

**Explanatory notes and examples of eye lubricants within the classes
(list is not exhaustive)
For Greenwich use ONLY.**

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 Optimise 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 VIII A 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 e.g. Systane® range) Combination products of sodium hyaluronate available with: <ul style="list-style-type: none"> ○ 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	Viscotears® Trehal Duo, Thealoz® Duo, Trehapan®
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	VIZhyal®, VisuXL® ranges
Lipid supplementation	Oil emulsions containing mineral oils. Some evidence of benefit in Meibomian Gland Dysfunction (MGD) / evaporative DED.	Phospholipids +/- oils (various)	EvoTears®, TheaLipid® Systane

<p>Paraffin based eye ointments</p>	<p>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.</p>	<p>May include wool fat, liquid and white soft paraffin, lanolin, retinol palmitate</p>	<p>HylolNight®, Xialin Night®, Hydramed Night® Lanolin free white soft paraffin eye ointment for those allergic to lanolin e.g. Soothe® Night Time, Hydramed Night Sensitive®</p>
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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.