

Patient information from BMJ

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Macular degeneration

Macular degeneration is a condition that can make your eyesight worse. The type we talk about here affects older people. It's often called age-related macular degeneration, or AMD for short. There's no cure, but there are treatments that can help. There's also plenty you can do to make the most of the eyesight you have.

What is macular degeneration?

The macula is part of the retina - the surface at the back of your eye that is sensitive to light. The macula helps you see objects straight in front of you in fine detail. Macular degeneration means that your macula is damaged. As the damage gets worse it can affect your sight.

There are two types of macular degeneration:

With **dry macular degeneration** tiny yellow patches form around your macula. Your vision gets worse very slowly. This is the most common type of macular degeneration.

With **wet macular degeneration** tiny blood vessels grow at the back of your eye, and over time they leak blood and fluid. Your eyesight gets worse more quickly with this type than with the dry type. In some people dry macular degeneration can develop into the wet kind.

What are the symptoms?

Doctors often talk about the stages of macular degeneration. These are early, intermediate, and late or advanced macular degeneration.

People with early or intermediate macular degeneration often have no symptoms or very mild symptoms. But people with advanced macular degeneration can have quite severe loss of vision.

If you have symptoms you might find it harder to read, recognise people's faces, or make out fine detail. After a few years, objects in the middle of your vision might look blurred and distorted. Eventually this middle area of your field of vision might turn dark, so that you may not be able to see things that are straight ahead of you.

Coping with macular degeneration

Your doctor can help you with ways to cope. He or she might suggest things such as:

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- Using the edge of your vision more
- Trying brighter lighting in your home
- Using a magnifier for reading
- Using computer software that makes text bigger - or even software that reads out text from your screen.

What treatments work?

If you have macular degeneration that is not at an advanced stage, your treatment will be aimed at slowing the progress of the condition, and hopefully stopping it from getting too much worse.

Treatments for early and intermediate macular degeneration

At the early and intermediate stages, wet and dry disease are treated in the same way.

The first things your doctor will suggest are changes to your lifestyle similar to those recommended if you have diabetes or problems with your heart or blood vessels.

This is because macular degeneration affects the blood vessels in your eyes. The aim is to keep a healthy flow of blood to your eyes and prevent damage to the small blood vessels in the eyes.

So your doctor will recommend that:

- If you smoke you should stop
- You eat a healthy diet with plenty of fresh fruit and vegetables, and not too many starchy or processed foods
- You try to be as active as possible. If you are an older person and you're not sure what kind of exercise is advisable, talk to your doctor.

Your doctor might also recommend that you take specific vitamin and mineral supplements that can help. But this doesn't mean that you take just any vitamin and mineral supplement: it's important that you take the right ones. Your doctor will tell you exactly what you need and may even prescribe them for you.

Treatments for advanced wet macular degeneration

If your symptoms are only severe in one eye your doctor might recommend that you take special vitamin and mineral supplements, but at a higher dose than for early or intermediate macular degeneration. The idea is to stop the condition from getting worse in your better eye.

Your doctor might also recommend that you have a **course of injections** into the affected eyes. These injections are done by an eye specialist called an ophthalmologist. The medications injected into the eyes are called vascular endothelial growth factor (VEGF) inhibitors.

If you find the idea of injections into your eyes distressing, you are probably not alone. But most people cope well with this treatment. If you are a little alarmed at the prospect of having injections in your eyes, talk to your doctor, who can explain exactly what is involved.

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These injections can help slow the growth of the new blood vessels that are affecting your vision. If you have this treatment you will probably need to have several injections to begin with, and then one a month for a number of months.

These injections can cause side effects in some people, such as swelling or infections. Your doctor should discuss the risks of side effects with you before you have this treatment.

A type of laser treatment called **photodynamic therapy** is sometimes used to destroy leaking blood vessels in the eye. But it isn't suitable for everyone.

Another type of laser surgery, called **thermal laser photocoagulation**, is sometimes used. But this is only suitable for a small number of people with severe macular degeneration. It is also rarely used as it can cause further damage to the eye.

Treatments for advanced dry macular degeneration

Severe dry macular degeneration is much harder to treat than the wet kind. Your doctor will probably suggest that you see a specialist.

As with advanced wet macular degeneration, if your condition is severe in only one eye your doctor might recommend that you take special vitamin and mineral supplements, but at a higher dose than for early macular degeneration. The aim is to stop the condition getting worse in your better eye.

What will happen to me?

If you have **dry macular degeneration** your eyesight will probably get worse over the years, especially in the middle of your vision. But this usually happens very slowly. And it's very rare for anyone to go totally blind.

If you have **wet macular degeneration** that becomes advanced it's important to get treatment, as your vision can get worse very quickly without it. Treatment can slow down or stop the progress of the condition, and many people's vision improves.

Doctors can't usually say how quickly your vision might get worse. Even people with advanced macular degeneration can usually see well enough to be independent and get around.

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