

# IPL Treatment

(Intense Pulsed Light)



**Matheson Optometrists**

Specialist Therapeutic Optometrists

## IPL Photo-Biomodulation for Dry Eye

IPL Photo-Biomodulation is a new exciting drug-free, treatment option for patients with Evaporative Dry Eye, Blepharitis and Rosacea. We offer this procedure, using the advanced Lumenis M22 device. This delivers scientifically controlled pulses of intense red and infra-red light of only a few milliseconds duration which are applied to the eyelids and upper face

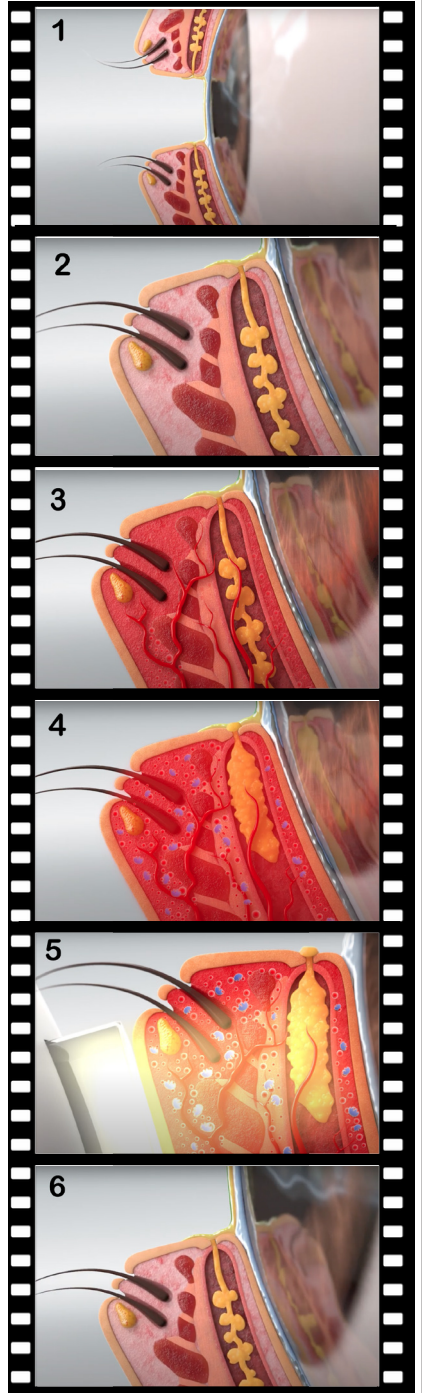
A healthy tear film consists of an aqueous layer and an oily layer which together keep the surface of the eye moist and protected. (pic 1 & 2)

In meibomian gland dysfunction a vicious cycle of inflammation is triggered leading to the abnormal blood vessels developing in the eye lids. This in turn releases pro-inflammatory mediators causing further inflammation. (pic 3)

Demodex mites and bacteria overgrow the inflamed area leading to the clogging of the glands. As a result, evaporation of the tear film is exacerbated and the osmolarity and salt concentration increases. The cornea becomes dry, inflamed and painful. (pic 4)

IPL reduces inflammation, increases the 'flowability' of the lipid secretions, eradicates demodex mites and bacteria and stimulates by Photo-BioModulation in the meibomian glands potentially "activating" or "energising" the meibomian glands, improving calcium channel flow and reducing the secretion of inflammation products. (pic 5)

After products, restoring normal tear film function. (pic 6)



In addition to photo-biomodulation, abnormal blood vessels in the inflamed lid margin are thrombosed which stops the vessels releasing inflammatory mediators into the meibomian glands in the lid margin.

The IPL flash also heats up and melts the meibum secretions blocking the glands, improving the tear lipids and reducing evaporation

Demodex mites and bacteria living in the meibomian glands are destroyed, which in turn reduces chronic inflammation and the conversion of liquid meibum to wax, thereby improving the fluidity of the lipids secreted and the quality of the tear lipid layer.

The above effects help normalise the tear film and reduce dry eye irritation.

The IPL treatment area includes the skin overlying the cheeks and nose in addition to the eyelids, as the minute broken blood vessels in these areas can feed the inflammation in the eyelids

Cosmetically many patients are pleased with the reduction in thread vessels, skin blemishes and wrinkles, which often occur as a beneficial side effect.



Contraindications include systemic use of drugs causing photosensitivity such as doxycycline, which should be stopped for 4 weeks prior to treatment. A history of high sun or artificial tanning treatment, conditions such as lupus, and adnexal ketosis, melanin aggregation and tattoos. Additionally those with a naturally dark skin colouration are generally less suitable for IPL treatment.

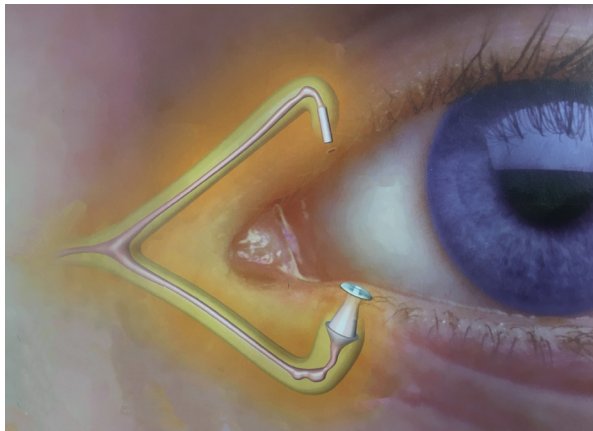
The treatment head on the M22 is refrigerated to increase patient comfort and reduce the possibility of thermal skin damage.

Patients should not wear face make-up for at least 1 day before treatment. They should especially avoid products containing retinoids (retinal, retinol etc). After treatment moisturiser cream is advised as the skin can be a bit sensitive at this stage. High factor sunscreen should be worn afterwards for a few days for the same reason.

The M22 OPT feature ensures that the pulses of light are uniform and repeatable. Because the thickness of the skin is so thin close to the lower eyelids, ensuring that the light energy is delivered in a reliable manner is key to safety.

In the photo below you can see a patient having the IPL procedure performed. In most cases a series of 4-5 treatments is required, spaced 2-6 weeks apart.

Maintenance treatment normally consists of one treatment per year. We treat across the lower eyelids, cheeks and bridge of the nose. This protocol allows us to address a large portion of blood supply to the lower lids as well as some of the upper lids (coming from the lateral part of the eyelid skin). Because IPL is used to treat facial rosacea as well, treatment of lower face telangiectasia can be combined with dry eye treatment.



**Punctal plugs** are safe silicone medical grade implants which are easily and painlessly inserted usually into the larger, inferior openings of the tear drainage system, near the nose, thereby keeping about 65% of the tears that would have previously drained down the throat in contact with the eye. They can be easily removed if no longer required. Punctal plugs often enable a patient who would otherwise have to give up wearing contact lenses, to keep doing so.



Why not visit the Dry Eye Forum  
The place to talk about Dry Eye!  
[dryeyeforum.co.uk](http://dryeyeforum.co.uk)



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