



Approximately one million Canadians have some form of age-related macular degeneration (AMD). AMD is an eye disease in which people lose the central part of their vision as they age. People with AMD have trouble seeing things directly in front of them, although their side vision may remain.

AMD Symptoms

In the earliest stages, people with AMD may not notice their symptoms. Regular check-ups are needed so that an eye doctor can look for drusen (yellowish deposits in the retina), which are the first signs of AMD. People developing dry AMD may begin to notice a blurring in their central vision or have difficulty picking out fine details.

People with dry AMD should continue to watch for these symptoms – and contact their doctor promptly about any changes. Call the Foundation Fighting Blindness to request an Amsler Grid to help monitor your eyesight.

Medical Description of AMD

In people with AMD, the layer of cells in the central part of the retina (called the macula) becomes thinner. The vision cells, called photoreceptors, slowly die. The central part of the person's vision begins to appear dark, blurred or distorted. This gradual loss of central vision is called **dry AMD**. It is the most common form of the disease.

Sometimes people with dry AMD develop a more severe condition known as **wet AMD**. In this condition, the blood vessels under the thinning macula become abnormal. They begin to grow

in an irregular way and may leak blood and fluid. The medical term for this condition is choroidal neovascularization (CNV). Leakages of blood and fluid can cause rapid and severe vision loss, so it is important for a person with wet AMD symptoms to receive prompt medical attention and treatment. Only about 10% of people with AMD develop the wet form of AMD, but the wet form is the main cause of vision loss in AMD.

Causes and Risk Factors

No one knows what causes AMD, but research is helping us understand the risk factors. Some are unavoidable. Aging increases your risk of the disease, as do certain genetic abnormalities. People who are farsighted (hyperopic) are more likely to develop AMD, as are women; and people with light skin or blue eyes are more at risk.

Experts suggest these ways to decrease your risk of developing AMD.

- Don't smoke. And if you do smoke, quit.
- Enjoy colourful vegetables and fruits (carrots, corn, squash, tomatoes, cantaloupe and berries) as well as dark green leafy vegetables.
- Eat fish such as salmon, tuna and mackerel, once or more a week
- Avoid processed foods.
- Wear UV sunglasses consistently
- Stay physically active.
- Control your blood pressure and cholesterol.

Treatment

The available treatments for dry and wet AMD are growing but still limited.

Dry AMD - The only treatment currently available for people with dry AMD is a combination of **vitamins and minerals** tested in the Age-Related Eye Disease Study (AREDS). This high-dose mix of antioxidants reduces the risk (by 25%) that a person with dry AMD will develop advanced vision loss within five years. In the spring of 2013, a second study (AREDS2) revised this formulation – making it safer and potentially more effective – as follows:

- 500 mg vitamin C
- 400 International Units vitamin E
- 10 mg lutein / 2 mg zeaxanthin
- 25 mg of zinc (zinc oxide)
- 2 mg of copper (cupric oxide)

Several companies market AMD vitamins containing these nutrients, and are now revising their products to match the AREDS2 formula. These vitamins are available without prescription. However some people shouldn't take high-dose supplements due to other health problems. Speak to your doctor before beginning.

Wet AMD – Thanks to research, there are now sight-saving treatments for wet-AMD called **anti-VEGF therapies**. Vascular endothelial growth factor (VEGF) is a substance that is normally produced by our bodies, which tells new blood vessels to form. However, the uncontrolled growth of blood vessels in the eye causes vision loss in Wet AMD. Anti-VEGF therapies prevent vision loss

(and even reverse some vision loss) by removing excess VEGF from the eye. In Canada, the approved anti-VEGF therapies include Lucentis (ranibizumab) and Eylea (aflibercept). Lucentis requires monthly injections into the eye. Each Eylea injection is designed to last two months (after an initial set of monthly injections). Both of these drugs are widely reimbursed across most provinces, and prevent vision loss by getting rid of VEGF. Eylea also removes Placental Growth Factor (PIGF), which causes the growth of new blood vessels. Avastin (bevacizumab) is an anti-VEGF therapy that was designed as a cancer treatment. Although Avastin is not approved by Health Canada to treat wet AMD, it is commonly used “off-label” because studies have shown that it works similarly to Lucentis and Eylea. Doctors continue to discuss the pros and cons of these different treatments. Please talk to your doctor about what treatment would be best for you.

If the following symptoms appear, please see your eye doctor, as they may be signs of dry or wet AMD:

- Blurred central vision
- Distortion of lines and shapes (a line of text appears wavy)
- Difficulty distinguishing colours
- A blind spot in your vision

Updated October 2015: Reviewed by Dr. Mary Sunderland, The Foundation Fighting Blindness, Director of Research & Education