BACKGROUND

Dry eye disease is extremely common and has a wide range of causes but is often idiopathic and increases with age. It is a chronic disorder of the tear film due to deficient constituents, excessive evaporation or exposure. This can cause a wide spectrum of damage to the inter-palpebral ocular surface from mild to severe, and occasionally can even be sight-threatening.

SYMPTOMS AND DIAGNOSIS

Predominant symptoms of dry eye are of ocular discomfort (gritty, sore, tired, burning). In the Primary Care setting these symptoms may suggest the diagnosis and precipitate a trial of artificial tears and ongoing treatment for those who respond.

Symptoms may also include photosensitivity, fluctuating vision or secondary reflex epiphora. Where there is a lack of response, Primary Care clinicians should consider the potential differential diagnoses (trichiasis, blepharitis, allergic, toxic and cicatricial disorders) or the wide range of secondary causes of dry eye which include menopause-related, drug-related side effects (beta-blockers, antihistamines, antidepressants, anxiolytics, diuretics, isotretinoin, oral contraceptives), contact lenses, environment-related, smoking and drinking, poor sleep, collagen vascular diseases, sarcoidosis, Sjögren's syndrome, congenital, dietary deficiency in malabsorption disorders.

Where there is a lack of response to treatment, severe symptoms, or a formal diagnosis is required, secondary care assessment including a slit-lamp examination assists in identifying the classical low marginal tear meniscus and vital stain patterns on the conjunctiva and cornea in typical idiopathic dry eye. The main goals are to exclude differential diagnoses, investigate as necessary for potential secondary causes, monitor clinically for improvement and avoidance of serious complications such as corneal ulceration.

SELF-CARE VS PRESCRIBED TREATMENT

Where symptoms are mild 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. 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. NHS England has advised CCGs that prescriptions for treatment of dry or sore eyes should not routinely be offered in primary care as the condition is appropriate for self-care. Locally this advice has been adopted in the Policy for Conditions for which over the counter items should not routinely be prescribed in primary care.

Where symptoms are more persistent or severe then it may be appropriate to offer a prescription for one or more eye lubricants. This guideline aims to enable optimal clinical management of the patient and rationalise treatment decision making in a cost sensitive manner. Eye drops have been selected from within each therapeutic class based on cost-effectiveness and uniqueness of pharmacological formulation.

A wide array of artificial tears which contain various hydrating and moisturising constituents are the mainstay of treatment. This guidance identifies the hierarchy of preferred products for both Primary Care prescribing and Specialist management of dry eye.

It is appropriate to start trials of therapy with lower cost preparations before moving towards higher cost interventions. Patients may require a trial of a number of different products to identify the most suitable therapy and optimal frequency of use. It is not uncommon to require a combination of both daytime and night time lubricants depending upon the severity of symptoms.

Note: Eye lubricants not listed in this document are classified within the local health economy formulary as GREY – do not prescribe. Re-usable eye compress bags/masks are not recommended on NHS prescription. Patients who choose to use these products after professional advice should be advised to purchase them over-the-counter.

PRESERVATIVES

Many of the commonly used artificial tears contain preservatives which are generally well tolerated. However, when drops sting excessively on instillation this may indicate sensitivity and a trial of preservative-free drops could be considered.

Increasingly manufacturers are using preservatives which are converted to natural tear components upon contact with the ocular surface. These products have been defined within this document as ‘pseudo preservative-free’ (PPF). They typically have a longer in-use shelf-life (up to 6 months is common) and are marketed as being preservative-free in the eye. It is unclear if there is a significant clinical difference between these products and those classed as ‘true preservative-free’ (TPF) formulations.

True preservative-free products should only be used in cases of known allergy, contact lens users, severe dry eye, or when eye drops are consistently required more than 4 times daily.

PRIMARY CARE FORMULARY

Products in this section are available for self-purchase over the counter. For mild to moderate symptoms patients should be encouraged to self-care. If a prescription is clinically appropriate then prescribe by brand to ensure correct product.

QUANTITIES – on average there are 20 drops per millilitre i.e. 200 drops per 10ml

P = contains preservative  
PPF = ‘pseudo’ preservative-free (preservative is converted into natural tear components in the eye)  
TPF = true preservative-free

<table>
<thead>
<tr>
<th>FIRST LINE</th>
<th>Encourage self-care with over-the-counter products as appropriate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hypromellose 0.3% Drops (P)</td>
<td>Lumecare® Tear Drops</td>
</tr>
<tr>
<td>• Hypromellose 0.5% Drops (P)</td>
<td>Isopto Plain®</td>
</tr>
<tr>
<td>• Polyvinyl Alcohol 1.4% Drops (P)</td>
<td>Sno Tears®</td>
</tr>
<tr>
<td>• Hypromellose 0.3% Drops (TPF)</td>
<td>Evolve® Hypromellose</td>
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<tr>
<td>Longer acting gels:</td>
<td></td>
</tr>
<tr>
<td>• Carbomer 0.2% Gel (P)</td>
<td>Clinitas® Gel</td>
</tr>
<tr>
<td>• Carbomer 0.2% Gel (PPF)</td>
<td>Xailin® Gel</td>
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</tbody>
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<table>
<thead>
<tr>
<th>NIGHT-TIME LUBRICANTS</th>
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<tbody>
<tr>
<td>Can blur vision so only for use at night and never with contact lenses:</td>
<td></td>
</tr>
<tr>
<td>• Paraffin/ Retinol/Wool Fat Ointment (TPF)</td>
<td>HydraMed Night®</td>
</tr>
<tr>
<td>3 month in-use shelf life</td>
<td></td>
</tr>
<tr>
<td>• Paraffin/Mineral Oil/Lanolin Ointment (TPF)</td>
<td>Xailin Night®</td>
</tr>
<tr>
<td>• Carbomer 0.2%/Lipids Gel (P)</td>
<td>Artelac Nighttime® Gel</td>
</tr>
</tbody>
</table>

| SECOND LINE | If first line treatments are ineffective or symptoms worsen: | |
|--------------|---------------------------------------------------------------|
| • Sodium Hyaluronate 0.15% Drops (PPF) | Artelac Rebalance® | £4.00 per 10ml |
| • Sodium Hyaluronate 0.2% Drops (TPF) | Evolve® HA | £5.99 per 10ml |
| 3 month in use shelf life | |
| • Carmellose 0.5% Drops (TPF) | Evolve® Carmellose | £4.99 per 10ml |
| 3 month in use shelf life | |
| • Hydroxypropyl Guar Drops (P) | Systane® | £4.66 per 10ml |

Prices correct as of October 2018 (NHS Drug Tariff).
**SECONDARY CARE FORMULARY**

Products in this section are available for self-purchase over the counter excluding ciclosporin and specialist only drugs. For mild to moderate symptoms patients should be encouraged to self-care. If a prescription is clinically appropriate then prescribe by brand to ensure correct product.

\[P\] = contains preservative  \[TPF\] = true preservative-free  \[PPF\] = ‘pseudo’ preservative-free (preservative is converted into natural tear components in the eye)

Note: It is established policy that if any medicine is required within two weeks, a supply should be made by the hospital / clinic in order that treatment can commence in a timely manner.

### SPECIALIST INITIATION / RECOMMENDATION

- For severe or worsening symptoms:
  - Hydroxypropyl Guar/Sorbitol Drops (P)  
    6 month in-use shelf life  
    Systane Ultra®  
    £6.69 per 10ml  
    £6.69 per 30 x 0.7ml SDU
  - Hydroxypropyl Guar/Mineral Oil (P)  
    6 month in-use shelf life  
    Systane Balance®  
    £7.49 per 10ml
  - Carmellose 0.5% / Castor Oil Drops (PPF)  
    6 month in-use shelf life  
    Optive Plus®  
    £7.49 per 10ml
  - Carmellose 0.5% / Sodium Hyaluronate 0.1% Drops (PPF)  
    6 month in-use shelf life  
    Optive Fusion®  
    £7.49 per 10ml
  - Trehalose 3% + Hyaluronic Acid 0.15% (TPF)  
    3 month in-use shelf life  
    Thealoz Duo®  
    £8.99 per 10ml
  - Trehalose 3% + Hyaluronic Acid 0.15% + Carbomer 0.25% (TPF)  
    Thealoz Duo Gel®  
    £6.87 per 30 x 0.4g SDU  
    Night time use
  - Sodium Hyaluronate 0.4% Drops (TPF)  
    3 month in-use shelf life  
    Clinitas®  
    £6.99 per 10ml
  - Hyaluronate 0.1% + Coenzyme Q10 (TPF)  
    2 month in-use shelf life  
    VisuXL®  
    £10.30 per 10ml

### SINGLE DOSE UNITS

- Reserve for patients who do not respond to other treatments due to higher cost.
  - Soybean Oil/Phospholipid Emulsion (TPF)  
    Oil based formulation  
    Emustil®  
    £6.22 per 20 x 0.3ml SDU  
    QDS = £37.32 per month
  - Sodium Hyaluronate 0.15% / Xanthan Gum 1% Gel (TPF)  
    Lubristil®  
    £6.49 per 20 x 0.4ml SDU  
    QDS = £38.94 per month
  - Hyetellose 0.44% / Sodium Chloride 0.35% Drops (TPF)  
    Minims Artificial Tears®  
    £8.97 per 20 x 0.5ml SDU  
    QDS = £53.82 per month

### SPECIALIST INITIATION + REVIEW

Products that should be initiated and reviewed by a specialist before transfer to Primary Care.

- Ciclosporin 0.1% eye drops (Ikervis®) may be prescribed in line with NICE TA369 (Dec 2015) for severe keratitis in adult patients with dry eye disease, that has not improved despite treatment with tear substitutes. Prescribing may be transferred to general practice following specialist initiation and supply, with response established following at least 1 review within the first 6 months. [APG 8th March 2016]

### SPECIALIST ONLY

Products for which prescribing responsibility should remain within secondary care

- Unlicensed formulations / indications unless an individual shared-care agreement is in place between the consultant and GP (e.g. unlicensed ciclosporin eye ointment).

Prices correct as of October 2018 (NHS Drug Tariff).
BLEPHARITIS

Blepharitis refers to the group of conditions which are characterised by inflammation of the eyelid margin. It is an extremely common, under-recognised cause of dry eye. Blepharitis can be acute or chronic and can occur at all ages but the most commonly encountered variant is chronic adult disease.

Anterior blepharitis primarily affects the lashes. Posterior blepharitis involves inflammation of the meibomian glands (meibomianitis) which can result in changes to oily secretions, increased tear evaporation and dry eyes. Some patients may experience only mild symptoms, while others will experience symptoms that cause considerable irritation and discomfort.

The cause of blepharitis has not been incontrovertibly established. Previously the role of staphylococcal infection and endotoxins with meibomian gland dysfunction was thought to be responsible. A newer hypothesis puts demodex mites as a possible vector agent for bacteria and fungi spread.

INTERVENTIONS FOR BLEPHARITIS

An initial trial of treatment is the use of traditional lid hygiene therapy (see patient leaflet). Whilst a range of proprietary eyelid wipes and cleansers are available, most are not NHS prescribable. If patients choose to use these products after professional advice the joint Primary/Secondary Care recommendation is that they should be purchased over-the-counter. Although Blephaclean® wipes are permitted on FP10, they are not supported by local specialist opinion and should not be recommended by hospital specialists or optometrists for GP prescribing.

If simple lid hygiene therapy is ineffective, an anti-demodex approach increasingly recommended by specialists involves daily use of a tea tree oil skin/shampoo regimen, Ocusoft Lid Scrub Plus® Wipes at night (non-NHS) and weekly warm compress.

Unresponsive cases may additionally benefit from a short course of systemic doxycycline and/or topical steroid/antibiotics. The full course should be provided by the specialist and reviewed accordingly.

PRODUCTS FOR SELF-PURCHASE (Formulary Status: GREY)

The following products are either not prescribable (Non-NHS) or not recommended (NR) on NHS prescription; however patients may choose to purchase them over-the-counter on professional advice.

**Blepharitis Treatments**
- Blephaclean® Wipes (NR) Approx. £8 per 20 wipes
- Blephager® (NR) Approx. £11.50 per 30g tube
- Blephasol® Solution (NR) Approx. £11.50 per 100ml
- Ocusoft Lid Scrub® Plus (Non-NHS) Approx. £10 per 20 wipes

**Dry Eye Treatments**
- Supermarket Dry Eye Sprays (Non-NHS) Approx. £6 per 10ml
- Eye Logic® Spray (formerly Clarymist) (Non-NHS) Approx. £10 per 10ml
- MGDRx EyeBag® (NR) Approx. £14 per device

**Oral Nutritional Supplements**
- Flax Seed Oil or Sea Buckthorn Oil (Non-NHS)
- HydroEye® Softgels (Non-NHS)
- Omega Eye Capsules (Non-NHS)
Blepharitis and Instructions for Eyelid Cleaning

This leaflet is intended for patients who have inflammation of the eyelids (blepharitis)

What is blepharitis?

Blepharitis is a very common condition caused by inflammation of the eyelid margins, where the eyelashes come out. The eyelids contain tiny (meibomian) glands which make an oily secretion. This oily secretion mixes with the tears and is important in helping to keep the eyes moist and comfortable. In blepharitis, these tiny glands become blocked. This causes a build-up of oily secretions on the eyelids, which then become inflamed. The eyes can become dry because tears are not formed properly. Blepharitis is also known as Meibomian Gland Dysfunction.

What are the symptoms of blepharitis?

- The eyes can feel dry, sore, burning, itchy and/or tired.
- A feeling as if there is something in the eye (gritty sensation).
- The eyelids can become red, greasy, irritated and/or swollen.
- Tiny flakes or crusts that look like dandruff can form at the bottom of the eyelashes.
- Possible sensitivity to light.
- Possible blurred vision.

What causes blepharitis?

The exact cause is often not known. It is more common in some skin conditions, such as rosacea. However, it is also very common in otherwise healthy people throughout the world, and affects people of all ages.

What is the treatment for blepharitis?

Eyelid Cleaning

Regular cleaning of the eyelids is the most important part of both treating and preventing blepharitis. It will help make the eyes feel more comfortable and prevent future problems. However, the symptoms tend to come back if regular cleaning of the eyelids is stopped.

Eyelid cleaning is a two-step process which should be performed initially every day, and then can be reduced to once or twice a week.
1. Apply heat to the eyelids

This is to help melt the oily secretions which have built up on the eyelids. A common way of applying heat is to use **hot compresses** to melt the blocked, oily secretions:

- Use some water which is as hot as you can comfortably tolerate, but which won’t burn or scald your skin.
- A drop of tea tree shampoo or a ¼ teaspoon of bicarbonate of soda may be added to the hot water, but this is optional. **Baby shampoo is not recommended.**
- Soak a clean face cloth, flannel, cotton wool or gauze in the hot water; squeeze out the excess water, and put the hot pad onto your closed eyelids.
- Gently massage the eyelids with the hot pad for 10 minutes. In particular, massage the upper eyelids downwards, and the lower eyelids upwards (this helps to open up the blocked meibomian glands).
- It is important to keep re-heating the pad several times to keep it hot while massaging.

An alternative is to use a special **eyelid mask/compress** which is heated in the microwave or hot water and then laid on the closed eyes, and can be reused. A number are available in opticians and pharmacies and also over the internet. Ask your pharmacist or optician for further advice.

2. Wipe oily secretions off the eyelids

This can be done with a cotton bud which has been dipped in comfortably hot water.

- Pull the eyelids away from the eye and gently wipe along the eyelids margins (along the base of the eyelashes).
- Do not touch the inner surface of the eyelids or the eyes themselves.

Various **blepharitis lid wipes** for cleaning the eyelids are also available at pharmacies and opticians. The manufacturer instructions should be followed.

What will happen if I decide not to have treatment?

Blepharitis does not normally affect vision or damage the eyes, but if left untreated the eyes are likely to remain uncomfortable and dry. Rarely, it is possible for blepharitis to damage the vision by causing changes on the surface of the eye.

**Blepharitis: Key facts**

- Blepharitis is a common cause of sore, gritty eyes.
- It does not usually affect vision or damage the eyes.
- The main form of treatment is regular cleaning of the eyelids.

**Useful websites**

[www.nhs.uk/conditions/blepharitis](http://www.nhs.uk/conditions/blepharitis)