

PBM

PHOTOBIO-MODULATION



sapphire
EYE CARE



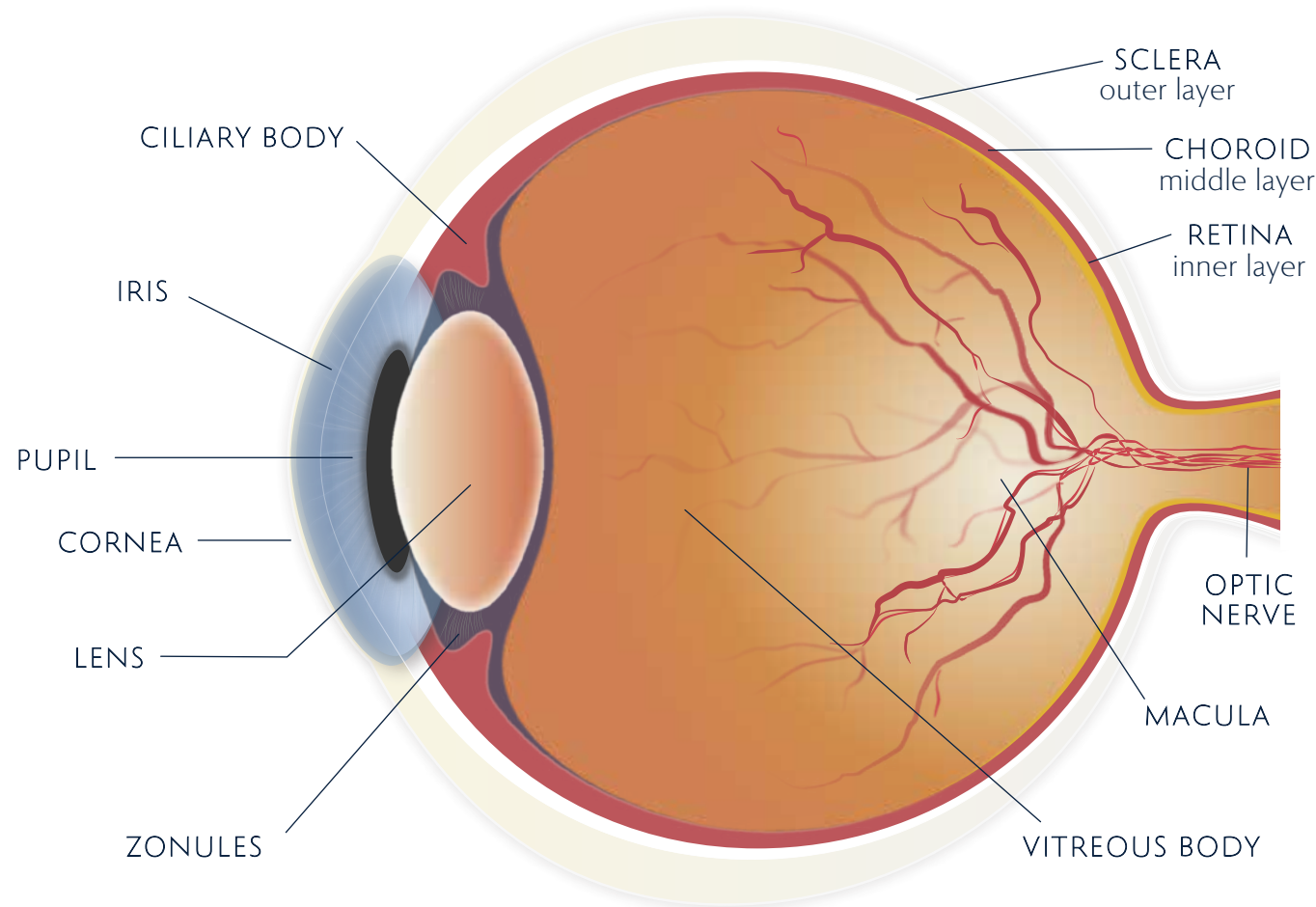


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EYE ANATOMY

It is helpful to know a little about the eye and how it works in order to understand the effect dry AMD has on your vision, and how it can be treated.



Your eyes are complex organs that work like a finely tuned camera. Light first enters the eye through the cornea, the clear “window” at the front. It then passes through the pupil, the black opening in the centre of the eye, which changes size to control how much light enters. Behind the pupil sits the lens, which bends (focuses) the light so that it falls correctly onto the retina at the back of the eye.

The retina is a thin layer of tissue that lines the back of the eye. It is made up of millions of special light-sensitive cells that convert light into tiny electrical signals. These signals travel along the optic nerve – like a cable – to the brain, which interprets them as the images we see. For the eye to stay healthy, it also needs a constant flow of a clear fluid, called aqueous humour. This fluid provides nutrients and maintains the shape of the eye. The fluid drains out through special channels. If this drainage is blocked or does not work properly, the pressure in the eye can rise, which can cause damage to the optic nerve.

what is

AGE-RELATED MACULAR DEGENERATION (AMD)?

Age-related macular degeneration, or AMD, is an eye condition that affects people as they get older. It is a disease that causes progressive damage to the macula, the central area of the retina.



Macular degeneration occurs when the macula, the small area at the centre of the retina (the light-sensitive layer at the back of the eye) becomes damaged. The macula is responsible for sharp, central vision, which we use for reading, driving, and recognising faces. When it becomes damaged, central vision becomes blurred or distorted, while side (peripheral) vision remains normal. AMD is one of the main causes of sight loss in people over the age of 65. There are two main types of AMD, dry and wet, of which dry AMD is the most common form. It develops slowly over time as the light-sensitive cells in the macula gradually become damaged and stop working. In many cases small yellow deposits called drusen build up under the retina, or the retina may just become very thin (atrophy).

As more cells are affected, the central vision becomes blurry or less detailed, and colours may look faded. It usually affects both eyes, but one may be worse than the other. Dry AMD does not cause total blindness. Your side (peripheral) vision remains normal.

03. treatment

OPTIONS

What treatments are available for dry AMD?

At the moment, there is no cure for dry AMD, and no treatment that can reverse all the damage once it has occurred. However, a therapy called photobiomodulation (PBM) is showing promise in helping to slow down the disease and support the health of the retina. Clinical studies suggest that this treatment may help to stabilise or slightly

improve vision in some people with early dry AMD, and may reduce the build-up of drusen (the small yellow deposits that form under the retina).

While PBM does not cure dry AMD, it may help to slow its progression and preserve vision for longer. Treatment is painless, quick, and carried out under the guidance of your consultant.



What is photobiomodulation (PBM) therapy?

PBM is a gentle, non-invasive light treatment that uses specific wavelengths of red and near-infrared light to energise the cells of the retina and increase blood flow.

How does PBM work?

Inside each cell are tiny structures called mitochondria, sometimes described as the cell's power stations. As we age, and especially in AMD, these mitochondria can become less efficient at producing the energy needed to keep retinal cells healthy. PBM works by delivering light energy that the mitochondria can absorb.

This helps them to:

- produce more energy to power cell repair
- reduce oxidative stress and inflammation, which contribute to retinal damage
- improve blood flow and oxygen delivery to the retina

- support the function and survival of light-sensitive cells in the macula.

Through these effects, PBM aims to slow down the progression of dry AMD and help the retina work more efficiently.

Is PBM safe?

Yes. PBM is a non-invasive, drug-free, painless therapy. It does not involve surgery or injections and has no known serious side effects when delivered correctly.

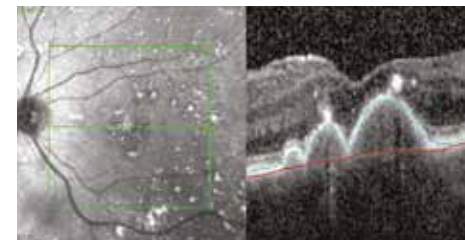
You may experience mild temporary effects such as a slight sensitivity to light and a feeling of warmth around the eyes. These are usually short-lived and harmless.

Individual patient results

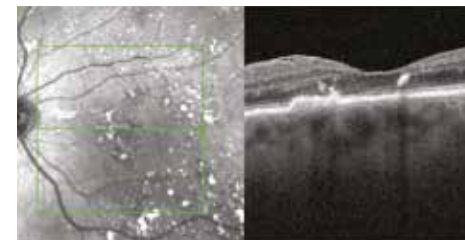
Thirteen months post therapy, a significant reduction in drusen volume and no visible loss of photoreceptor/retinal pigment epithelium cells was

observed. Lightsite III trial suggested around 55% of patients showed a sustained small visual improvement over two years.

BASELINE



MONTH 13



04. DURING & AFTER treatment

What happens during treatment?

PBM is delivered using a special light device, called Valeda PBM. The treatment is carried out by a member of the clinical team in the outpatient clinic.

You will sit comfortably in a chair while the device gently shines light into your eyes for a few minutes. The treatment is painless.

A typical course of treatment involves nine short sessions lasting 10-15 minutes over 3-5 weeks. The course of treatment is usually repeated every four months for two years in line with the largest study protocol. Treatment will probably continue beyond two years as more trial data becomes available.



Who should not have PBM?

PBM is not suitable for:

- people with certain eye conditions (such as active eye infections or wet AMD)
- anyone who is very sensitive to light
- those advised otherwise by their consultant.

What can I do directly after treatment?

You can return to your normal activities right away as no recovery time is required. However, we recommend that you do not drive to your first session so you can assess how you feel and how your vision is immediately after the treatment.

If after this initial session you feel comfortable and your vision is satisfactory, you may choose to drive yourself to future appointments. Your consultant will schedule follow-up visits to monitor your vision and discuss any changes.



ADVICE AFTER YOUR SURGERY

If you experience any deterioration in your vision, increasing discharge from the eye, continual aching or worsening pain, please contact us immediately.

03330 344955

During out-of-office hours, please contact the hospital where the surgical procedure took place.



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