

Dry Eye Prescribing Guidelines

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Amendment History

| VERSION | DATE | AMENDMENT HISTORY |
|-------------|--------------|--|
| V1.0 | 2011 | First Edition |
| V2.0 | 2013 | Updated |
| V3.0 | 2017 | Updated |
| V3.1 to 3.4 | Sept 2018 | Updated with input from Dudley Local Optical Committee and GP Prescribing lead |
| V3.5 | Oct 2018 | Updated with Oxford Scheme classification of dry eyes. |
| V3.6 to 3.7 | Nov 2018 | Update – minor changes with formatting |
| 3.8 | January 2019 | Minor changes post 4 week clinical health economy consultation <ul style="list-style-type: none"> Appendix 1: pictures of corneal staining. Moderate and severe pictures changed to reflect level of severity. Approved by ACE January 2019 ahead of public consultation. |
| 3.9 | March 2019 | Final draft version following public consultation (12/2/19 to 12/3/19) – no change |
| 4.0 | April 2019 | Approved by ACE March 2019 with minor changes (Final Version): <ul style="list-style-type: none"> Apart from the ocular lubricants containing Benzalkonium |

| | | |
|-----|--------------|---|
| | | (preservative), recommend generic prescribing due to ongoing supply challenges in community with stock shortages (sentence added into guidance, page 5). <ul style="list-style-type: none"> For moderate dry eyes, for those patients who pay for prescriptions, self-care may be appropriate (lower cost than NHS prescription levy), added as footnote to table on page 6. |
| 4.1 | October 2019 | VisuXL® added for severe dry eyes by consultant ophthalmology only (page 6 & 16). Correction of shelf life once opened for VitA-POS® eye ointment from 3 months to 6 months (page 15). |

REVIEWERS

This document had been reviewed by:

| NAME | DATE | TITLE/RESPONSIBILITY | VERSION |
|------|----------------------|---|---------|
| ACE | January & March 2019 | Assurance Framework for managing clinical policies and guidelines | 8 |

APPROVALS

This document has been approved by:

| NAME | DATE | TITLE/RESPONSIBILITY | VERSION |
|------|------------|---|---------|
| ACE | March 2019 | Assurance Framework for managing clinical policies and guidelines | 8 |

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These documents will provide additional information:

| REFERENCE NUMBER | DOCUMENT TITLE | VERSION |
|------------------|----------------|---------|
| N/A | N/A | N/A |

APPLICABLE LEGISLATION

N/A

GLOSSARY OF TERMS

| TERM | ACRONYM | DEFINITION |
|---------------------------------------|---------|---|
| Clinical Commissioning Group | CCG | Payer of local healthcare services within registered population |
| Area Clinical Effectiveness Committee | ACE | Health economy committee responsible for approval and ratification of clinical guidance and formulary applications within Dudley. |

Review Date: April 2022

DRY EYE SYNDROME

Dry eye syndrome is a multifactorial disease of the tears and ocular surface that results in a range of symptoms, including discomfort, visual disturbance, tear film instability and potential damage to the ocular surface. It is accompanied by increased osmolarity of the tear film and inflammation of the ocular surface.

The key features of dry eye syndrome are:

- Decreased tear production
- Increased tear evaporation
- Incorrect composition of tears

These result in inadequate lubrication of the eyes.

Signs and Symptoms

Patients typically present with:

- feelings of dryness, grittiness, foreign body sensation, burning and stinging sensation, red eyes, staining of cornea with fluorescein, or soreness in both eyes, which get worse throughout the day
- eyes water, particularly when exposed to wind, and reflex tearing or blurring whilst reading or driving
- eyelids stuck together on waking
- excess mucous or stringy clear or white discharge

Causes

Dry eye syndrome prevalence increases with age (15-33% in people 65+ years); it

is 50% more common in women than in men and a frequent complaint in post-menopausal women and rheumatoid patients.

It is an extremely common eye condition and has a wide range of causes, including:

- Decreased tear production; adverse effect of systemic drugs (e.g. antihistamines, tricyclic antidepressants (TCA's), Selective Serotonin Re-uptake Inhibitors (SSRI's), preservatives in topical eye medications), allergic conjunctivitis and dehydration (e.g. secondary to diabetes)
- Increased evaporation of tears: blepharitis (most common cause), tear film instability, environmental factors at home / work and less commonly, caused by Lagophthalmos and most commonly with Meibomian Gland Dysfunction (MGD)
- Abnormal ocular surface / disruption of the afferent sensory nerves
- Decreased lipid production by Meibomian glands or abnormal quality or delivery and reduction of size and numbers of functioning glands
- Incomplete blink or lid closure problems

Underlying conditions associated with dry eye syndrome include:

- Allergic conjunctivitis
- Rheumatoid arthritis and other autoimmune conditions
- Sjögren's syndrome (ask about dry mouth)
- Rosacea (or ocular rosacea with inflammation and meibomian secretion abnormality)
- Facial or trigeminal neuropathy e.g. Bell's Palsy
- Herpes zoster or simplex affecting the eye
- Any disease or process affecting 5th nerve function and eye sensation
- Previous ocular or eyelid surgery, trauma, radiation therapy, burns
- Prolonged use or inappropriate wear of contact lens
- Less commonly, people present with a complication of dry eye syndrome, e.g.
 - Conjunctivitis
 - Sub conjunctival scarring
 - Chronic dermatoses of eyelids
 - Ulceration of the cornea, suggested by severe pain, photophobia, marked redness, and loss of visual acuity

General management

- Treatment should initially focus on identifying and addressing lifestyle/environmental factors that may cause or exacerbate dry eye syndrome.
- The patient's medication history should also be reviewed, as topical and systemic antihistamines have been associated with dry eye syndrome. Similarly, Hormone Replacement Therapy (HRT), TCAs and SSRIs can aggravate ocular symptoms.
- Reassure - when there is no underlying medical condition, most people with

dry eyes have only discomfort and no permanent loss of vision though visual symptoms of blurring and glare are common as severity increases. Rarely, the cornea develops ulcers. Mucus filaments adhere and may be painful in more severe forms.

Treatment

Artificial tears alone are usually sufficient to provide relief for mild dry eye and can be purchased by the patient without a prescription from the community pharmacy.

- Hypromellose may be considered initially. Products containing carbomers or polyvinyl alcohol are longer-acting thereby offering advantage of reduced frequency of application. Carmellose and Sodium Hyaluronate are becoming more widely used because of their water-retaining properties and low resistance to blinking (viscoelastic property). Combinations of products may be more effective as severity increases.
- Patients with a known allergy to preservative (benzalkonium chloride found in many eye drops), switch to one that is preservative-free or with preservative that breaks down with tear contact or an alternative preservative such as polyquad or cetrimide for carbomers. Products that do not contain preservatives are packed as single dose units or within appropriate multi-dose bottles or devices. Single dose units are generally more expensive than multi-dose preparations, however, are favorable where frequent use is required or ocular surface disturbance is significant. In general, preservative free are more suitable if drops are required more than four times a day.
- Preserved drops are incompatible with contact lenses. Seek advice from optometrist.
- Eye ointments such as paraffin's physically lubricate and protect the eye surface from epithelial erosion and are particularly useful when the eye is closed during sleep.
- Eye ointments containing paraffin may be uncomfortable and blur vision, they should only be used at night and never with contact lenses.
- Where ointments are too greasy, carbomers or combination carbomer with lipid are available (artelac[®] nighttime gel)
- Apart from those ocular lubricants containing the preservative, benzalkonium chloride, all ocular lubricants should be prescribed generically to support continuity with community pharmacy supply to patients.
- Patients with a diagnosis of mild dry eye(s) are recommended to self-care to manage their condition (see table below).
- Significant ocular surface disturbance or significant inflammatory problems may require specialist advice and treatment in the corneal service.

| Severity | Symptoms & Signs | Treatment Options |
|-------------------|---|---|
| Mild | Discomfort: mild Frequency of discomfort: episodic Visual symptoms: nil/mild Corneal staining with fluorescein: nil/min Conjunctival staining: nil/min Oxford grades 0-II [‡] FBUT (fluorescein break up time) variable Schirmer test variable | 1st line Hypromellose 0.3%/0.5% 2nd line Carbomer eye drops (Cetrimide preservative) Poly Vinyl Alcohol eg liquifilm®, PEG 400 e.g. Blink® 3rd line Hydroxypropyl gum multidose (Systane® Ultra) 4th line Optive Fusion® Patients to self-care (purchase over the counter) |
| Moderate** | Discomfort: moderate Frequency of discomfort: episodic or chronic Visual symptoms: episodic, limiting activity Corneal staining with fluorescein: variable Conjunctival staining: variable Oxford grade III [‡] FBUT < 10 seconds Schirmer test < 10mm at 5 mins (secondary care) | Daytime Use: 1st line Carmellose 1% * 2nd line Optive Fusion® * 3rd line Sod. Hyaluronate 0.15% (Hyabak®) ^{RP*} Nocturnal use: 1st Line: VitaPOS®/ Liquid paraffin eye ointment for use at night 2nd line Artelac® Night time gel (carbomer/triglyceride) ⁺ |

| | | |
|----------------------|--|---|
| <p>Severe</p> | <p>Discomfort: severe Frequency of discomfort: constant/disabling Visual symptoms: constant, activity limiting and disabling Corneal staining with fluorescein: marked severe punctate erosions Conjunctival staining: moderate to marked Oxford grades IV or greater[‡] Corneal signs: mucus filaments or clumping, increased tear debris, corneal ulceration FBUT < 5 seconds Schirmer test < 5mm at 5mins (secondary care)</p> | <p>1st line Hydroxypropyl gum (Systane Ultra® unit dose) 2nd line Sod.hyaluronate 0.2% (Hyloforte®)^{R,P*} 3rd line Sod.hyaluronate 0.4%(Clinitas®)^{*#}</p> <p>Ophthalmologist (secondary care) Initiation/recommendation only</p> <p>Thealoz Duo® (Trehalose, Sodium hyaluronidate)</p> <p>VisuXL® – patients unable to use frequent drops, significant epithelial defect & Oxford Grade staining >3. 2nd line to Thealoz Duo® for consultant or corneal team initiation only</p> |
|----------------------|--|---|

* Products suitable for patients who cannot tolerate preservatives. Refer to appendix 3 for list of ingredients.

** Self-care may also be considered for those patients who are not NHS prescription levy exempt where the cost of a NHS prescription levy exceeds that of the ocular lubricant itself.

Clinitas® dose units can be reclosed for up to 12 hours with multiple applications.

^R Hyabak® and Hyloforte® are supplied in a soft bottle or pump device that some patients may find easier to squeeze such as those rheumatoid arthritis.

^P phosphate free buffered solutions

Where severe ocular surface disease is encountered and/or calcium deposition has occurred a non-phosphate buffered preparation should be considered (Hyabak® or Hyloforte®) though response to treatment will need reviewed and phosphate buffered solutions should still be considered in these circumstances. Specialist preparations may be necessary but are monitored in the hospital based service

+ When ointments are too greasy/poorly tolerated.

[‡] For Oxford grading of conjunctival or corneal staining, refer to appendix 2.

Blepharitis

Aetiology

Anterior marginal blepharitis (also known as Anterior Lid Margin Disease)

Bacterial (usually staphylococcal)

Caused by (1) direct infection, (2) reaction to staphylococcal exotoxin or (3) allergic response to staphylococcal antigen Seborrhoeic (disorder of the ciliary sebaceous glands of Zeis)

Posterior marginal blepharitis (also known as Posterior Lid Margin Disease)

Meibomian gland dysfunction (MGD) - bacterial lipases break down Meibomian lipids.

Meibomian secretion becomes abnormal both chemically and physically and tear film becomes unstable.

Predisposing factors

Dry eye disease, present in:

- 50% of people with staphylococcal blepharitis
- 25-40% of people with seborrhoeic blepharitis
- Seborrhoeic blepharitis:
 - seborrhoeic dermatitis (for example, of the scalp)
 - *Demodex folliculorum*: an ectoparasite that occurs normally in the lash follicles
- Long-term contact lens wear
- Ocular rosacea (a cause of posterior marginal blepharitis)
 - Symptoms
 - Blepharitis may be asymptomatic. However, when present, the symptoms of anterior marginal blepharitis and posterior marginal blepharitis are similar:
 - Ocular discomfort, soreness, burning, itching
 - Mild photophobia
 - Symptoms of dry eye including blurred vision and contact lens intolerance

Signs

Anterior marginal blepharitis (staphylococcal)

- Lid margin hyperaemia
- Lid margin swelling
- Crusting of anterior lid margin (scales at bases of lashes)
- Misdirection of lashes
- Loss of lashes (madarosis)
- Recurrent styes and (rarely) chalazia
- Conjunctival hyperaemia
- Secondary signs include: punctate epithelial erosion over lower third of cornea; marginal keratitis; phlyctenulosis; neovascularisation and pannus; mild papillary conjunctivitis

Anterior marginal blepharitis (seborrhoeic)

- Lid margin hyperaemia
- Oily or greasy deposits on lid margins
- Conjunctival hyperaemia

Posterior marginal blepharitis (MGD)

- Thick and/or opaque secretion at meibomian gland orifices, making it difficult or impossible to express oil by finger pressure
- Foam in the lower tear film meniscus (due to excess tear film lipid)
- Plugging of duct orifices with abnormal lipid leading to dilatation of glands and formation of microliths and chalazia
- Conjunctival hyperaemia

- Evaporative tear deficiency, unstable pre-corneal tear film
- Secondary signs include: punctate epithelial erosion over lower third of cornea;
- More severe complications requiring secondary care include marginal keratitis; scarring; neovascularisation and pannus; mild papillary conjunctivitis

Non pharmacological treatments

- Lid hygiene (consisting of warm compresses or microwaveable blepharitis mask (e.g. MeiboPatch®, Optase™, EyeBag® or similar are commercial products available for purchase if desired), lid massage and lid scrubs) is the first line of management regardless of type of blepharitis
- Warm compresses to loosen collarettes and crusts in anterior blepharitis and to melt meibum in posterior blepharitis (once or twice daily for 5 to 10 minute intervals)
- Lid hygiene measures wipe away bacteria and deposits from lid margins, mechanically express the lid glands and lead to improved signs and symptoms in the majority of individuals

Alternative lid hygiene methods:

- Using diluted baby shampoo (1:20) solution or dilute sodium bicarbonate solution with a swab or cotton bud, patient cleans lid margins (but not beyond the mucocutaneous junction). Carry out twice daily at first; reduce to once daily as condition improves. Use firm pressure with swab or cotton bud so as to express glands
- Commercial products can be purchased if desired (not on NHS prescription) e.g. dedicated lid cleaning solutions or impregnated wipes (e.g. Blephaclean®, Blephasol® Ilast®, Ocusoft®, Optase™ etc)
- Advise the avoidance of cosmetics, especially eye liner and mascara
- Advise patient to return/seek further help if symptoms persist

Dry eye drops such as Optive Plus® or Systane Balance® can be used if there is considerable staining with patients who have MGD or blepharitis. However, first line treatment is regular lid hygiene. These drops may be more helpful for significant tear film instability than standard eye drops.

Other special agents (monitored in corneal and external diseases clinic)
Secondary care ophthalmology initiation/recommendation only

- Acetylcysteine
- Preservative free steroids
- Ciclosporin 1mg/ml (Ikervis®) unit dose (approved by NICE for treating severe keratitis in adult patients with dry eye disease that has not improved despite treatment with tear substitutes)

Manual dexterity

If patient has difficulty administering drops due to reduced manual dexterity consider carbomer gel. Hyabak® and Hyloforte® are supplied in a soft bottle that some patients may find easier to squeeze such as those with rheumatoid arthritis. Alternatively, universal eye drop aids are available for purchase to assist those individuals with reduced manual dexterity e.g. AutoDrop® and AutoSqueeze™.

Environment and other measures (See appendix 4 for more information)

Advise patients to minimise environmental and other factors that aggravate dry eye syndrome:

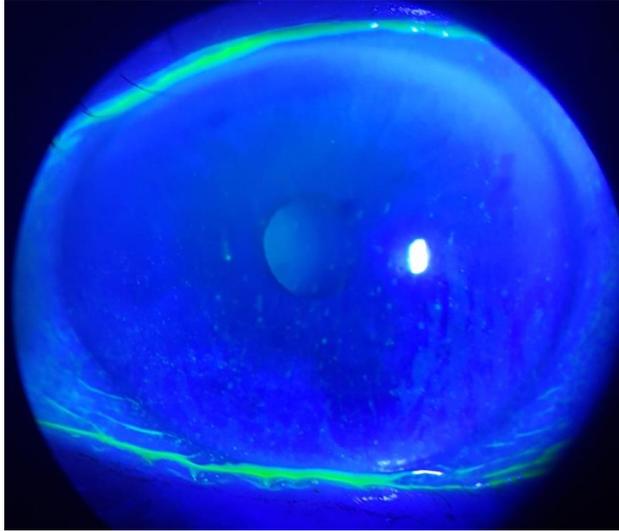
- If smokers, try to stop as it exacerbates symptoms
- Avoid air conditioning
- Take regular breaks if use computer for long periods/avoid staring at the screen for long periods
- Wear wrap-around glasses outside.
- Omega 3 fatty acid supplements may be of anecdotal help in blepharitis (self- purchase supplements) although the patient should be advised that evidence of benefit is inconclusive.

References

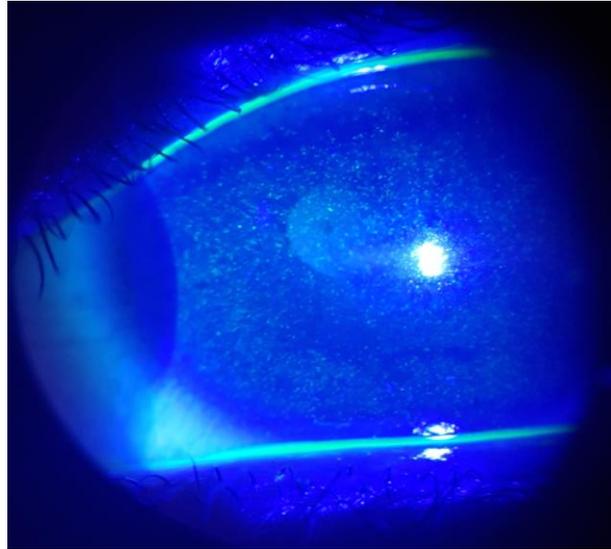
1. Behrens A, Doyle JJ, Stern L et al. Dysfunctional tear syndrome A Delphi approach to treatment recommendations. *Cornea* 2006 25:900-7
2. Management and therapy of dry eye disease: Report of the management and therapy subcommittee of the international dry eye workshop (2007). *Ocul Surf* 2007;5(2): 163-178.
3. Ophthalmology Referral Guidelines, Oxfordshire PCT, March 2012
4. Clinical Knowledge Summaries <http://www.cks.nhs.uk/dryeyesynndrome#-320107>
5. Clinical Management guidelines College of optometrists
6. Bron A, Evans VE, Smith JA. (2003). Grading of corneal and conjunctival staining in the context of other dry eye tests. *Cornea* 22(7): 640-50.

Appendix 1: Pictures of Corneal staining demonstrating severity of condition

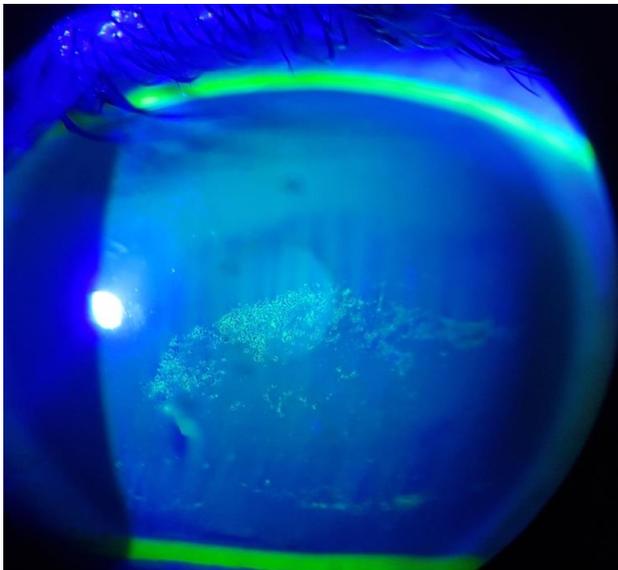
Mild



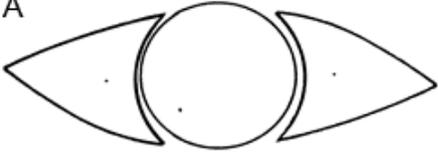
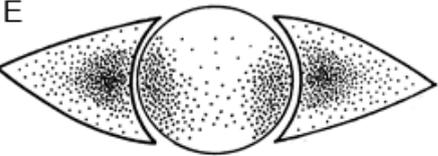
Moderate



Severe



APPENDIX 2: GRADING OF CORNEAL AND CONJUNCTIVAL STAINING
OXFORD SCHEME

| PANEL | GRADE | VERBAL DESCRIPTOR |
|--|-------|-------------------|
| <p>A</p>  | 0 | Absent |
| <p>B</p>  | I | Minimal |
| <p>C</p>  | II | Mild |
| <p>D</p>  | III | Moderate |
| <p>E</p>  | IV | Marked |
| >E | V | Severe |

| PANEL | GRADE | CRITERIA | DOT COUNT | LOG | VERBAL DESCRIPTOR |
|--|------------|---|-----------|------|-------------------|
| A  | 0 | Equal to or less than panel A | 1 | 0 | Absent |
| B  | I | Equal to or less than panel B, greater than A | 10 | 1.0 | Minimal |
| C  | II | Equal to or less than panel C, greater than B | 32 | 1.5 | Mild |
| D  | III | Equal to or less than panel D, greater than C | 100 | 2.0 | Moderate |
| E  | IV | Equal to or less than panel E, greater than D | 316 | 2.5 | Marked |
| >E | V | Greater than panel E | >316 | >2.5 | Severe |

Source: Bron A, Evans VE, Smith JA. (2003). Grading of corneal and conjunctival staining in the context of other dry eye tests. *Cornea* 22(7): 640-50.

Appendix 3: Ocular lubricants Cost Comparison

| Drug Name | Indications | Dose | Proprietary name | Ingredients | Excipients | Pack Size | Price* |
|--|---|--------------------------------------|---|---|-----------------------|-------------|--------|
| CARBOMERS (Polyacrylic acid) | dry eyes including keratoconjunctivitis sicca, unstable tear film | Apply 3–4 times daily or as required | Clinitas Gel [®] | carbomer 980 (polyacrylic acid) 0.2% | | 10 g | £1.49 |
| Benzalkonium chloride containing products should be prescribed by BRAND | | | Viscotears [®] | carbomer 980 (polyacrylic acid) 0.2% | cetrimide | 10g | £1.59 |
| | | | Lumecare [®] Long Lasting Tear Gel | carbomer 980 (polyacrylic acid) 0.2% | cetrimide | 10g | £1.67 |
| | | | Carbomer '980' 0.2% eye drops | Carbomer '980' 0.2% | benzalkonium chloride | 10g | £2.80 |
| | | | GelTears [®] | carbomer 980 (polyacrylic acid) 0.2% | benzalkonium chloride | 10g | £2.80 |
| | | | Liposic [®] | carbomer 980 (polyacrylic acid) 0.2% | cetrimide | 10g | £2.96 |
| | | | Artelac Nighttime gel | Carbomer 0.2%, Medium Chain Triglycerides | Cetrimide | 10g | £2.96 |
| | | | Liquivisc [®] | carbomer 974P (polyacrylic acid) 0.25% | benzalkonium chloride | 10g | £4.50 |
| | | | Viscotears [®] | carbomer 980 (polyacrylic acid) 0.2% | | 30 x 0.6-mL | £5.42 |
| | | | | | | | |
| CARMELLOSE SODIUM | dry eye conditions | Apply as required | Carmellose | carmellose sodium 1% | | 30 x 0.4 mL | £3.00 |
| | | | Celluvisc [®] | carmellose sodium 1% | | 30 x 0.4 mL | £3.00 |
| | | | Carmize [®] | carmellose sodium 1% | | 30 x 0.4 mL | £3.00 |
| | | | Carmellose | carmellose sodium 0.5% | | 30 x 0.4 mL | £5.75 |
| | | | Carmize [®] | carmellose sodium 0.5% | | 30 x 0.4 mL | £5.75 |

| | | | | | | | |
|------------------------|--------------------|-------------------|--|--|---|-------------|--------|
| | | | Celluvisc [®] | carmellose sodium 0.5% | | 30 x 0.4 mL | £4.80 |
| | | | Optive [®] | carmellose sodium 0.5%, glycerol | | 10ml | £7.49 |
| | | | Optive Plus [®] (for meibomian gland dysfunction) | Carmellose sodium 0.5%, Castor oil 1%, Glycerin 0.25% | | 10ml | £7.49 |
| | | | | | | | |
| HYPROMELLOSE | tear deficiency | Apply as required | Isopto Plain [®] | hypromellose 0.5% | benzalkonium chloride | 10ml | 81p |
| | | | Isopto Alkaline [®] | hypromellose 1% | benzalkonium chloride | 10ml | 94p |
| | | | Hypromellose | hypromellose 0.3% | benzalkonium chloride | 10ml | £1.42 |
| | | | Tears Naturale [®] | hypromellose 0.3%, dextran '70' 0.1% | benzalkonium chloride, disodium edetate | 10ml | £2.99 |
| | | | Artelac [®] | hypromellose 0.32% | cetrimide, disodium edetate | 10ml | £4.60 |
| | | | Lumecare [®] Preservative Free Tear Drops | hypromellose 0.3% | | 30 x 0.5 mL | £5.72 |
| | | | Tear-Lac [®] | hypromellose 0.3% | | 10ml | £5.75 |
| | | | Hydromoor [®] | hypromellose 0.3% | | 30 x 0.4 mL | £5.75 |
| | | | Tears Naturale [®] Single Dose | hypromellose 0.3%, dextran '70' 0.1% | | 28 x 0.4 mL | £13.26 |
| | | | Artelac [®] SDU | hypromellose 0.32% | | 30 x 0.5 mL | £16.95 |
| | | | | | | | |
| LIQUID PARAFFIN | dry eye conditions | Apply as required | VitA-POS [®] (expiry of 6 months once opened) | Retinol palmitate 250 units/g, white soft paraffin, light liquid paraffin, liquid paraffin, wool fat | | 5g | £2.75 |

| | | | | | | | |
|--|--------------------|-------------------|------------------------------|---|---|-------------|-------|
| | dry eye conditions | Apply as required | Xailin night [®] | White soft paraffin, white mineral oil, lanolin alcohols | 5g | £2.51 | |
| | | | | | | | |
| MACROGOL S (Polyethylene glycols) | dry eye conditions | Apply as required | Systane Ultra [®] | polyethylene glycol 400 0.4%, propylene glycol 0.3%, hydroxypropyl guar | 10ml | £6.69 | |
| Hydroxypropyl Guar | | | | | | | |
| | | | Systane Ultra [®] | polyethylene glycol 400 0.4%, propylene glycol 0.3%, hydroxypropyl guar | 30 x 0.7 mL | £6.69 | |
| | | | Systane Balance [®] | polyethylene glycol 400 0.6% | 10ml | £7.49 | |
| | | | | | | | |
| SODIUM HYALURONATE | dry eye conditions | Apply as required | Oxyl [®] | sodium hyaluronate 0.15% | 10ml | £4.15 | |
| Due to differences in chain length and viscosity the strengths do not indicate equivalence | | | Lubristil [®] | sodium hyaluronate 0.15% | 20 x 0.3 mL | £4.99 | |
| | | | Ocusan [®] | sodium hyaluronate 0.2% | 20 x 0.5 mL | £5.25 | |
| | | | Clinitas [®] | sodium hyaluronate 0.4% | Note Each unit is resealable and may be used for up to 12 hours | 30 x 0.5 mL | £5.37 |
| | | | Hyabak [®] | sodium hyaluronate 0.15% | | 10ml | £7.99 |
| | | | Hylo-Forte [®] | sodium hyaluronate 0.2% | 10ml | £9.50 | |
| | | | Optive Fusion [®] | Sodium hyaluronate 0.1%, carmellose sodium 0.5%, glycerol 0.9% | 10ml | £7.49 | |
| | | | Thealoz Duo [®] | Sodium hyaluronate 0.15%, trehalose 3% | 10ml | £8.99 | |
| | | | Thealoz Duo [®] | Sodium hyaluronate 0.15%, trehalose 3% PF | 30 x 0.4ml | £6.99 | |
| | | | VisuXL [®] | Sodium hyaluronate 0.1%, co-enzyme Q10 0.1%, vitamin E 0.5% PF | 10ml | £10.30 | |
| | | | VisuXL [®] | Sodium hyaluronate 0.1%, co-enzyme Q10 0.1%, vitamin E 0.5% PF | 30 x 0.33ml | £10.30 | |
| * Prices as per https://www.mims.co.uk/drugs/eye/dry-eye <accessed 3/10/18> These are provided as a guide only and are subject to change. | | | | | | | |

Appendix 4: Patient leaflet

Treating blepharitis

Blepharitis can't usually be cured, but the symptoms can be controlled with good eyelid hygiene.

Blepharitis is a long-term (chronic) condition. Most people experience repeated episodes, separated by periods with fewer or no symptoms.

Eyelid hygiene

It's important to clean your eyelids every day if you have blepharitis, even if you're using medication or don't currently have any symptoms.

Good eyelid hygiene can help ease your symptoms and prevent it happening again.

Follow the steps below to keep your eyelids clean.

There are treatments which can help you reduce the effects of blepharitis. You may need treatment for several months.

1. Warm compresses work by warming the material that blocks the glands and loosening the crusts on the eyelid. This makes them easier to remove. You can buy reusable warming packs which you heat up in the microwave from your optometrist chemist or online, instruction and number of uses should be followed according to manufacturer's recommendations. Alternatively you can use a flannel, cotton-wool ball or something similar as a warm compress. Soak the compress in hot, but not boiling water, test the temperature on the back of your hand to ensure a safe temperature and place it on your closed eyelids for five minutes, rocking it gently. This will loosen the crusts. You should massage the eyelids rolling your fingers or a pencil towards the edge of the eyelid to express thickened oil gland secretions. You can then clean your lids with moistened cotton buds or commercial wipes and solutions. You should use a separate clean compress for each eye.
2. You can buy special lid wipes or solution which some people find more effective at cleaning the lid margins. Your optometrist will be able to advise you on this. Alternatively, you can fill a clean egg cup with boiling water that has cooled. Then add a quarter of a teaspoon of bicarbonate of soda (not baking

powder) or use very dilute baby shampoo but this may dry the skin or cause irritation if too concentrated 1:20 dilution or less would be suitable

How to clean the eyelids: Use a lid-cleaning wipe or a cotton-wool bud dampened in the solution you have made (squeeze it out first) to gently clean the edges of your eyelids near your lashes. Wipe from the inside (near your nose) to the outside corner of your eye. Be careful not to clean inside your eyelid or to touch the surface of your eye with the wipe or cotton-wool bud. Repeat this twice a day at first and reduce this to once a day as the condition improves.

Diet

There's some evidence to suggest a diet high in omega-3 fats can help improve blepharitis. The best sources of omega-3s are oily fish, such as:

- mackerel
- salmon
- sardines
- herring
- fresh or frozen tuna – not canned, as the canning process sometimes removes the beneficial oils

Aim to eat at least two portions of fish a week, one of which should be oily fish. You can also get omega-3s from various nuts and seeds, vegetable oils, soya and soya products, and green leafy vegetables.

Omega 7 or sea buckthorn oil has also been found to be helpful.

Omega 3 supplements are available over the counter but you should check there is no problem taking these with any tablets you normally take though evidence of efficacy is not conclusive.

Source: <https://www.college-optometrists.org/>