

Macular degeneration is a leading cause of blindness: How to prevent it

June 2 2021, by Langis Michaud



Credit: AI-generated image ([disclaimer](#))

Jacques was a very active retiree. That ended one November morning as his life was suddenly turned upside down. When he woke that day, he could not see out of one eye. Panicked, he came to see me right away.

Jacques had been diagnosed with [age-related macular degeneration](#)

(AMD) a few years earlier. His condition had been stable, but now it suddenly progressed to the most severe form of the disease, "[wet degeneration](#)." This stage is characterized by the sudden development of a network of new blood vessels that ooze into the deep layers of the retina, causing a rapid loss of functional vision in the affected eye.

An urgent referral to ophthalmology is made in cases like these because the window of opportunity for treatment is narrow. Immediate treatment usually results in [the best prognosis](#). Jacques managed to get treatment within a few days.

The ophthalmologist gave him [interocular injections](#) of medication, but this only improved his vision slightly. Jacques was depressed and his anxiety was increasing. He felt useless and had lost considerable autonomy.

The loss of an eye is a traumatic event, regardless of the patient's age. While the significant negative [psychological effects](#) are well documented for [older patients](#), recent publications also report the same adverse consequences in [younger populations](#).

For example, the rate of depression is six times greater in those with significant vision loss than in the general population ([25 percent versus four percent](#)).

Hope for patients

So what can we do to help Jacques? We can't promise that his vision will be fully restored. Although injection treatments can be effective, the basic degeneration will not go away. The best option for Jacques is to refer him to a visual impairment rehabilitation centre where he will receive help from a variety of professionals.

At this centre, he will be seen by specialists trained to treat visual impairment and its repercussions on the lives of people who suffer from it, and on the people around them. Understanding this reality is the first step toward helping patients address their needs.

The next step, after providing psychological support to Jacques, is to optimize his visual condition. Optometrists who specialize in low vision can prescribe optical aids to help Jacques regain some of his visual function, including magnifiers, vision aids and specialized glasses that can be provided through a government program designed for this purpose.

Specialists in [visual impairment](#) rehabilitation (VIR) trained at the school of optometry of the University of Montréal (the only institution in Canada that offers a master's program in VIR), can then help Jacques learn new strategies to carry out his daily activities. Specialized educators can help him to use a computer and specific software. When needed, orientation and mobility specialists teach people with visual impairments methods how to safely orient themselves and get around whether on the street or in an unfamiliar environment.



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A social worker, aware that the impacts of a visual handicap go far beyond the person experiencing it, will accompany Jacques during his rehabilitation process and communicate with his family. In short, Jacques will have a good support system and will be able to regain a certain level of autonomy in his life, which, in turn, will have a positive impact on his morale. [Support groups](#) can also help him in his efforts and if, thanks to effective injections, his visual acuity improves, he will be in a win-win situation.

However, Jacques still has other concerns about his disease. He is worried that his children will develop similar conditions, especially one of his sons.

Several risk factors

Age-related macular degeneration is aptly named: its prevalence increases with the age of the patients. Nearly one million Canadians—300,000 in Québec alone—suffer from AMD. Of these, [10 to 15 percent have the wet form](#), like Jacques. AMD is the leading cause of blindness in people over the age of 65.

In addition to aging, other [risk factors](#) associated with the development of the disease include family history, [ethnic origin](#) (Caucasians and Northern Europeans are more affected), gender (women are more affected), atherosclerotic and vascular diseases, obesity and sun exposure (phototoxicity of the retinal cells).

Smoking also plays an important role. [Consuming 25 cigarettes per day](#) doubles the risk of severe damage. Exposure to [second-hand smoke](#) is also harmful. The chemicals absorbed during exposure to smoke [increase the absorption of harmful sunlight by the retina by 1,000 times](#).

For Jacques' son, the risk of developing AMD is clear but so are his options. He will not be able to change his genes, prevent himself from aging or change his ethnicity or chromosomes. However, he can control the modifiable factors: he can quit smoking, control his weight and stay physically active.

Diet can play a preventive role. Reducing fat intake in the diet and ensuring adequate omega-3 consumption (forms of triglyceride, 800 mg DHA/EPA per day) [are important](#). However, adding vitamins formulated for eye health to the mix is not recommended in Jacques' case. Vitamins are only effective in treating dry AMD in its middle stages, not for preventing it. However, they are one of the few ways Jacques can reduce the risk of having his other eye affected and losing all his functional vision.

It is imperative for both Jacques and his son to follow the doctor's recommendations on managing vascular problems (hypertension, cholesterol, diabetes). When poorly controlled, these conditions significantly increase the risk of developing wet AMD.

Remember, macular degeneration is first and foremost a vascular disease: the blood vessels are no longer able to nourish the retinal cells and no longer get rid of their metabolic waste efficiently. As a result, the cells die. New blood vessels develop, but they are fragile and, when they break, flood the retina with fluid.

Finally, both father and son will need to protect themselves from the sun's harmful rays, either with a transparent filter (UV400) in their regular prescription glasses or by wearing good quality sunglasses when they are outdoors. Their eye care professionals will be able to advise them about this.

Jacques' spirits are not high, but I have given him some hope that better days lie ahead. He knows he can count on a team of professionals to support him and that he will not be dealing with his condition alone. There is hope. And hope is the first thing that makes it possible to overcome the impacts of any disease.

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