

Guideline for the treatment of dry eye syndrome in Primary Care

Background

Dry eye syndrome (DES) is the final outcome of a number of conditions which affect the tear film which normally keeps the eye moist and lubricated.

Aims of treatment

- To relieve symptoms and improve the quality of life of patients with dry eye syndrome
- To restore, and prevent or minimise further structural damage to the ocular surface

Symptoms

- Hyperaemia (Red eye)
- Foreign-body sensation and ocular dryness and grittiness
- Mucoïd discharge
- Ocular irritation
- Excessive 'tearing' or watering (secondary to reflex secretion)
- Photophobia
- Fluctuating or blurry vision
- Redness of the eye lids and conjunctiva (worse on waking)
- Symptoms may worsen as the day progresses

Considerations

- Meibomian gland dysfunction, blepharitis, acne rosacea
- Environmental factors
- Drug treatments that can cause DES are oral antihistamines, diuretics, hormones and hormonal antagonists, antidepressants, cardiac antiarrhythmic drugs, isotretinoin, diphenoxylate/atropine, beta-blockers, chemotherapy agents, any other drug with anticholinergic effects
- Preservatives in existing eye drops
- Underlying systemic conditions e.g. systemic auto immune conditions, Sjogren's syndrome
- Contact lens use

When to refer to secondary care

- Significant pain/soreness on waking with recent history of injury
- Waking in the middle of the night with eye pain
- Unable to open eye after normal night's sleep
- Uncontrolled symptoms after 6 months
- Underlying systemic condition needing specialist management
- Use of preservative free products are required for over 4 weeks
- Deterioration of vision
- Signs of ulcers or corneal damage
- After unsuccessful treatment attempts with 3 products recommended in this guidance
- Regular attendance to emergency departments e.g. Eye casualty

Treatment options that may be used following referral to secondary care

- Ciclosporin eye drops (e.g. Ikervis) or ointment (unlicensed)
- Acetylcysteine eye drops (e.g. Ilube)
- Punctal plugs
- Autologous serum eye drops (highly specialist; not routinely commissioned – seek advice from CCG medicines management pharmacist)
- Contact lenses
- Agents to treat [rosacea](#), e.g oral doxycycline, ivermectin cream

Treatment

Initial key question: Are the eyes dry due to excessive evaporation or aqueous deficiency?

Features of aqueous deficiency

- Unable to produce tears when crying
- Sore eyes on waking without a history of recent eye injury
- Pain

Features of evaporative deficiency

- Excessive watering on windy day
- Blepharitis or ocular rosacea

Aqueous deficiency

Mild

- Hypromellose 0.3% drops or PF drops
- Polyvinyl alcohol 1.4% drops or PF drops
- (e.g. Sno Tears, Liquifilm Tears)
- Carbomer 0.2% gel
- (e.g. Clinitas Carbomer)
- Sodium hyaluronate 0.1% PF drops
- (e.g. Hylo-Tear)

Moderate

- Sodium hyaluronate 0.1 to 0.2% PF drops (e.g. Artelac Rebalance, VIZhyal 0.17%)
- Carmellose sodium 0.5% drops or PF drops
- (e.g. Cellusan, Celluvisc, Ophtho-Lique)

Severe

- Sodium hyaluronate 0.15% and trehalose 3% PF drops (Thealoz-Duo)
- Sodium hyaluronate 0.2% to 0.4% PF drops (e.g. Blink Intensive Tears, Clinitas Multi, VIZhyal 0.4%)
- Carmellose sodium 1% PF drops
- (e.g. Celluvisc, Ophtho-Lique Forte)

Evaporative deficiency

- Propylene glycol drops (Systane Balance)
- Propylene glycol and polyethylene glycol PF drops (Systane unit dose vials)
- [Lid hygiene](#)

Other options may be recommended in secondary care (see above)

Finding an effective treatment can vary between patients. Try at least two products prior to stepping up to next level of treatment.

At night in both aqueous and evaporative deficiency use:

- Lacri-Lube or Xailin Night ointment (PF)
- Carbomer 0.2% ophthalmic gel (e.g. Clinitas Carbomer)
- Hylonight ointment (PF)

Note. Preservative free (PF) preparations should be used in the following situations:

- patients with severe dry eye disease
- patients with true sensitivity to preservatives in eye products
- soft contact lens wearers
- patients with evidence of epithelial toxicity from use of preservatives
- long term treatment (i.e. months or years), or frequency of use more than 6 times daily, or using multiple preserved preparations

References

- <http://cks.nice.org.uk/dry-eye-syndrome> (last accessed 22nd November 2018)
- 2017 Report of the TFOS International Dry Eye Workshop II (TFOS DEWS II) – Pathophysiology. Available at: http://www.tfosdewsreport.org/report-pathophysiology/106_36/en/ (last accessed on 22nd November 2018)
- NHS website: Dry Eye Syndrome <https://www.nhs.uk/conditions/dry-eyes/> (last accessed 22nd November 2018)

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Appendix 1

Table 1. Summary of products for use in dry eye. Prices from MIMS and Drug Tariff Nov 2018

Brand	Manufacturer	Strength available	Preservative free	Medicine or device	Preparation	In use expiry	Cost To primary care
Hypromellose							
Hypromellose BP/BPC (generic)	Various	0.3%	No	Medicine	10ml	28 days/1 month	£1.23
Lumecare Tear Drops	Medicom Healthcare	0.3%	No	Device	10ml	28 days	£0.79
Evolve Hypromellose	Medicom Healthcare	0.3%	Yes	Device	10ml	3 months	£1.98
Tear-Lac	Scope Ophthalmics	0.3%	Yes	Device	10ml	6 months	£5.80
Hydromoor	Rayner Pharmaceuticals	0.3%	Yes	Device	30 x 0.4ml	Single use. Discard immediately after use.	£5.75
Lumecare Singles	Medicom Healthcare	0.3%	Yes	Device	30 x 0.5ml	Single use. Discard 12 hours after opening	£4.60
Polyvinylalcohol							
Sno Tears	Bausch and Lomb	1.4%	No	Device	10ml	1 month	£1.06
Liquifilm Tears	Allergan	1.4%	No	Device	15ml	28 days	£1.93
Liquifilm Tears Preservative-free	Allergan	1.4%	Yes	Device	30 x 0.4ml	Single use. Discard immediately after use.	£5.35
Refresh Ophthalmic Solution	Allergan	1.4%	Yes	Device	30 x 0.4ml	Single use. Discard immediately after use.	£2.25
Carbomer							
Clinitas	Altacor	0.2%	No	Device	10g	28 days	£1.49

Carbomer gel							
GelTears	Bausch and Lomb	0.2%	No	Medicine	10g	28 days	£2.80
Viscotears Liquid Gel	Bausch and Lomb	0.2%	No	Medicine	10g	28 days	£1.59
Viscotears Single Dose	Bausch and Lomb	0.2%	Yes	Medicine	30 x 0.6ml	Single use. Discard immediately after use.	£5.42
Brand	Manufacturer	Strength available	Preservative free	Medicine or device	Preparation	In use expiry	Cost To primary care
Carmellose sodium							
Celluvisc	Allergan	0.5% and 1%	Yes	Medicine	30 x 0.4ml	Single use. Discard immediately after use.	£4.80 for 0.5%; £3.00 for 1%
Cellusan Light/Cellusan	Farmigea UK	0.5% and 1%	Yes	Device	10ml	90 days	£4.80
Cellusan Light/Cellusan vials	Farmigea UK	0.5% and 1%	Yes	Device	30 x 0.4ml	Discard 1 day after opening.	£3.00
Evolve Carmellose	Medicom	0.5%	Yes	Device	10ml	3 months	£4.99
Lumecare Advance Carmellose	Medicom	0.5%	No (contains gentle preservative)	Device	10ml	28 days	£5.99
Ophtho-Lique/Ophtho-Lique Forte	Essential Healthcare Ltd	0.5% and 1%	Yes (in the eye)	Device	10ml	28 days	£3.73 for 0.5%; £3.97 for 1%
Optive	Allergan	0.5%	No (contains gentle preservative)	Device	10ml	6 months	£7.49
Sodium Hyaluronate							
Artelac Rebalance	Bausch & Lomb UK Ltd	0.15%	Yes (in the eye)	Device	10ml	60 days	£4.00
Blink Intensive Tears	Abbott	0.2%	Yes (in the eye)	Device	10ml or 20 x 0.4ml	45 days for 10ml. Single use for	£2.97

						0.4ml. Discard immediately after use.	
Clinitas Multi	Altacor	0.4%	Yes	Device	10ml	3 months	£6.99
Hylo-Tear	Scope	0.1%	Yes	Device	10ml	6 months	£8.50
Hylo-Forte	Scope	0.2%	Yes	Device	10ml	6 Months	£9.50
Ocusan	Agepha GmbH	0.2%	Yes	Device	20 x 0.5ml	Discard 1 day after opening.	£5.41
VIZhyal	East Midlands Pharma Ltd	0.1%, 0.17% and 0.4%	Yes	Device	10ml	90 days	£5.10 for 0.1%, £5.70 for 0.17%, £4.19 for 0.4%
Xailin-HA	VISUfarma UK	0.2%	Yes (in the eye)	Device	10ml	28 days	£7.19
Sodium hyaluronate and trehalose							
Thealoz Duo	Thea Pharmaceutica Is	0.15%/3%	Yes	Device	10ml	90 days	£8.99
Propylene glycol							
Systane single-use	Alcon	0.3%	Yes	Device	28 x 0.8ml	Single use. Discard immediately after use.	£4.66
Systane Balance	Alcon	0.6%	No	Device	10ml	180 days	£7.49
Ointments (paraffin-based)							
Lacri-Lube	Allergan		Yes	Medicine	3.5g or 5g	1 month	£3.01 for 3.5g; £3.88 for 5g
Hylonight	Scope Ophthalmics		Yes	Device	5g	6 months	£2.75
Xailin Night	VISUfarma UK		Yes	Device	5g	60 days	£2.51

Note: this table is not comprehensive and prices are subject to variation