

Dry eyes and meibomian gland dysfunction

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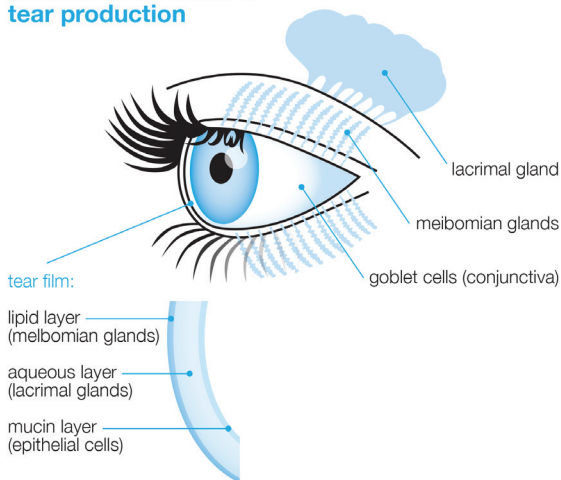
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What are the symptoms of dry eye?

You may experience some or all of these:

- Episodes of blurred vision
- Decreased tolerance of reading, working on the computer, or any activity that requires sustained visual attention
- Stinging or burning of the eye
- A sandy or gritty feeling as if something is in the eye
- Episodes of excess tears following very dry eye periods
- Eye fatigue
- Pain and redness of the eye

Structures involved in tear production



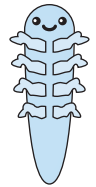
There are three important layers in our tears – mucin, water and oil. They must all be present in balanced quantities for our tears to effectively moisturise the eyes. Each eyelid contains a row of meibomian glands. Their job is to secrete the very important oil layer of the tears which keeps the tear film stable.

What causes dry eyes?

The most common cause of dry eye is tear film instability due to meibomian gland dysfunction (MGD).

Inflammation of the eyelids (Blepharitis) leads to meibomian gland dysfunction.

This inflammation is caused by a build up of bacteria and mites called Demodex on the lid margins. Demodex mites are on all of us – just in some people they infest the eyelash follicles and cause inflammation. The secretions from the meibomian glands become thick and waxy – instead of a healthy oil – so they cannot coat and protect the eye.



Demodex mite

Many people have “mixed mechanism” dry eyes – that is a combination of factors. This means that when we treat dry eyes, we address each of the potential causes.

Dry eye is very common. Anyone can be affected, but you might be more likely to experience it if you:

- are age 50 or older
- are female
- wear contact lenses
- have previously had eye surgery
- if you spend a lot of time looking at your computer, tablet, or smart phone
- don't get enough vitamin A or omega-3 fatty acids
- have certain autoimmune conditions, like lupus or Sjögren syndrome.

Why do dry eyes cause blurring and discomfort?

The tear film is the first optical surface that light hits when entering the eye – if it is disrupted then the image will be blurred (as if the windscreen is smeared). The surface of the eye has many nerve endings so dry eyes can be quite painful. Severe dry eyes can lead to scarring of the cornea and permanent vision loss.

But my problem is my eyes water too much – how can they be dry?

When the nerves on your eyes are irritated by the disrupted tear film they produce extra or “reflex” tears as a protective mechanism (like when you get something

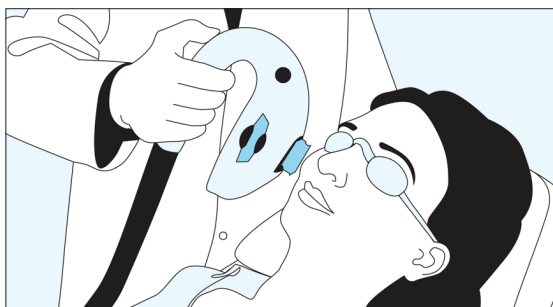
Dry eyes and meibomian gland dysfunction *continued*

in your eye – your eye waters to protect it and flush it out). This sudden increase in tear volume can overflow and run down your cheek. Treating dry eye will help stop them watering!

How can dry eyes be treated?

We offer the latest evidence based treatments including IPL, BlephEx and Blephasteam. These work best together as a dry eye program. For optimal results we recommend four treatment sessions at two-week intervals.

Intense Pulsed Light Intense Pulsed Light (IPL) is a non-invasive and innovative treatment for dry eyes. The IPL device emits brief, controlled pulses of broad-spectrum light, the strength of which is precisely set to stimulate the meibomian glands to produce oils, producing a more stable tear film and ultimately improving dry eye symptoms.

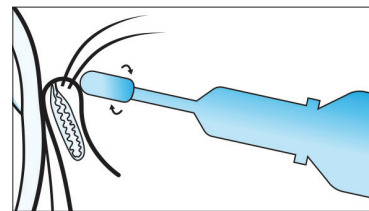


Following application of optical gel to the area of the face, and wearing protective goggles over the eyes, a series of five flashes is applied under each eye. Session treatments take less than 15 minutes.

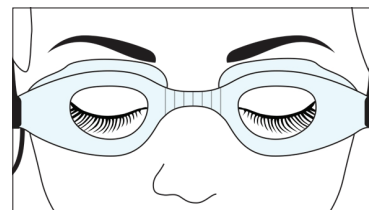
The IPL improves meibomian gland function in a short time following the treatment. The full success of the treatment depends on completing the program.

BlephEx® eliminates the microbes that cause blepharitis. A small spinning sponge is run along the edge of your eyelids and lashes. This process effectively removes built up bacteria and mites (Demodex) like a dental clean removing built up plaque.

The procedure lasts 6–8 minutes and most patients report a tickling sensation. It is difficult to effectively clean eyelid margins at home.



Blephasteam is an in-office eyelid warming device creating a ‘heat chamber’ to soften the solidified waxy oils that are blocking the glands in the eyelids. By unblocking the meibomian glands, tear quality is improved.



Artificial tears, also called lubricants or lubricating drops, relieve symptoms and protect the ocular surface. Preservative free drops are recommended. Dr Adams may suggest other drops which require a prescription.

Other tips for healthy eyes

- Drink plenty of water and avoid excessive tea, coffee and alcohol.
- If possible, reduce medications that can cause or exacerbate dry eyes.
- Thoroughly remove makeup.
- Omega-3 supplements oil such as fish oil may help tear quality.
- Wear glasses or wraparound sunglasses when outside.
- Avoid sitting or sleeping near fans or air-conditioning vents.
- Increase the humidity in your room.
- Blink regularly when doing extended periods of computer or other near tasks.
- Treatment for dry eye is rarely a “quick fix” and dry eyes are usually not cured but can be managed.

Scan the QR code for more information about the Dry Eye Clinic at Insight Eye Surgery:

