



BASIC DRY EYE TREATMENTS

Because dry eye is a chronic condition, treating and managing it is often a journey, and some journeys are longer and more complicated than others. There is no magic bullet to “cure” dry eye, and usually our efforts are directed at addressing the underlying causes that will reduce but not necessarily eliminate your symptoms. These take time and persistence.

The usual starting point of the dry eye treatment journey is a combination of measures that you can institute at home. We believe in starting things simply, and most cases will recommend that these be undertaken before more involved (and expensive) in-office treatments. One reason for this is to see how effective these basic treatments are for you; the second is that if we proceed to in-office treatments they are likely to be more successful if you have put in the ground work of these basics.

In most cases we will have you undertake some or all of the measures outlined below for three months before reviewing you to determine whether or not to proceed with other treatments. This is in line with the 2017 recommendations of the DEWS II Committee for staged management and treatment of dry eye disease.

Krill oil omega-3 supplements

Taking omega-3 supplements increases the quality of the lipid layer in the tears, stimulates aqueous tear production and reduces inflammation; these effects can significantly improve the quality of your tears and reduce your symptoms of dry eye.

There are many omega-3 supplements currently on the market and it is important to choose one that contains sufficient quantities of the active ingredients EPA and DHA. Studies have shown that 1500mg per day of these ingredients (not the weight of the tablet) is required for significant improvement in symptoms, and this may take as long as two to three months to be noticeable.

Krill oil is an excellent source of EPA and DHA; flaxseed oil-based supplements may also be appropriate provided they do not contain lignans.

Lid hygiene and cleansing

Debris collecting on the lid margins can block the meibomian glands and therefore the flow of oils that are important for the quality of your tears. Cleansing of the lid margins is an important part of maintenance, especially if you have been diagnosed with blepharitis. But for all patients, reducing the bacterial load and regularly removing old dry skin from the lid margins and excessive secretions that have solidified around the bases of the lashes will be of benefit.

Lid cleaning can be performed with very basic measures such as cotton buds dipped in a solution of bicarbonate soda (a pinch of bicarb soda in half a glass of warm water), through to commercially available lid wipes and foams such as Sterilid and Ocusoft Plus. Diluted baby shampoo has been used in the past but tends not to be recommended these days as it has no antibacterial properties and tends to dry the skin.

Especially if you are over the age of 50, there is a higher likelihood of the Demodex mite being responsible for inflammation around the eyelid and eyelashes. If this is the case, Blephadex wipes and/or cleansing foam containing tea-tree oil are indicated for lid cleaning.

Lid cleansing at home may sometimes be supplemented by an in-office procedure called Blephex, where the optometrist uses a motorised rotating foam brush to clean the lid margins, and/or manual debridement of the lid margins.

Lid warming

Ideally the oils (or meibum) in the meibomian glands should be clear and secrete freely like olive oil. Conversely as the meibum thickens its secretion becomes more difficult. Applying heat to the glands in the lids helps the meibum liquify and flow more easily.

Among the methods that have been used for heating the glands are face cloths that have been run under hot water or eye/wheat bags heated in a microwave. It has been demonstrated that a temperature of 40°C is necessary for adequate melting of the meibum with no risk to the eye or eyelids. Usually the heat pack is applied over closed eyelids for 10 minutes, once or twice a day.

Heat packs can be limited in how they are able to maintain their temperature. The best device for applying heat to the lids is the Blephasteam goggle, which using disposable heat rings provides moist heat. These can be ordered through us or purchased online.

We no longer recommend massaging the lids and meibomian following the application of heat, partly to avoid disruption of the delicate gland structures and also to avoid warpage of the cornea from overly vigorous massage.

Non-preserved lubricants (artificial tears and gels)

Artificial tears have been a mainstay of managing dry eye for many years, although they tend to treat the symptoms rather than address the underlying cause. Wherever possible it is recommended that preservative-free drops are used, which in most cases means they are packaged in unit doses.

There is no magic formula for establishing which of the many drops on the market suits which patient, and there is a certain amount of trial and error involved in establishing exactly which drop is right for you.

Generally speaking if you have evaporative dry eye, usually related to meibomian gland dysfunction, a lipid-based lubricant is most appropriate. Typical examples include sprays such as Tears Again or Optrex Actimist, or drops including NovaTears and Systane Balance (although Systane is not yet available in preservative-free form).

For those with aqueous-deficient dry eye who require additional tear volume there are many options, of which we find Hylo-Fresh and the more viscous Hylo-Forte very useful as they are non-preserved but available in bottle rather than unit dose form.

Ointments or gels such as VitA-POS are useful at night, especially for those who sleep without their eyelids completely closing.

Optimel Manuka honey drops

Clinical trials have shown Manuka honey drops used twice a day over an eight week period have provided significant improvements in dry eye symptoms and signs. These drops typically sting on insertion, but have demonstrated antibacterial action and reduce tear osmolarity. They are useful where there is meibomian gland dysfunction, low tear volume, or lid inflammation.

Blinking exercises (if applicable)

The importance of proper blinking cannot be understated. Adequate frequency and quality of blinking is essential to gently compress the meibomian glands so that they regularly produce and excrete the oils that are so important for tear quality. Without this stimulation the glands eventually lose their function and atrophy. Incomplete blinking also leads to an area of exposed and subsequently dry cornea where the lids have failed to meet.

If we determine that your blinking is inadequate in its frequency and/or completeness we will ask you to perform blinking exercises at home. Instructions for blinking exercises appear at the end of this handout.

Other modifications – environment and hydration

Work environments are frequently dry due to heating and air-conditioning. We also tend to blink less often when performing near tasks such as reading and especially when working on computers. So if your eyes are dry already they may be especially challenged at work.

It's not always possible to modify your work environment but you can at least keep yourself well hydrated by drinking a litre or two of water a day and avoiding things like alcohol and coffee that cause dehydration.

In the office try to avoid fans and air moving across your eyes. A humidifier may help improve the humidity in your immediate vicinity.

Don't forget that blinking, especially when working on screen-based devices. Lowering your computer screen below eye level will also help slightly narrow your eyes and consequently reduce tear evaporation.

What's next? – other options after 3 months

As outlined at the start of this handout, the treatment of dry eye is often a journey, and the relatively simple treatments outlined above may or may not provide you with adequate relief of your symptoms of dry eye. It is important that you persist with these measures for two to three months before we can review you and consider whether other more involved treatments are required.

Some of these further treatments may reduce or even eliminate the need for some or all of the above basic measures, especially the use of lubricating drops. These treatments may include:

- In-office cleaning of lid margins with Blephex and/or lid debridement
- Eye-light[®] Low-level light therapy (LLLT) and OPE intense pulsed light (OPE IPL)
- Lipiflow
- Prescribed drugs in eyedrop form: steroids, restasis, xiidra, acetyl cysteine, azithromycin
- Punctal plugs
- Miniscleral and/or bandage contact lenses
- Amniotic membranes, autologous serum, Vitamin D, testosterone cream