

# Treatment for macular conditions

**Support throughout central vision loss**

Some types of macular disease can now be treated. Treatment must be given quickly before permanent damage is done.

**No one need face macular degeneration alone.  
For information and support call 0300 3030 111.**

Age-related macular degeneration (AMD) is the most common cause of sight loss in developed countries.

Around 600,000 people in this country are affected by AMD. The number is increasing as the population ages.

The macula is the most sensitive part of the retina. It gives us our central vision and the fine detail of what we see. When the macula is damaged people find it hard to drive, read, watch TV or recognise faces.

There are two forms of AMD, dry and wet.

Dry AMD is a slow deterioration of the cells of the macula, often over many years. There is no medical treatment for dry AMD but research is going on around the world.

Wet AMD is a more aggressive form of the condition. Tiny abnormal blood vessels grow into the retina which leak and cause scarring of the macula.

A person with wet AMD can lose much of their central vision in a few weeks. There are now treatments for wet AMD which slow the progress of the condition in most people.

**Treatment has to be given quickly, before permanent damage is done to the macula.**

### **Current treatments for wet AMD**

There are a range of treatments and options available for people with wet AMD. These include drug treatments, laser treatment, dietary advice and supplements. As well as a new treatment of combined drug and radiation, there are also telescopic lens implants. Not all of these are available on the NHS.

#### **Drug treatments**

Several drugs are used to treat wet AMD.

They are all a class of drug called 'anti-VEGF'.

VEGF is short for Vascular Endothelial Growth Factor. It is the substance in the body which is responsible for the development of healthy blood vessels. In wet AMD too much VEGF is produced in the eye, causing the growth of unwanted, unhealthy blood vessels.

Anti-VEGF drugs block the production of VEGF and stop the development of the abnormal blood vessels. All the anti-VEGF drugs are given as an injection into the eye. Don't be alarmed – the injections are much less

frightening than they sound!

Lucentis® (medical name ranibizumab) was the first anti-VEGF to be licensed for wet AMD.

Following diagnosis people will usually have a number of Lucentis® treatments in the first few months. Subsequent check-ups will then be needed to assess when more injections are needed. The interval between injections varies among patients, however, six to eight injections in the first year is not uncommon.

Eylea® (medical name aflibercept) is given as

three injections each a month apart and then every 8 weeks for the first year. A doctor will then decide how often treatment is needed. Medical trials suggest that Eylea's effects last longer than those of Lucentis® and so people may need fewer injections over time.

A third drug, Avastin® (bevacizumab), is sometimes used to treat wet AMD. It is the most commonly used drug in some countries, such as the USA, but its use here is controversial.

Avastin® is an anti-VEGF drug used to treat cancer.

Research suggests it works as well as Lucentis® for wet AMD. However, it is not licensed for use in eyes and some doctors question the safety of Avastin® as an eye drug. Avastin® is used in some areas because it is much cheaper than Lucentis®. It is also sometimes used for conditions which are similar to wet AMD but for which there is no licensed treatment.

### **Injections**

All the drugs currently used to treat wet AMD have to be injected into the eye. Most people will be treated at a hospital in a sterile injection room.

The eye is examined first to check that an injection is needed. If an injection is needed this may be done on the same day or the person may have to return on another occasion.

When the injection is given the patient lies on a bed. The eye to be treated is held open with a device called a speculum. The eye is usually washed and anaesthetic drops are put into the eye to numb it. The patient looks to one side and the injection is given in the opposite corner of the eye. The patient does not see the needle and the injection itself only takes a few seconds.

Some people say the injections are uncomfortable and occasionally painful. Others experience discomfort or even pain for a while afterwards. Very occasionally there are more severe reactions. However, most people have no problems. It's very rare in our experience for people to refuse the treatment because it is too painful.

Injections do not work if there is already long-standing damage to the macula. About 10% of people with wet AMD do not respond to Lucentis®. Some people may not respond to Eylea®.

**The Royal College of Ophthalmologists recommends that people with suspected wet AMD should be ideally referred to a retinal specialist immediately and seen within a week. If treatment is needed it should be ideally given within a week of the first appointment with the specialist.**

**Optometrists who suspect someone has wet AMD should refer the person directly to a retinal specialist. People should not be referred back to their GP. This is unnecessary and causes delay.**

### **Other macular conditions**

Anti-VEGF injections are effective in a number of other retinal conditions which often affect the macula.

#### **Diabetic macular oedema (DMO)**

Oedema is swelling of the macula caused by leaky blood vessels. DMO is a complication of diabetic retinopathy and results in a condition very similar to wet AMD. Lucentis® is now approved for use in the NHS to treat some, but not all, people with DMO. Eylea® is expected to gain NICE approval in 2015.

#### **Retinal vein occlusion (RVO)**

Lucentis® and Eylea® are now approved to treat some, but not all, people with RVO.

#### **Myopic maculopathy**

This is a complication of severe short sightedness and results in a condition similar to wet AMD. Lucentis® is approved for the treatment of this condition.

In some areas of the country it is possible to get anti-VEGF treatment on the NHS for other rare forms of macular disease which cause bleeding under the

retina. These include Pseudoxanthoma Elasticum (PXE) and Best's Dystrophy.

Sometimes persistent requests can be successful and our advocacy service can help you. For details please call the helpline on 0300 3030 111.

## Other treatment options

### Laser

A few people may be offered laser treatment. A light-sensitive drug is injected into the arm. The drug travels to the eye where it is activated by a laser beam, shutting down the abnormal

blood vessels. Most people need two to five treatments. The treatment is only suitable for people with particular patterns of damage to the retina.

### Steroid

A long-acting anti-inflammatory steroid can be used in AMD for its action against blood vessel growth. Injected into the eye the treatment lasts three months on average and typically works best in combination with other treatments.

### Diet

Diet may play a role in AMD and many experts recommend a diet high

in antioxidants or, sometimes, a dietary supplement. There are many supplements on the market for eye health but large trials on their effectiveness are mostly lacking at the moment. A large study, the Age-Related Eye Disease Study (AREDS) in the USA suggested that a certain formula of vitamins A, C and E plus zinc could slow the progress of AMD in some people.

A second AREDS trial looked at the effect of adding the antioxidant lutein. It found that this further slowed the progress of AMD in people who had the

early stages of the condition and who had lower levels of lutein in their diet. The AREDS investigators recommended the exclusion of vitamin A (also called beta-carotene) as it appears to increase the risk of lung cancer in people who smoke or have smoked.

Lutein and a similar antioxidant, zeaxanthin, are plant dyes which are found particularly in green, leafy vegetables. The macula has high concentrations of lutein and zeaxanthin and they are thought to protect the eye.

AREDS 2 formula supplements are available in the UK and many ophthalmologists recommend them.

Anyone taking a supplement should speak to a doctor first, especially if taking other medication.

## New treatments

Some new treatments for AMD are becoming available in the private sector.

Oraya therapy is a combination of Lucentis® injections plus a single, tiny dose of radiotherapy. Trials suggest that the radiation may reduce

the number of injections for some people.

Ellex is a laser used to improve the function of the retina before sight loss develops. It is available privately for DMO and as a trial treatment for AMD. It is not a proven treatment in AMD yet.

Telescopes are available which are implanted into the eye. There are several types and there have been mixed reports of their success. Telescopes are not currently available on the NHS.

The CentraSight lens is an example. It is implanted into one eye and magnifies

images by three, projecting the bigger image onto a healthier part of the retina.

The lens is not suitable for the majority of people. Strict screening is necessary to identify those who are most likely to benefit from it. Implanted lenses cost from £5,000 to £20,000.

### **Low vision aids**

Anyone with AMD requires more light and more magnification to be able to see. There are many devices that can help make everyday life easier, for further information see our leaflets **Lighting** and **Low vision aids**. Also, ask at your clinic

or GP surgery for a low vision assessment.

### **NHS treatment**

If you have difficulty obtaining NHS treatment which your eye specialist says would help you, contact us for advice and support.

Our advocacy service can help you prepare letters or other documents to support your case for treatment.

**Contact our helpline:**

**0300 3030 111**

**Monday – Friday**

**9am – 5pm**

**help@**

**macularsociety.org**

AMD causes more than half of all blindness in Britain. 600,000 people have AMD and another 200 people are diagnosed every day.

We urgently need to find a cure and you can help today. We are the only UK charity dedicated to funding research into macular disease.

To make your vital donation and move us closer to a cure call us today or go online.

  
**Macular Society**

**Support throughout central vision loss**

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