

**Patient
Information**

Dry Eye

Introduction

This leaflet contains information about 'dry eye' which is a common ophthalmic (eye) condition. Dry eye is sometimes called 'dry eye syndrome' or 'dry eye disease'.

What is dry eye?

The surface of our eyes is coated with a thin film of tears called the tear film. The tear film helps lubricate the eyes, prevents them from drying out and gives protection from bacteria and environmental irritants such as dust. We need to have a healthy tear film in order to keep our eyes comfortable and to maintain good vision.

Dry eye is a disorder of the normal tear film that results from either of the following:

- Decreased tear production
- Excessive tear evaporation

What are the causes of dry eye?

Reasons why we produce fewer tears:

- **Age** – we naturally produce fewer tears as we get older.
- **Hormonal changes** – particularly common in post-menopausal women.
- **Some medications** – side effects of medications such as antihistamines, antidepressants, beta-blockers and oral contraceptives include a reduced tear production.
- **Sjögren's syndrome** - this is associated with rheumatoid arthritis. Sjögren's syndrome attacks the body's lubricating glands, such as the tear and salivary glands.

Reasons why tears evaporate quickly:

- A disturbance in the production of the outer layer of the tear film – the main purpose of the outer layer of the tear film is to slow down the evaporation of tears. Certain conditions of the eyelids such as meibomian gland disease, blepharitis and rosacea can lead to a poorer quality tear film which causes tears to evaporate quickly.

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- When we blink less or do not close our eyes properly between blinks tears can evaporate from the front of our eyes quicker than normal. Watching TV, computer work or reading requires long periods of concentration and we tend to blink less during these periods.
- Certain conditions such as Bell's palsy, thyroid eye disease or a stroke can make it difficult for the eyelids to close completely when blinking.

Does anything increase the risk of suffering from dry eye?

Dry eye can affect anyone of any age, but it becomes more common as we get older. Dry eye also affects 2 to 3 times more women than men.

Dry eye can be irritated by a number of factors, such as:

- Reading and watching TV for prolonged periods
- Computer use
- Heating and air conditioning
- Exposure to dust and allergens
- Hot, dry or windy environments
- Contact lens use
- Laser eye surgery.

What are the signs and symptoms of dry eye?

Symptoms of dry eye can vary greatly from one person to another and often increase throughout the course of the day. The most commonly reported symptoms are:

- Dryness
- Grittiness
- Soreness
- Redness
- Tired eyes
- Burning
- Watering
- Stringy mucous around the eyes (particularly on waking).

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Changes in vision may happen, such as:

- Increased sensitivity to light
- Blurred vision
- Difficulty detecting changes in contrast

Are there any tests or examinations needed to confirm the diagnosis?

A diagnosis of dry eye can often be made by an eye care specialist just by hearing about the eye symptoms you are suffering. However, an eye examination is usually necessary in order to look for any signs of inflammation and to examine the quantity and quality of your tear film.

The following routine tests may be performed as part of your eye examination:

- An examination of the front of your eyes using a specially designed microscope called a 'slit-lamp'. This test will examine the surface of the eye for dryness and inflammation, and the eyelids for any signs of inflammation or infection.
- Eye drops containing special dyes may be put into your eyes to show any distinctive patterns on the eye surface. The patterns show the areas of the surface on your eye which are not protected by the tear film and which may have been damaged by inflammation.
- A test called a 'Schirmer's Tear Test' may be performed to measure the amount of tears you are producing. A small strip of filter paper is placed just inside the lower eyelid and left in place for one minute. After that time the strip is removed and the amount of wetting measured.

What treatments are available?

Although there is currently no cure for dry eye, there are several treatments available to help make the eyes more comfortable, to maintain vision and to prevent damage to the tissues on the surface of the eye.

**Patient
Information****Artificial tear supplements**

The most common type of treatment for patients with dry eye is the use of eye drops known as 'artificial tears' or 'artificial tear supplements'. These eye drops do not treat the causes of dry eye; they only relieve the symptoms. People with mild or moderate dry eye often find that using artificial tears alone is enough to keep their eyes comfortable.

There are many artificial tear products available. Most of them are available without prescription and can be bought over the counter at your local pharmacist or optometrist. They can be purchased in either eye drop, gel or ointment form with a variety of brands on the market. Eye drops or gels tend to be useful to use during the day as they tend to blur the vision less.

Ointments are usually thicker and used before sleep as they can blur the vision temporarily.

It is important to remember that different people find relief from different treatments or combinations of treatments depending on their needs. Your eye specialist will be able to help guide you through the choices available.

Some preparations contain preservatives which can cause irritation to the front surface of the eye. If you need to use artificial tears more than 4 times a day to relieve irritation it is advisable to use preservative free ones.

Other types of eye drops which can be prescribed by eye specialists include anti-inflammatory drops and tear stimulants. These drops tend to be prescribed in more severe cases of dry eye, when the eye surface is inflamed and the symptoms are more troublesome.

Punctal occlusion

Tears drain away from the eyes through small openings located near the inner corner of our eyelids. A procedure known as punctal occlusion can be performed by an eye specialist to help retain our natural tears and any artificial tears we put in our eyes for longer. Either temporary or permanent plugs can be placed just inside these openings in a simple, painless procedure that takes a few seconds.

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Sometimes, in severe cases of dry eye, these openings can be permanently closed using cautery or laser. This procedure achieves the same result as the punctal plugs, but cannot be reversed once it has been performed.

Treatment of underlying causes

Your eye specialist will try to determine the cause of your dry eye symptoms in order to give you the most appropriate advice and treatment.

If any medications that you are taking cause symptoms of dry eye, you should discuss alternative options with your GP.

Some people with dry eyes suffer with blepharitis, or inflammation of the eyelids. The bacteria that normally live harmlessly on our skin can sometimes cause an infection of the eyelid margins. This results in scaly like crusting of the eyelashes and eyelid margins and causes a foreign body sensation in the eyes. Treatment options include warm compresses, massaging the eyelids and mechanical lid scrubs. Occasionally antibiotic and/or anti-inflammatory ointments may be prescribed by your doctor.

Risks and side effects

While symptoms of dry eye can be irritating, for most people no long-term vision loss is expected. In certain cases, however, dry eye can be a progressive disease, and if left untreated over time, constant inflammation may damage the surface of the eye. Patients with severe dry eye are more at risk of infection, ulceration and thinning of the surface of the eye. These conditions can cause permanent damage to the vision.

Severe dry eye is sometimes caused by Sjögren's syndrome. If you have Sjögren's syndrome you should already be receiving regular care from an eye specialist.

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What can you do to help yourself at home?

Anything you can do to help avoid your eyes from drying out may improve your symptoms and reduce any discomfort. The following suggestions may be useful:

Central heating in the winter months and air conditioning in the summer months reduce the humidity in the air. Try to boost the air humidity of the rooms you live and work in by placing bowls of water around the room.

Excessive air movement can dry out eyes. Decrease the speed of any air movement indoors by slowing down any ceiling fans or oscillating fans. Avoid sitting beneath air ducts or directly in front of car heater fans. You should also try to avoid going out in very windy conditions.

Large amounts of dust in the air may increase the symptoms of dry eye. An air filter in indoor conditions might be helpful.

If **contact lenses** increase your discomfort, mention it to your optometrist or contact lens practitioner. They may be able to suggest changes to your wearing times or change the type of contact lens you use.

If you suffer with **meibomian gland disease**, **rosacea** or **blepharitis**, the following steps may help you to produce better quality tears:

1. Apply warm compresses to the closed eyelid.
2. Massage the eyelids.
3. Clean or scrub the edges of your eyelids with a cotton make-up removal pad or cotton bud using boiled, cooled water (ask for a copy of leaflet on GHPI0182 Blepharitis). This process can be repeated up to 3 or 4 times a day.

Use the artificial tear drops and lubricant ointments that provide you with the most relief from your symptoms.

If you notice that your eyes become dry and irritable when watching TV or reading, try to make a conscious effort to blink more often. Closing and opening your eyelids will replenish the tear film over the front of your eyes. Closing the eyes for 10 seconds every 5 to 10 minutes may also make a difference to your levels of comfort.

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What are the next steps?

If you use over the counter treatments on a regular basis without relief or if you regularly experience eye dryness, itching, irritation, excessive tearing, foreign body sensation, blurred vision or sensitivity to light, you should seek further help from an eye specialist.

It is important to remember that there is no cure for dry eye. However, with the use of artificial tears, avoiding the environmental triggers and careful monitoring by your eye specialist you should be able to control your symptoms and maintain good vision.

Frequently asked questions

Which artificial tear treatment is the best for me?

The answer is to try several and find the type or combination of types that suit you best.

Why do I have dry eye but my eye waters?

The makeup of tears and the correct balance between the layers of the tear film is important. If the mix of tear ingredients is wrong they will not work properly and will give the symptoms of dry eye. There are basic tear secretions and reflex tear secretions.

Your everyday basic tear production may be poor and your eyes uncomfortable that the reflex tear production may flood the eyes with watery tears.

Contact information

If you require any further information about dry eye or have any concerns following your appointment in the Ophthalmic Outpatient Department, please contact us on the following numbers:

Ophthalmic Nurse Practitioners

Tel: 0300 422 3578

Monday to Friday, 8:00am to 1:00pm and 2:00pm to 5:30pm

**Patient
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Further information about dry eye, Sjögren's syndrome and eyelid disorders such as blepharitis or meibomian gland disease can be found by searching on the following websites:

NHS UK

Website: www.nhs.uk

Medicinenet

Website: www.medicinenet.com

British Sjögren's Syndrome Association

This is a registered charity that aims to raise awareness of the disease and support research into its cause and treatment.

Website: www.bssa.uk.net

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