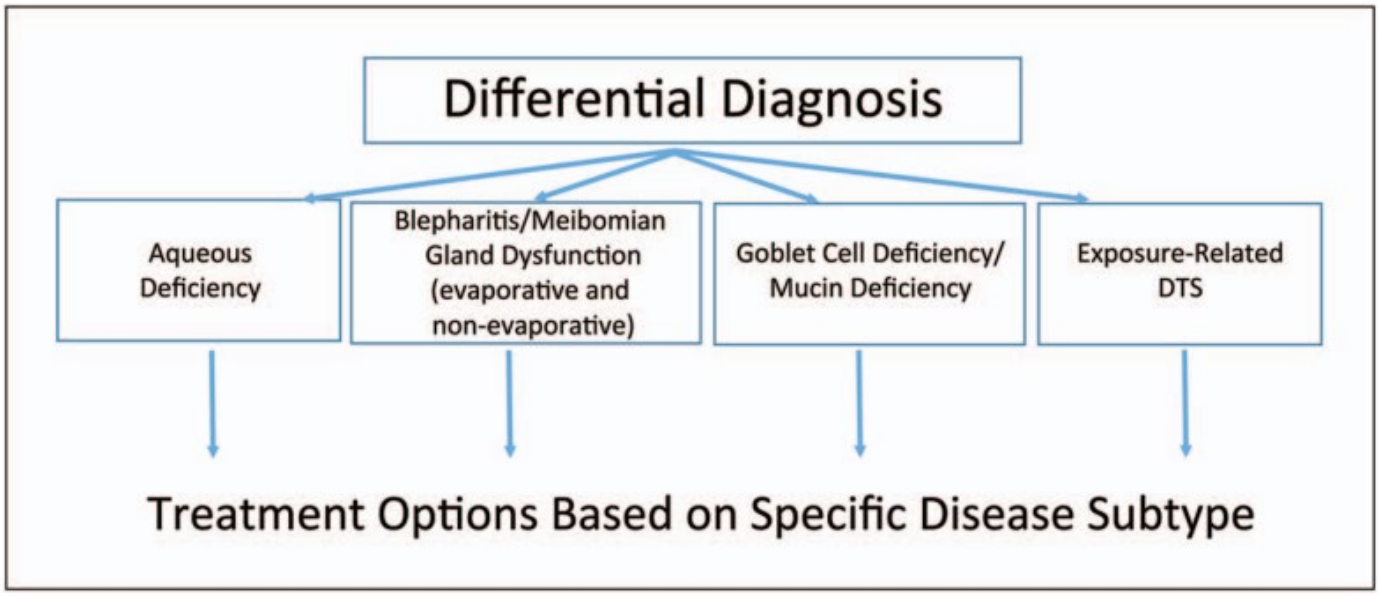
South East London Primary Care Prescribing Guide for Ocular Lubricants for Adults

- This is a South East London prescribing guide, recommending suitable eye lubricant classes for different stages of Dry Eye Disease (DED). This clinical guidance is adopted from the Pan-London Dry Eye Guide. This guide is intended for Primary Care settings.
- As part of a treatment plan for severe dry eye or chronic dry eye disease, treatment continuation requests from specialists may include dry eye product(s) for management of mild/moderate DED. The severity or type of DED should be clarified on the management plan and on any clinical letters.
- In rare circumstances (e.g. Sjogrens/Graft Versus Host Disease (GVHD)/ Rheumatology issues etc.) some patients may need a specific brand or strength; in these situations, the specialist should detail the clinical reasons why a specific product is required on the clinic letter to avoid switching in primary care.
- Most preservative free eye drops can be used for **6 months** after first opening, clinicians are advised to refer to the manufacturer's current prescribing information and local formularies before adding the items onto repeat prescriptions.
- Primary care queries should be directed to each Medicines Optimisation team at borough level.

Issue	Author(s)	Owner	Circulation/ Approval
1	Greenwich Medicines Optimisation Team Southwark Medicines Optimisation Team	SEL Opthalmology Working Group	Greenwich Med Op team, Southwark Med Op team, Lambeth Med Op team, Bexley Med Op team, Bromley Med Op team, Lewisham Med Op team Guy's and St Thomas' NHS Foundation Trust, Kings College Hospital NHS Foundation Trust, South London and Maudsley NHS Foundation Trust, Oxleas NHS Foundation Trust, Lewisham & Greenwich NHS Trust.

Part 1 – Classifying severity of dry eye disease (DED) & associated questionnaires

Management of dry eye disease (DED) should be based on the severity of the dry eye disease. The most common cause of dry eye disease is dysfunctional tear syndrome (DTS). There is a substantial overlap in the patient-reported symptoms of the subtypes of DTS: (1) aqueous deficiency, (2) blepharitis/meibomian gland dysfunction (MGD) – evaporative and non-evaporative, (3) goblet cell deficiency/mucin deficiency, and (4) exposure-related forms of DTS, including exposure keratopathy. The overlap symptoms include ocular discomfort, dryness, burning/stinging, grittiness or a foreign body sensation, photophobia, and blurred/fluctuating vision. Clinical evaluation with a battery of assessments and diagnostic techniques are needed for a differential diagnosis.



Regardless of which DTS subtypes of DED, first line treatment consists of tear supplements and lubricants. (Milner MS et al. 2017)

The clinical and scientific community has a number of ocular surface surveys available such as the Ocular Surface Disease Index (OSDI), Dry Eye Questionnaire-5 (DEQ-5), Ocular Comfort Index (OCI), MacMonnies Dry Eye Questionnaire (MQ), and the Standard Patient Evaluation of Eye Dryness (SPEED) questionnaire. Primary Care Clinicians should indicate the questionnaire used to assess severity and document the score on patient notes for monitoring of disease progression.

The Ocular Surface Disease Index (OSDI) is a 12-item questionnaire that has been validated to discriminate between normal, mild to moderate, and severe dry eye disease as defined by the physician's assessment and a composite disease severity score. The OSDI has also been correlated significantly with the McMonnies Dry Eye Questionnaire, the National Eye Institute Visual Functioning Questionnaire, the physical component summary score of the Short Form-12 Health Status Questionnaire, patient perception of symptoms, and artificial tear usage. It has been demonstrated to have the necessary psychometric properties to be used as an end point in clinical trials, and as such, it could be an important tool for in-office support for the diagnosis of ocular surface disease that is easy to administer.

The OSDI and SPEED questionnaires are both suitable for detecting the symptoms of dry eye; however the results of the questionnaires cannot be used interchangeably. While the SPEED levels seemed to correlate more with the parameters of evaporative dry eye, the OSDI values were more correlated with parameters of aqueous tear-deficient dry eye. However, a distinction between evaporative and aqueous tear-deficient dry eye is not possible based only on the results of the questionnaires. (Finis D et al. 2014)

OSDI total score for severity classification of Dry Eye Disease (DED)
0-12 representing normal.
13-22 representing mild dry eye disease.
23-32 representing moderate dry eye disease.
Greater than 33 representing severe dry eye disease. *Ref: Schiffman RM, Christianson MD, Jacobsen G, Hirsch JD, Reis BL. Reliability and validity of the ocular surface disease index. Archives of ophthalmology. 2000 May 1;118(5):615-21.*

SPEED questionnaire gives a score from 0 to 28 that is the result of 8 items that assess frequency and severity of symptoms.
If your score is:
0-4 you are experiencing MILD dry eye symptoms
5-7 you are experiencing MODERATE dry eye symptoms
8+ you are experiencing SEVERE dry eye symptom

Part 2 – Treatment pathway for adults presenting with dry eye disease (DED)

DRY EYE DISEASE

CONDITIONS SUITABLE FOR SELF-CARE

Mild/Moderate Sore/Tired Eyes

Suitable for self-care

Red flags:
More serious causes of symptoms may present with an acute history, persistent or profound visual loss, associated diplopia, or systemic features such as weight loss or fever (NICE CKS) – Arrange for urgent referral as appropriate

CONDITIONS NOT SUITABLE FOR SELF-CARE

Severe Sore/Tired Eyes

NOT Suitable for self-care

See page 6 for Ocular Lubricant Prescribing Guidelines for Severe DED

And SEL Joint Medicines Formulary for SEL preferred products

Issue FP10 (in primary care) prescription / refer to specialist along with lid hygiene advice

Support & recommended self-care management:

- Patients can self-refer to MECS or GP can refer to MECS or Pharmacy First Minor Ailments schemes.
- Management relies on **self-care.**
- Provide education regarding the condition, management, treatment and prognosis.
- Modification of local environment: weather conditions (for example wind), decreased humidity; situations where blink rate may be reduced for example with reading or computer use, avoid air conditioning, dusty or smoky environments, advise spectacles over contact lenses.
- Identification and review of systemic and topical medications likely to contribute to dry eyes: retinoids, oral contraception, hormone replacement therapy, beta-blockers, anticholinergics, diuretics, antihistamines, antidepressants, and isotretinoin.
- Recommend various OTC ocular lubricants for self-care: see **Part 3** 'Mild Dry Eye'. Individual preferences may apply when purchasing for self-care e.g. cost.
- Where meibomian gland dysfunction (MGD) is suspected/ present consider:
  - Providing patient with practical advice (MEH leaflet), and/or
  - Recommending OTC lipid-containing supplements
- Lid hygiene and warm compresses may be used for self-care (various available commercially).
- Where symptoms are persistent or no/poor response in 12-16 weeks, consider secondary care referral.
- NHSE Policy guidance: conditions for which over the counter items should not be routinely prescribed in primary care

Counselling considerations and patient information signposting / leaflets:

- Minor Eye Conditions Service (MECS):
  - Patient information
  - GP information
- Dry Eyes:
  - NHS conditions: dry eyes
  - RNIB - Understanding Dry Eye
  - NICE CKS: Dry Eye Disease
  - Lubricants / artificial tears advice for patients
  - Dry Eyes (Dry Eye Syndrome): Causes and Treatment | Patient
- Blepharitis: NHS conditions: blepharitis
- Compliance aids for patients with dexterity issues available from Moorfields: Know Your Drops resources

South East London Integrated Medicines Optimisation Committee (SEL IMOC). A partnership between NHS organisations in South East London Integrated Care System: NHS South East London (covering the boroughs of Bexley/Bromley/Greenwich/ Lambeth/Lewisham and Southwark) and GSTFT/KCH /SLaM/ Oxleas NHS Foundation Trusts and Lewisham & Greenwich NHS Trust

Part 3 – SEL Recommendations for Prescribing Ocular Lubricants Based on Severity of DED

MILD DRY EYE self-care

Recommend a choice of low viscosity, non- combination products, for PRN use. Patients can discuss cost-effective OTC options with Community Pharmacist.

Cellulose:
Hypromellose **0.3% preserved/PF**

Polysaccharides:
Carmellose **0.5% preserved/PF**

Carbomers:
Carbomer **980 0.2% eye gel preserved/PF**

*Move to next stage for more viscous lubricating eye preparations if **any of the following apply:***

- ☑ *use > 6 times a day*
- ☑ *use contact lenses*
- ☑ *symptoms are severe at night*

MODERATE DRY EYE self-care

Recommend a choice of higher viscosity lubricants and/or paraffin-based ointment. Patients can discuss cost-effective OTC options with Community Pharmacist.

Polysaccharides:
Carmellose **1% PF or**
Sodium Hyaluronate **0.1% PF**

Carbomers:
Carbomer **980 0.2% eye gel preserved/PF**

Eye ointment paraffin based lubricant **PF**

Refer if concerned/unsure of diagnosis or

- ☑ Where symptoms are persistent or no/poor response in 12-16 weeks despite a trial of treatment above Assessment | Diagnosis | Dry eye disease | CKS | NICE
- ☑ There is a constant reduction of vision,
- ☑ There is a red eye,
- ☑ There are other atypical features (e.g. young patient, corneal opacity, exclusively unilateral symptoms, previous ophthalmic surgery etc)

SEVERE DRY EYE not for self-care

Chronically inflamed eyes: Specialist initiation of regime required. Choice of high viscosity products including combination eye drops.

Polysaccharides:
Sodium Hyaluronate **0.2% PF**

Eye ointment paraffin based lubricant **PF**

Combination products
Refer to Table 1: lubricant classes and their functions for combination products.

SEVERE DRY EYE management in secondary care not for self-care

see SEL joint medicines formulary for RAGG rating explanation (RED/AMBER/ GREEN / GREY):

Ciclosporin (Amber 2): **eye drops 0.1%** [TA369]
Ikervis®(Amber 2) (for adults only)

Acetylcysteine 5% PF (Red -hospital only prescribing) **& Acetylcysteine 10% eye drops** (both unlicensed but approved on SEL formulary for dry eye associated with increased mucous production specifically)

Autologous serum eye drops (ASE) NHSE commissioning statement: serum eye drops for the treatment of severe ocular surface disease (all ages) by specialist only

Part 4 – Explanatory notes and examples of eye lubricants within the classes (list is not exhaustive)

For self-care patients should be directed to discuss cost effective options with their Community Pharmacist. Where a prescription is required please refer to SEL Joint formulary Optimize Rx and Drug Tariff Part IXA for cost-effective options.

Table 1: Lubricant classes and their functions			
Note: Carmellose eye drops (0.5% and 1%) and hypromellose eye drops (0.3%, 0.32% and 0.5%) are no longer on Part VIIIA of the Drug Tariff in June 2022 but are listed in Part IXA – Appliances.			
Viscosity enhancing agents	Increased viscosity products (higher strength) would have a more reparative effect on the ocular surface, stimulating epithelial migration.	Hypromellose; polysaccharides e.g. hyaluronic acid and carmellose. Class also includes polyvinyl alcohol, hydroxypropyl guar and polyethylene glycol (PEG)/propylene glycol	Hypromellose 0.3% preserved/PF Sodium hyaluronate 0.2% Carmellose 0.5%, 1% preserved/PF Polyvinyl alcohol 1.4% Hydroxypropyl guar (can be found in a range of eye lubricant drops). Combination products of sodium hyaluronate available with: ○ antioxidants e.g. with trehalose 2% and 3% ○ osmoprotectants e.g. with glycerol/dextran, sorbitol, erythritol and L-carnitine.
Osmoprotectant agents	Additional solutes with an osmoprotectant effect; small number of studies show a beneficial effect when used for neurotrophic keratitis or DED resulting from slow healing after invasive procedure(s) / trauma.	L-carnitine; betaine; glycerol; dextran; trehalose	
Mucolytic	For treatment of corneal filaments and patients with "sticky" eyes due to excess mucous.	N-acetylcysteine	Acetylcysteine 5% + Hypromellose 0.35% eye drops (preserved)
Antioxidant agents	Reduce reactive oxygen species on the ocular surface.	Co-enzyme Q10, vitamin E & A, quercetin	
Lipid supplementation	Oil emulsions containing mineral oils. Some evidence of benefit in Meibomian Gland Dysfunction (MGD) / evaporative DED.	Phospholipids +/- oils (various)	
Paraffin based eye ointments	Lubricate the eye surface, especially in cases of recurrent corneal epithelial erosion. A small % of patients may be allergic to the lanolin content, use a lanolin-free preparations in these instances.	May include wool fat, liquid and white soft paraffin, lanolin, retinol palmitate	

Table 2. PRESERVATIVE FREE formulations should ALWAYS be recommended for patients with:

- True preservative allergy, and/or
- Evidence of epithelial toxicity from preservatives
- Soft/hybrid/rigid gas permeable contact lenses wearers, or
- Conditions requiring multiple persevered topical medications, or
- Frequency > 4 times daily in moderate (persistent symptoms)/severe dry eye

Examples of preservatives contained in some ocular lubricants (list is not exhaustive)

PF – Preservative-free preparations in this document refer to those with no antimicrobial preservatives. Eye drops preserved with benzalkonium chloride (BAK) have been shown to cause preservative-induced complications. Alternative preservatives, including others from the quaternary ammonium class (e.g., cetrimide) and oxidative preservatives (e.g., stabilised oxychloro complex) may need to be avoided. Clinicians must also be aware that some additives may cause allergic reactions too.

Chemical Class	Compounds	Commercial name
Quaternary ammoniums	Benzalkonium Chloride (BAK)	
	Cetrimide	
	Polyquaternium-1	Polyquad®
Oxidative complexes ('Soft preservatives' or 'Vanishing preservatives')	Sodium Perborate $NaBO_3$	Gen Aqua®
	S.O.C (Stabilised Oxychloro Complex)	Purite®, Ocupure®
	S.C.P (Stabilised Chlorite Peroxide)	Oxyd®
Mercury derivatives	Thiomersal or thimerosal	
	Phenylmercuric acetate nitrate	
Amidines	Chlorhexidine	
Alcohols	Chlorobutanol	
	Phenylethanol	
Parabens	Methylparaben	

Notes:

- Allergy to preservatives should be considered if a patient's condition worsens on treatment.
- Patients requiring PF eye drops must avoid all preservatives.
- The list of preservatives in the table is **not exhaustive** and is intended to give the reader/end-user an indication of what preservatives may be encountered in practice and eliminated if an allergy occurs.
- Additives, buffers, or electrolytes are not discussed here.
- This **table is not intended for use as a desensitisation hierarchy** and must not be treated as such.

Reference:

1. Milner MS, Beckman KA, Luchs JI, Allen QB, Awdeh RM, Berdahl J, Boland TS, Buznego C, Gira JP, Goldberg DF, Goldman D, Goyal RK, Jackson MA, Katz J, Kim T, Majmudar PA, Malhotra RP, McDonald MB, Rajpal RK, Raviv T, Rowen S, Shamie N, Solomon JD, Stonecipher K, Tauber S, Trattler W, Walter KA, Waring GO 4th, Weinstock RJ, Wiley WF, Yeu E. Dysfunctional tear syndrome: dry eye disease and associated tear film disorders - new strategies for diagnosis and treatment. Curr Opin Ophthalmol. 2017 Jan;27 Suppl 1(Suppl 1):3-47. doi: 10.1097/01.icu.0000512373.81749.b7. PMID: 28099212; PMCID: PMC5345890
2. Finis D, Pischel N, König C, Hayajneh J, Borrelli M, Schrader S, Geerling G. Comparison of the OSDI and SPEED questionnaires for the evaluation of dry eye disease in clinical routine. Ophthalmologe. 2014 Nov;111(11):1050-6. German. doi: 10.1007/s00347-014-3042-z. PMID: 25030896.
3. Walsh K, Jones L. The use of preservatives in dry eye drops. Clin Ophthalmol. 2019 Aug 1; 13: 1409-1425
4. Baudouin C, Labbé A, Liang H, Pauly A, Brignole-Baudou in F. Preservatives in eye drops: The Good, the Bad and the

Part 5 – Frequently asked questions for prescribers

Frequently asked question for prescribers

1. **Do the changes in prescribing of products available to buy over the counter, apply to everyone?**
   Please refer to SEL Self Care FAQs for Prescribers Sept 22 for self-care: frequently asked questions about changes to prescribing of over the counter (OTC) medicines and products in South East London.

   No routine exceptions have been identified for dry eyes/sore eyes products. This guidance applies to all patients, including those who would be exempt from paying prescription charges (e.g., children and pregnant women) for self-care of a minor/self-limiting condition.

2. **What are self-care measures for dry eyes/sore tired eyes?**
   Dry eye syndrome, or dry eye disease, is a common condition that occurs when the eyes don't make enough tears, or the tears evaporate too quickly. Most cases of sore tired eyes resolve themselves. Patients are more likely to get dry eyes if they:
   - Over the age of 50.
   - Wear contact lenses.
   - Look at computer screens for a long time without a break.
   - Spend time in air conditioned or heated environments.
   - Are exposed to windy, cold, dry, or dusty environments.
   - Smoke or drink alcohol.

   Patients should be encouraged to manage both dry eyes and sore eyes by implementing self-care measures such as good eyelid hygiene and avoidance of environmental factors alongside pharmacological treatment.
   Dry eyes - NHS (www.nhs.uk)

3. **What can patients do if self-care measures do not help with dry eyes/sore tired eyes?**

- 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 easily be purchased over the counter. GP can refer to MECS or patients can also self-refer to MECS or Pharmacy First Minor Ailments schemes.

4. **Are Community Pharmacies and Opticians aware of the guidance, as requests have been made by other clinicians asking the GP for a prescription.**
   There are circumstances where patients have developed hypersensitivity to the active substance or to any of the excipients. Community Pharmacists and Opticians will be aware of what these are and can advise accordingly and communicate to directly with the GP.

   The SEL guidance will be shared with Local Pharmaceutical Committee (LPC) and Local Optical Committee (LOC).

5. **Is there any exception where patients should continue to have their treatments prescribed?**
   This guidance is not applicable to patients diagnosed with severe dry eye disease or chronic dry eye disease.