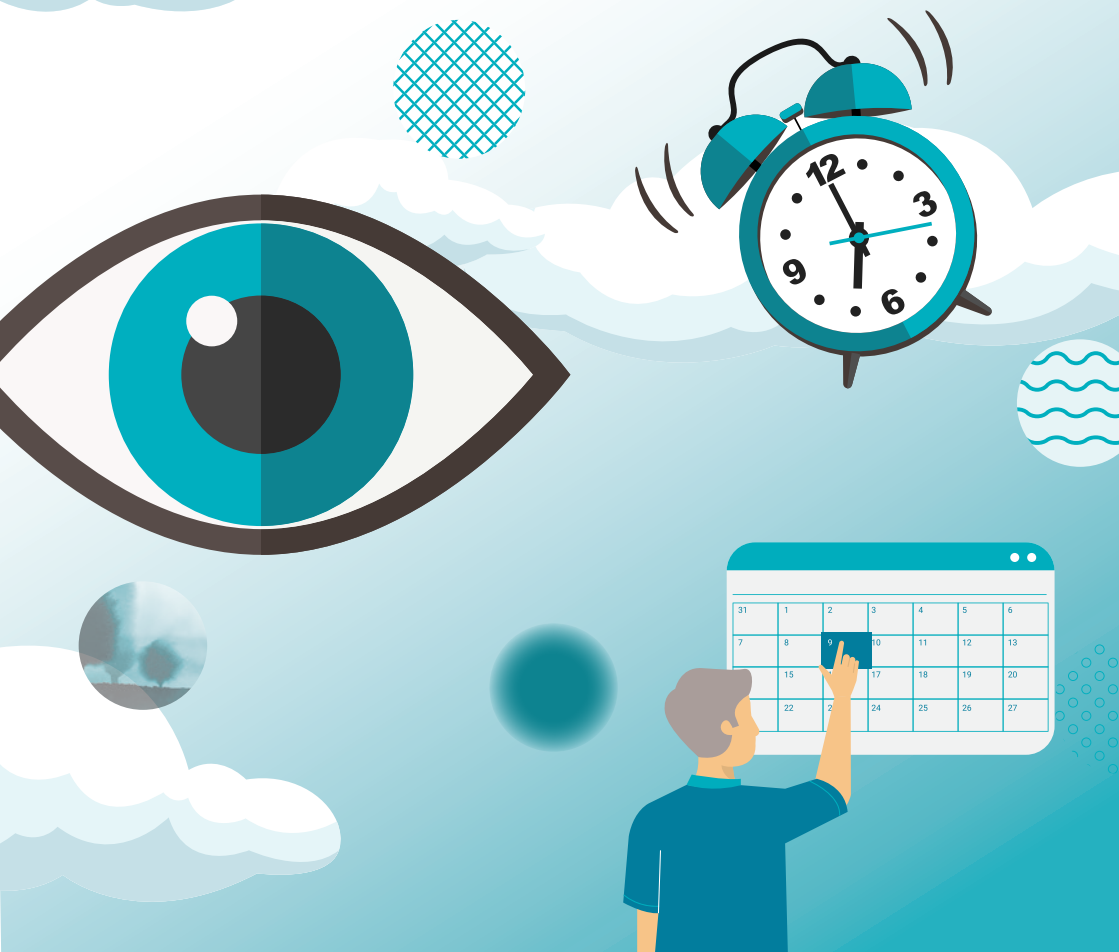


INFORMATION ON

AGE-RELATED MACULAR DEGENERATION



This booklet will help you to understand an eye condition called age-related macular degeneration (often abbreviated to AMD).

If, after reading this booklet, you are concerned that you may have AMD, it is important to arrange an urgent appointment with your optometrist. The earlier AMD is diagnosed the better the chance of preserving vision for the future.



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About this booklet

This booklet is designed to provide you with information about Age-related Macular Degeneration (or AMD for short). It describes what AMD is, as well as how it affects your vision and how to identify the signs and symptoms of the condition. It will also tell you what you should do if you have any concerns, or if you want more detailed information about AMD.



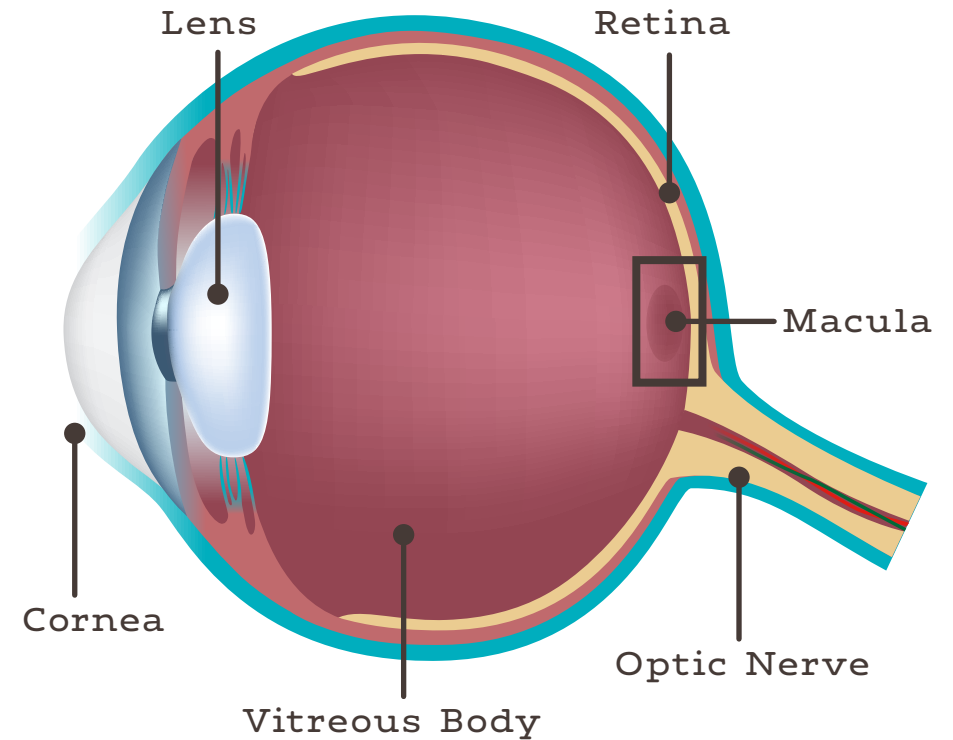
What is AMD?

- AMD is an eye disease that can affect your eyes as you get older, and which can lead to vision problems. However, it does not cause pain or total vision loss.¹
- AMD affects the central area of the retina at the back of your eye, called the macula.¹
 - The macula contains photoreceptor cone cells that are important for seeing straight in front of you (your central vision).²
 - You use your macula for reading, writing, driving, recognising faces and watching television.²
- AMD can cause problems with your central vision but will not affect your side (peripheral) vision. As the peripheral vision is left untouched, macular degeneration does not, by itself, lead to total blindness.¹⁻³
- It usually starts in one eye and can affect the other eye at a later stage.⁴

- Age-Related Macular Degeneration (AMD) is the number one cause of sight loss in Ireland for those aged over 50.⁵
- More than 100,000 people in Ireland aged over 50 are living with AMD.⁶
- The earlier AMD is detected, the sooner it can be treated to reduce its progression.



A cross-section of the eye



MACULA

The macula is located in the centre of the retina at the back of the eye.

As you read, images are focused onto the cells of the macula. From here, this information is passed to the brain where it is converted into a picture of what you are seeing. This central vision allows you to read, drive and perform other activities where recognising detail is important.⁷

Types of AMD: dry and wet

- There are two types of AMD, dry AMD and wet AMD:¹


Dry AMD:

- Dry AMD is the most common form (roughly 85%–90%) of AMD and develops slowly, eventually leading to loss of central vision.⁸
- While there is no known cure, oral supplements may slow its progression.⁹
- Dry AMD can progress to wet AMD, which is responsible for 90% of cases of severe vision loss.¹⁰



15%

In about 15% of cases, dry AMD progresses to wet AMD.³



90%

Wet AMD is responsible for 90% of cases of severe vision loss.¹⁰

Wet AMD:

- Wet AMD is caused by leaky blood vessels inside the eye. It is less common than dry AMD but it can cause more rapid loss of vision.¹¹
- In about 15% of cases, dry AMD progresses to wet AMD.³
- When the cells of the macula stop working correctly, the body starts growing new blood vessels behind the retina (a process known as neovascularisation).¹ These new vessels are delicate and tend to leak fluid and blood into the tissues at the back of the eye, resulting in loss of vision.^{1,3}

How common is AMD?

Today in Ireland, there are thousands of people with AMD.⁴ However, less than 1 in 7 of these will have wet AMD, the type of AMD that can cause rapid sight loss.⁴ The chances of getting AMD increase as you get older. However, most people develop the dry form, which is currently untreatable.⁴ Wet AMD – the type can cause rapid vision loss – can in many cases be treated and sight loss reduced, but early diagnosis is vital. In both cases, help and support is available from low vision services.⁴

(There is a simple test for detecting the early symptoms of AMD and this will be explained later in the booklet.)



REMEMBER

AMD will not cause a total loss of vision. If you have AMD, help and support is available to maximise your remaining vision and to help you maintain an active and independent life. Early detection is important and your eye care professional is the best person to check your eyes.



Signs and symptoms of wet AMD to look out for

The symptoms of wet AMD and how it develops vary from person to person.

In some people wet AMD can develop quickly¹ – so it's important to know how to spot the early signs so that treatment can be started.

Signs may include some of the following:¹

- Seeing wavy or distorted lines instead of straight lines.¹
- Seeing a blurred spot (or spots) in the centre of your vision.¹
- Gaps or dark spots (like a smudge on glasses) appearing in your vision, especially first thing in the morning.¹
- Being more sensitive to light.¹

Normal vision



Distortion



Gaps or dark spots



Blurring



REMEMBER

AMD usually starts in one eye and then may affect the other eye at a later date. Significant loss of vision can occur within 3-6 months if left untreated. Early action is necessary to minimise the damage to your eyesight and to help you adjust to sight loss.⁴



Living with wet AMD

You may not have any noticeable symptoms in the early stages of wet AMD.² However, if it progresses, you may experience the following symptoms:

- **Blurred vision¹**

ABC

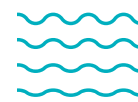
Your central vision is unclear and you are unable to have a sharp focus.¹ This may make it difficult to read, recognise faces, watch television, or do other activities that require sharp vision.¹² This is known as reduced visual acuity.

- **Poor colour vision¹**



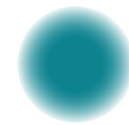
Your vision is hazy and washed out.¹² This may make it difficult to judge distances, walk down steps or see in the dark. You may feel like you need more lighting and may be more sensitive to glares.¹ This type of vision loss is known as poor contrast sensitivity.

- **Distorted vision¹**



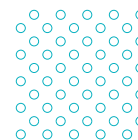
You see wavy or bent lines instead of straight lines, so things may look distorted or misshapen.^{1,12} This is known as metamorphopsia.¹³

- **Blind spot¹**



You see a dark patch or empty space in or near the centre of your vision.^{1,12} This is called a scotoma.¹⁴

- **Charles Bonnet syndrome¹**

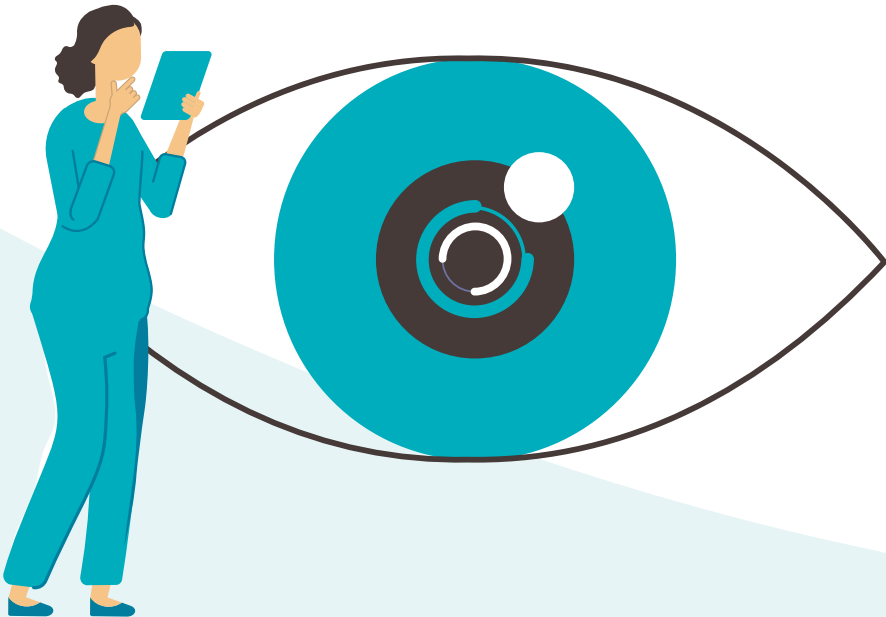


You may experience visual hallucinations due to your vision loss.¹ This is a normal process where your brain attempts to compensate for the loss of vision, resulting in these hallucinations.^{12,15} The images can be simple (e.g. flashes of lights, shapes, colour dots, simple patterns or straight lines) or more complex (e.g. people, animals or landscapes).^{1,12,15} This is not a sign of mental illness and should reduce over time.^{12,15}

When should I seek help?

If your vision isn't as clear as it used to be or if you have any of the above signs and symptoms, you should have your eyes tested by an eye care professional.¹

If your optometrist checks your eyes and is concerned about anything, he/she will contact your GP or refer you to the hospital to see an ophthalmologist for further examination.¹



What causes wet AMD?

AMD usually affects people over 65 years of age in the developed world.¹⁶

The exact causes of AMD are still unknown. However, some factors that are thought to make people more prone to developing AMD include:¹

- **Age** – AMD incidence increases as people age^{1,17,15}
- **Gender** – AMD affects more women than men^{1,15}
- **Lifestyle** – high blood pressure and lack of exercise are associated with AMD¹
- **Smoking** – smoking greatly increases your risk of developing AMD. You can reduce this risk if you stop smoking^{1,17,15}

- **Diet** – a diet that is high in fat and low in omega 3 and 6, vitamins and minerals has been associated with AMD^{1,17,15}
- **Having family members with AMD** – some people have genes that make them more susceptible to the development of AMD, but not all AMD is thought to be hereditary.^{1,3} If close relatives have suffered with sight loss in the past, then it may be worth getting your eyes checked more regularly.

Diagnosis, preventative measures and treatment of wet AMD

How is wet AMD diagnosed?

Wet AMD diagnosis involves checking the health of the macula at the back of your eyes for any signs of degeneration.¹

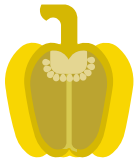
Your eye doctor will dilate your pupils (make them bigger) in order to see the back of your eyes.¹ You may need further tests – such as optical coherence tomography (OCT) to check how much liquid is in the macula and a fluorescein angiogram to check for leaky blood vessels – in order to confirm you have wet AMD.¹

AMD diagnosis: Preventative measures:

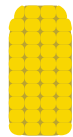
Studies from Europe have indicated that the prevalence of AMD may be decreasing, despite the increase in life expectancy, which may be in part due to adoption of healthier lifestyles.¹⁸ Diet is thought to be important because certain nutrients protect the body against substances called “oxidants”.¹⁹ Many

of the vitamins and minerals found in a healthy diet are called antioxidants.¹⁹ Research has shown that a diet rich in colourful foods may help reduce the risk of developing AMD via antioxidant properties.^{20,21}

Food rich in antioxidants:



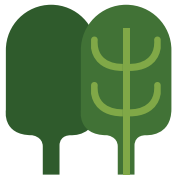
peppers



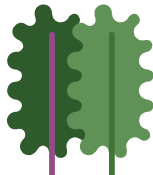
sweetcorn



saffron



spinach



kale



lettuce

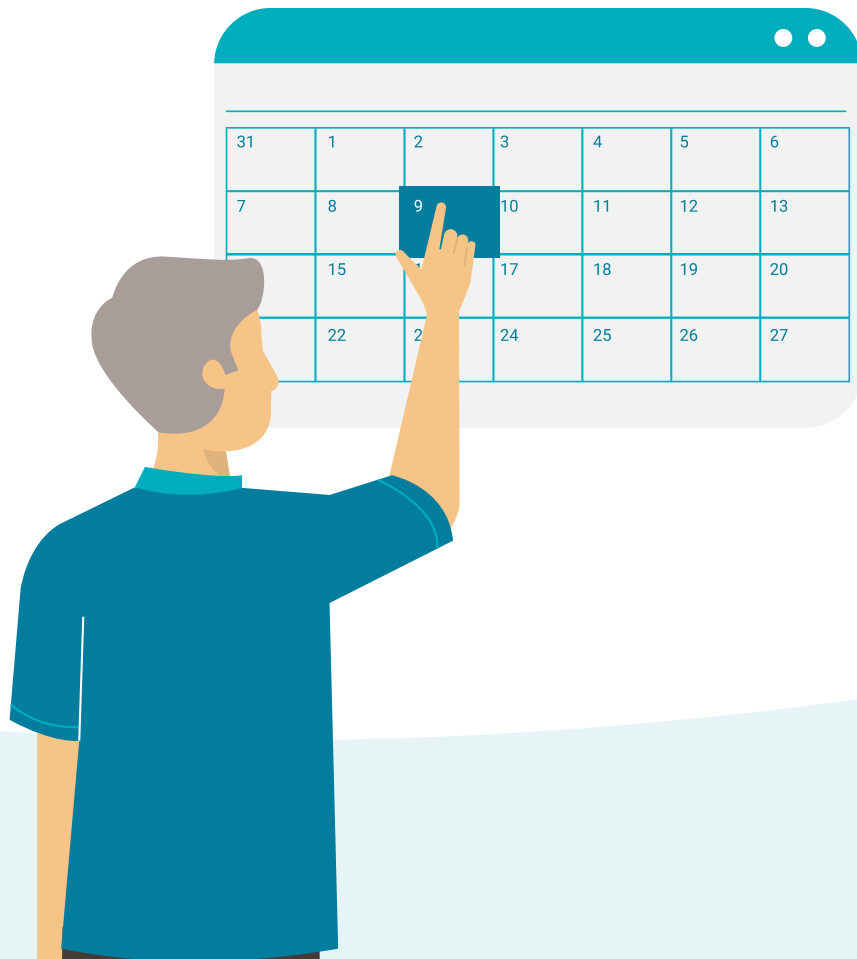
How is wet AMD treated?

The most effective treatment for wet AMD is with an anti-vascular endothelial growth factor (anti-VEGF) drug, which is given as an injection into your eye.¹

When new blood vessels form in the eye in wet AMD, the body produces a chemical called VEGF, which encourages further new blood vessel growth.^{1,2} Anti-VEGF drugs target this chemical and stop the growth of new vessels and so help to prevent further damage to your vision.^{1,2}

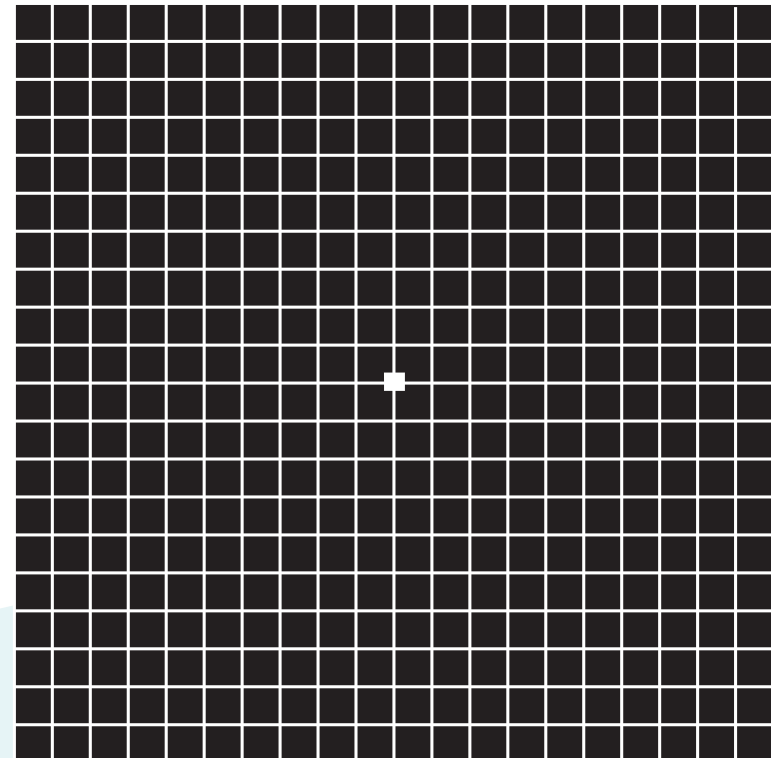
- Before you receive anti-VEGF treatment, your eye will be numbed by anesthetic eye drops.¹
- The anti-VEGF drug is then injected into the corner of the eye (called an intravitreal injection) in a sterile environment to avoid infection.¹
- The sight in your treated eye may be blurry initially because of the treatment, but this should wear off within a day.¹

Anti-VEGF treatments usually have high success rates and can stop your sight from getting any worse.¹ However, any damage that has already happened cannot be repaired so it is important to start treatment as early as possible to help preserve your sight.¹



Testing for the early symptoms of wet AMD

The Amsler Grid below is a quick and easy way to monitor your vision for the first signs of AMD. If you think you may be experiencing symptoms of AMD after you have used the Amsler Grid, then you should visit your eye doctor within the next week.



What is the Amsler Grid?

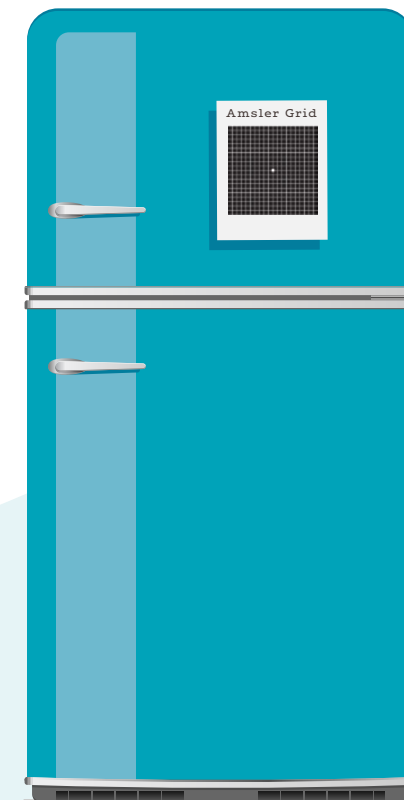
The Amsler Grid is a quick and simple test which can help to determine whether you are experiencing the early symptoms of AMD. It is important that you monitor both eyes as you may experience the early symptoms of AMD in your 'good' eye and if diagnosed early, you may be able to prevent AMD from developing any further in that eye.

How to use the Amsler Grid

- Hold the grid at a distance of around 12-14 inches (30cm) in front of your eyes (this is the average reading distance).
- If you wear reading glasses leave them on but do not wear distance glasses.
- Cover one eye with your hand and focus with your other eye on the centre dot.
- Check that you can see all four corners of the grid.
- If areas of the grid appear blurred, distorted, or in any way abnormal then you could be displaying the early signs of AMD.
- Don't forget to test each eye separately.

If the Amsler Grid appears perfectly normal to you, then you probably don't have AMD. However, if you are over 50 years and have not had a full eye examination with an eye care professional in the last year, you should seriously consider making an appointment now. It is also important to keep testing your eyes at home every two months using the Amsler Grid.

You or your caregiver can download a copy of the Amsler Grid from www.amd.ie and put it in a prominent place at home, such as on your fridge door, kitchen notice-board or somewhere that you see it every day as a reminder to regularly monitor your eyes.



If you think you may be experiencing symptoms of AMD after you have used the Amsler Grid, then you should visit your GP or eye care professional within the next week.

REMEMBER

Although useful as an initial test for the early symptoms of AMD, the Amsler Grid cannot replace the recommended full annual eye examination with a qualified optometrist or eye doctor. If you think that you could be experiencing symptoms of AMD visit your eye care professional within the next week - acting early could prevent further damage to your eyesight.



Vision organisations and resources

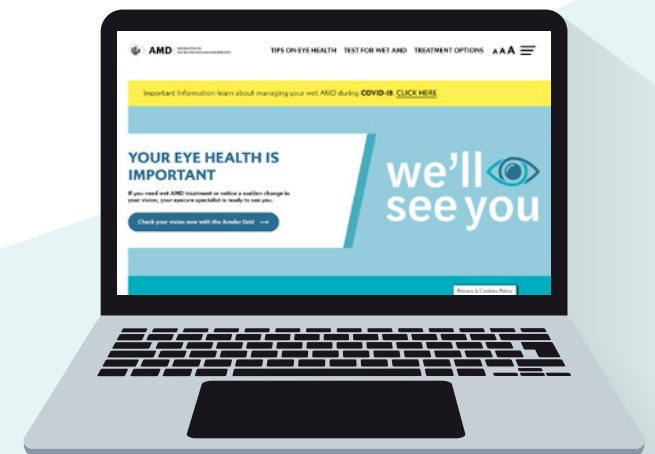
The following details are for organisations that can offer you advice and support about AMD, other eye conditions and low vision support.



INFORMATION ON
AGE RELATED MACULAR DEGENERATION

Website: www.amd.ie

Please visit www.amd.ie for more information on AMD, useful links and articles and for the Amsler Grid.





Fighting Blindness (Ireland),

3rd Floor, 7 Ely Place,

Tel: (01) 6789 004

Website: www.fightingblindness.ie

Fighting Blindness is a patient-led charity with a vision to cure blindness, support people living with sight loss and empower patients. They are the only Irish charity funding research into treatments for sight loss – giving people, both young and old, hope for the future.



NCBI

Working for People with Sight Loss

NCBI, Whitworth Road, Drumcondra, Dublin 9

Tel: 1850 33 43 53

Fax: (01) 8307 787

Website: www.ncbi.ie

NCBI is the national sight loss organisation, working for people with sight loss. They provide practical and emotional support, rehabilitation services, technology supports and other training designed to help people with sight loss to live independently and confidently.

Your diagnosis and appointment planner

(to be completed by your eye doctor)



Left eye:

Dry AMD

11

Wet AMD

10



Right eye:

Dry AMD

Wet AMD

10

Your appointment diary

[illegible]

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