Module 1857

Helping patients with their dry and watering eyes

From this CPD module on dry and watering eyes you will learn about:

- The symptoms and causes of dry and watering eyes
- Diagnostic tests that can be used for these conditions
- Management options
- The advice and support pharmacists and their staff can provide.

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We tend to take our eyes for granted – until something goes wrong. Even minor issues can quickly prove to be troublesome, with watering eyes rapidly making the delicate surrounding skin red and sore, while dry eyes can be a constant source of discomfort and often cause blurred vision.

This module looks at these two conditions in detail, enabling both pharmacists and pharmacy staff to provide appropriate advice, support and product recommendations.

Dry eyes

Most people experience dry eyes at some point in their lives, usually resulting from the eyes not producing enough tears or the tears evaporating too quickly. The reason for either of these phenomena may be obvious; for example, being in a windy or air conditioned environment, or wearing contact lenses that interfere with the usual passage of tears across the surface of the eyes. However, in many cases the root cause is more difficult to identify, and more than one factor can be at play.

Dry eye syndrome, also known as keratoconjunctivitis sicca, is a likely diagnosis for someone who:

- finds they are often waking up with their eyelids stuck together
- notices feelings of grittiness and burning in the eyes that worsen as the days progress
- finds they need to blink deliberately and forcefully in order to bring objects and writing into focus.

Decreased tear production can occur as a result of medical conditions associated with the skin on the eyelids – including blepharitis, dermatitis, rosacea and allergic conjunctivitis – or as a side effect of medications, such as antihistamines, beta-blockers and antidepressants.

Less common causes of decreased tear production include:

- Sjögren's syndrome – either as a primary condition or as a consequence of a connective tissue disorder, such as rheumatoid arthritis, lupus or scleroderma
- a diet low in omega-3 fatty acids
- dehydration – which can be a result of an adverse reaction during treatment with tricyclic antidepressants, selective serotonin reuptake inhibitors, diuretics, beta-blockers and drugs with antimuscarinic activity
- trauma – for example, laser eye surgery, burns or radiotherapy.

When it comes to increased tear evaporation, the most common causes are environmental factors. However, it can also arise as a consequence of:

- drug treatment
- allergic conjunctivitis
- work that requires visual concentration and reduces blinking rate (such as working on a computer)
- any problems that mean the eyelid does not completely cover the eye, for instance, those suffering from lagophthalmos.

Other causes of dry eye syndrome include:

- abnormalities of the surface of the eye, for example, corneal surgery or infection
- an issue with the relevant sensory nerves (as can be the case in Bell's palsy, a condition which causes temporary weakness or paralysis of muscles on one side of the face)
- decreased production of lipids by the Meibomian glands (the gland responsible for producing the oily substance that prevents evaporation of the eye's tear film), which can be a consequence of long-term use of preservative-containing topical eye preparations.

Dry eyes is a common issue, and incidence increases with age.

Women are more likely to suffer than men, in particular post-menopausal women, pregnant women and those taking the contraceptive pill. This is because changes to hormone levels are associated with increasing the risk of dry eye syndrome.

With dry eye syndrome, patients experience discomfort rather than loss of vision. However, there is a small risk of complications – such as conjunctivitis and keratitis – which in turn can lead to corneal ulceration, severe infection and perforation. These can result in permanent damage to eyesight and the consequent impact on quality of life.

Diagnosis

Diagnosis is usually relatively straightforward, and occurs when a patient presents their pharmacist, optometrist or GP with the symptoms of dry eye. Occasionally an eye specialist will conduct tests such as a slit lamp examination, Schirmer's test for tear production, or a tear break-up test.

These are generally only required if the patient presents with what may be a complication of dry eye syndrome – such as a corneal ulcer.

Treatments

Management of dry eye syndrome should start with identifying and resolving any underlying conditions or precipitating factors. Examples include swapping topical eye preparations for preservative-free formulations, or identifying any medications that may be causing dry eye symptoms.

If symptoms persist, artificial tear preparations are often enough to resolve mild-to-moderate dry eye syndrome.

Hypromellose is an inexpensive option, but requires frequent administration. Carbomer and polyvinyl alcohol products (PVPs) require less frequent administration, but are not tolerated by some. Patients often need to try a number of lubricants before they find one that is suitable.

For individuals with more severe symptoms, a paraffin-containing ointment can be added to treatment. Ointments are best applied at night to minimise adverse effects that may influence the tolerability of the products, including temporary blurred vision and discomfort.

If symptoms continue to be troublesome, the National Institute for health and Care Excellence (Nice) has said that topical ciclosporin can be considered as an option for the treatment of severe keratitis in adults who have not improved despite treatment with tear substitutes. Nice is also currently assessing the evidence for lifitegrast for this indication.

The role of the pharmacy team

You and your staff have a valuable role in identifying anyone with red flag symptoms which require referral, such as:

- severe eye pain
- photophobia
- marked redness
- loss of acuity.

Patients may also appreciate advice on how to use ocular products, which can be difficult administer.

Another important role for community pharmacy teams in the management and prevention of dry eye syndrome is providing tailored advice to patients on steps that may improve symptoms. These can include:

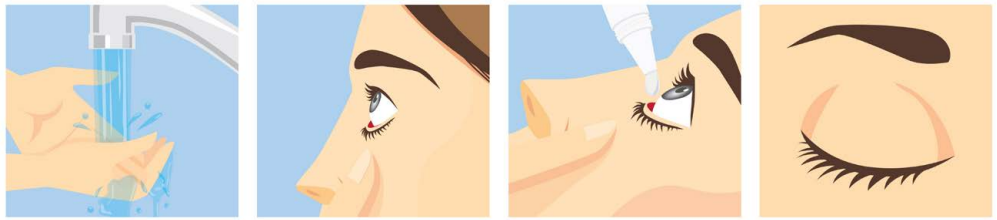
- stopping smoking
- avoiding forms of eye makeup which can block Meibomian glands and cause inflammation – eg mascara and eye-liner
- putting computer screens at or just below eye level to reduce eye strain and taking hourly comfort breaks
- limiting contact lens wear time or switching to specialist lenses
- opening windows to keep air moist or using a humidifier if needed
- avoiding environments that may irritate the eyes eg windy, hot and dusty conditions
- maintaining good eyelid hygiene to keep conditions such as blepharitis at bay
- eating a diet high in omega-3 fats, which are found in oily fish, nuts, seeds, green leafy vegetables and soya products.

The Royal College of Ophthalmologists has worked with charity the Royal National Institute of Blind People to produce information on common eye conditions for the general public. The resources on dry eyes can be accessed at ***tinyurl.com/CDdryeye11***.

Other good sources of information are published by the Association of Optometrists at ***tinyurl.com/CDdryeye10*** and NHS Choices at ***tinyurl.com/CDdryeye9***.

Nice's ruling on ophthalmic ciclosporin can be found at ***tinyurl.com/CDdryeye8***, with information on lifitegrast at ***tinyurl.com/CDdryeye7***.

Supporting your patients to correctly administer eye preparations



Topical products for eyes are very common, but are among those that cause most consternation to patients in terms of administration. A few tips from pharmacy staff at the point of dispensing can make a big difference, and it is therefore important to ensure all pharmacy staff are aware of the varying stages involved when applying an eye preparation.

1. Wash hands, then sit or stand in front of a mirror
2. Shake the bottle if necessary and remove the lid, taking care not to touch the dropper
3. Tilt head back and gently pull down the lower eyelid, so there is a pocket between the eyelid and the eye surface; then look upwards
4. For eye drops, hold the dropper above the eye and squeeze one drop into the gap. For eye ointment, squeeze a thin ribbon of ointment along the lash margin. Do not touch the dropper tip or ointment tube to the eye, lashes or skin, to avoid contaminating the product
5. Let go of the eyelid, blink a few times to encourage the product to spread across the eye surface, then keep the eye closed for a minute or so before wiping any excess from under the eye with a clean tissue
6. If a dose is needed in the other eye, repeat the process
7. When the correct number of doses has been administered, replace the lid and wash hands
8. If a second product needs to be administered at the same time, wait at least five minutes (check individual products, as times may vary) to allow the first product to distribute across the eye surface and be absorbed as necessary. Using a second product too quickly increases the chance of the first drop or ointment being washed out. If using eye drops and eye ointment at the same time of day, then drops should be used first.

Many people find it easier to ask someone else to help them instil their eye drops. However, if this isn't an option – and poor technique is interfering with adherence – an aid such as an Opticare or AutoDrop device can be hugely beneficial.

When counselling patients, you should inform them that it is quite normal to "taste" the drops as they go in – although they may complain that this is unpleasant. You can explain that this is because the tear duct drains into the throat.

Similarly, transient stinging or blurring of vision is not uncommon. Counsel patents on waiting a few minutes for vision to return to normal before undertaking everyday tasks, such as driving. It is important to remind patients that eye drops should not be shared with another person. Contact lenses should also be removed prior to using eye drops or ointments that are not specifically intended for use with lenses.

Watering eyes

Watering eyes occur when too many tears are produced or when the tears are unable to drain properly. There may be a temporary and obvious reason for a sudden outpouring of tears, for example, an irritant such as the chemical released from onions when they are sliced, a foreign object in the eye, or a rush of emotions.

These symptoms are easily dealt with using a few tissues and perhaps an eye wash. However, if the issue is ongoing, it may be termed epiphora – an overflow of tears onto the face – and needs further investigation to get to the root of the problem.

Epiphora tends to affect young babies and older people, and can be embarrassing as well as causing blurred vision, discomfort, discharge, and irritating the skin around the eyes.

Less transient reasons for increased tear production include:

- dry eye syndrome
- conjunctivitis
- allergies
- corneal trauma
- an inwardly growing eyelash
- thyroid disease – although this is less common.

There are also several reasons why tears cannot drain properly, the most common being a narrow or blocked tear duct, which may be due to mild inflammation and can lead to an infection.

Another potential cause is an obstruction within the small channels in the inner corner of the eye (canaliculi), or an obstruction in the nose – most commonly a polyp – that is stopping tears draining as they would normally do.

A similar drainage problem can occur in an individual who experiences a lower eyelid turning away from the eye (an ectropion). This results in tears rolling out and down instead of into the canaliculi and tear duct.

Ectropion can be uncomfortable and may require surgery to shorten the tendon that holds the eyelid in place and stop it turning outwards.

In severe cases, this condition may cause severe pain and vision loss, due to damage to the cornea. Surgery is only recommended if everyday life is severely affected.

Some babies are born with a tear duct that hasn't yet fully opened. While this can be alarming for new parents, the issue usually clears without any intervention within a few weeks.

If the cause is clear, no further tests are needed, and the management reparative; removal of a foreign object, for example, or treatment for conjunctivitis. However, if the cause is not immediately obvious then patients may be referred to an ophthalmologist, where tests may be performed, including inspection of the tear drainage channels – typically under local anaesthetic – a dye test, or sometimes a CT or MRI scan.

Blocked tear ducts may resolve during examination or respond to syringing, but a dacryocystorhinostomy may be required. This is a surgical procedure that creates a new channel for tears to drain through, and is recommended if symptoms are significantly interfering with everyday life.

NHS Choices has a good source of information for patients with watering eyes, available at ***tinyurl.com/CDdryeye6***.

Helping patients with their dry and watering eyes CPD

Reflect

What are the causes of dry and watering eyes? How are these conditions diagnosed? In which patient groups are they most common? What useful counselling advice can you give to patients?

Plan

This article contains information about the causes, symptoms and complications of dry and watering eyes. It also explains how they are diagnosed and treated, and what additional lifestyle advice can be given to patients to help with prevention.

Act

- Find out more about dry eye syndrome and watering eyes on the Patient website at ***tinyurl.com/CDdryeye1*** and ***tinyurl.com/CDdryeye2***
- Read the Nice Clinical Knowledge Summary on dry eye syndrome at ***tinyurl.com/CDdryeye3***
- Read the information about dry and watering eyes on the NHS Choices website at ***tinyurl.com/CDdryeye4*** and ***tinyurl.com/CDdryeye5***
- Make sure you and your counter staff are familiar with the relevant over-the-counter (OTC) products and are confident with counselling on eye preparation administration technique. A comprehensive list of OTC medicines can be found in C+D's *OTC Guide to Medicines and Diagnostics*

Evaluate

Are you confident in your knowledge of the causes, symptoms, complications and treatment of dry and watering eyes? Could you give advice to patients on how to use eye preparations?

Take the 5-minute test online

1. Conditions such as blepharitis, rosacea and dermatitis can result in reduced tear production.
   True or false
2. Dry eye syndrome is more common in women.
   True or false
3. Preservative-containing eye drops are not a risk factor for dry eye syndrome.
   True or false
4. Topical ciclosporin should be considered as the first-line treatment for dry eye.
   True or false
5. A diet high in omega-3 fats may help prevent the occurrence of dry eye.
   True or false
6. Outward turning eyelids (ectropion) are a risk factor for watering eyes.
   True or false
7. Watering eyes in young babies often require medical intervention.
   True or false
8. Dacryocystorhinostomy is recommended for patients with mild cases of watering eyes.
   True or false
9. Eye ointments should be applied at night to minimise side effects.
   True or false
10. Patients should be instructed to wait a few minutes before applying a second dose of an eye drop to the same eye.
    True or false