

Prescribing Guidelines for Dry Eye Management

There are two main causes of dry eye:

Evaporative Dry Eye (EDE) – most common form

EDE is commonly associated with deficiency of the lipid layer of the tear film leading to an unstable tear film. This is often the result of blepharitis or meibomian gland dysfunction. When the lipid layer is poor, the tear film becomes particularly vulnerable to environmental factors such as windy conditions, low humidity, air conditioning, and prolonged visual tasks like reading, watching T.V., using a computer or driving. Patients may complain of intermittent blurring of vision or discomfort after short periods of reading.

Aqueous Deficient Dry Eye (ADDE)

ADDE is due to a disruption of aqueous tear production by the lacrimal glands. Patients often complain of worse symptoms towards the evening.

Autoimmune causes

- ADDE can be associated with autoimmune diseases e.g. rheumatoid arthritis, Sjögren's syndrome and systemic lupus erythematosus. In such cases dry eyes can be severe with potential for sight threatening complications.

Non autoimmune causes

- Lacrimal gland disease – e.g. congenital alacrima, infiltration of the gland e.g. sarcoidosis, HIV
- Lacrimal gland duct obstruction – e.g. cicatricial pemphigoid, chemical injuries, Stevens-Johnston Syndrome
- Reflex block – e.g. LASIK, herpes zoster ophthalmicus, diabetes
- Medications – e.g. HRT, isotretinoin, antihistamines, antidepressants, antimuscarinics, antiandrogenic agents e.g. alpha and beta-blockers, diuretics

A combination of the EDE and ADDE can be present in many patients.

Management of Evaporative Dry Eye (EDE) + Aqueous Deficient Dry Eye (ADDE)

1) General advice on [managing dry eyes](#) and [blepharitis](#)

The Patient Information Leaflets on [Dry Eyes](#) and [Blepharitis](#) provide advice on the need for regular long term treatment to manage blepharitis and advice on modifiable risk factors to reduce tear evaporation including:

- a) Environmental factors / low humidity
- b) [Regular lid hygiene](#)
- c) Limiting soft contact lens wear
- d) Medication - review and reduce where appropriate to limit potential exacerbators, e.g. antidepressants, HRT, acne treatments
- e) Diet – some studies suggest that increasing omega-3 and reducing omega-6 in your diet may improve symptoms for people with dry eye. Omega-3 supplements are not recommended on NHS prescription

2) Artificial Tear Replacement

1st line: (Majority of primary care patients with ADDE or EDE)	Hypromellose 0.3% or 0.5% Or Carbomer 980 0.2%
2nd line EDE:	Systane Balance [®] (propylene glycol 0.6%) Or Optive Plus [®] (carmellose sodium 0.5%, glycerine 1%, castor oil 0.25%) These products are lipid-containing artificial tears. Reserve for patients with Meibomian Gland Dysfunction
2nd line ADDE:	Sodium hyaluronate eye drops Cost-effective products include: <ul style="list-style-type: none"> • Artelac Rebalance[®] (sodium hyaluronate 0.15%) • Blink Intensive[®] (sodium hyaluronate 0.2%) Some patients with ADDE may also benefit from a liquid paraffin eye ointment at night. Products include Hylo Night [®] and Xailin Night [®]
<i>If no satisfactory improvement from 1st / 2nd line choices within 4 to 6 weeks:</i>	
Reserve:	Sodium hyaluronate eye drops Preservative Free Products include: <ul style="list-style-type: none"> • HYLO Tear[®] (hyaluronic acid 0.1% eye drops PF); 6mth expiry; continuous mono-dose (COMOD) bottle • Hyabak[®] (hyaluronic acid 0.15% eye drops PF); 3mth expiry; conventional bottle • HYLO Forte[®] (hyaluronic acid 0.2% eye drops PF); 6mth expiry; COMOD bottle • Clinitas Multi[®] (hyaluronic acid 0.4% eye drops PF); 3mth expiry, conventional bottle Consider referral

Consider **preservative-free (PF)** formulations for patients with:

- True preservative allergy
- Evidence of epithelial toxicity from preservatives
- Soft contact lenses wearers
- Long term treatment >3/12 or frequency >6 times daily

Ensure a 'special' is not inadvertently selected

Licensed brands of preservative-free 0.3% hypromellose include Lumecare preservative-free tear drops[®], Tear-Lac[®] and Hydromoor[®]

Licensed brands of preservative-free carbomer 980 0.2% include Viscotears[®] liquid gel (30 x 0.6ml)

Management notes:

- The majority of patients in primary care can be managed with first line agents
- All tear supplements should be given in conjunction with advice on modifiable risk factors.
- Products should be tried for 4-6 weeks before assessing benefit
- Hypromellose is the traditional choice of treatment for tear deficiency. It may need to be installed frequently for adequate relief
- Products containing carbomers require less frequent administration but may be less well tolerated
- Transient blurring can be a problem with more viscous drops
- Contact lens wearers should be encouraged to attend their prescribing optometrist
- Consider use of a drop aid device to aid self-instillation of drops. They are particularly useful for the elderly, visually impaired, arthritic or otherwise physically limited patients. When recommending eye drop dispensers, it is important to ensure that the eye drops and eye drop dispenser recommended are compatible.

Eye drop dispensers allowable on NHS prescription:

ComplEye - for Hylo eye drop bottle range
Opticare – for 2.5, 5, 10, 15 and 20mL bottles
Opticare Arthro 5 – for 2.5 and 5mL bottles
Opticare Arthro 10 – for 10, 15 and 20mL bottles

- Consider treating exacerbating or related factors e.g. rosacea
- Consider early referral if patients have:
 - an associated autoimmune disease
 - severe or persistent [symptoms](#)
- Patients with ADDE often benefit from the use of a liquid paraffin ointment at night. Review to assess benefit after 4-6 weeks. Eye ointments containing paraffin may be uncomfortable and blur vision, so they should only be used at night and never with contact lenses
- Some patients can have a mixed clinical picture with ADDE and EDE from eyelid disease. It is important to consider [lid hygiene](#) advice in these patients
- Ciclosporin eye drops (Ikervis[®]) is accepted as an option for treating severe keratitis in adult patients with dry eye disease that has not improved despite treatment with tear substitutes
[NICE TA369](#)



Further information:

- For further details on dry eye syndrome including details on diagnosis and when to consider referral see <http://cks.nice.org.uk/dry-eye-syndrome>
 - The Royal College of Ophthalmologists have produced general principles on Ophthalmic Special Order Products at <https://www.rcophth.ac.uk/2015/06/ophthalmic-special-order-products-updated-june-2015/>
 - Sometimes 'specials' are inadvertently selected from GP clinical systems. Please ensure a transcription error has not occurred
 - **Patient information**
 - HSC Patient Information Leaflets on Managing [dry eyes](#) and [Blepharitis](#)
 - The College of Optometrists website <http://lookafteryoureyes.org> was created for members of the public who are interested in their eyes and eye health.
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