

# STRATEGIES TO IMPROVE VISUAL PROBLEMS THAT INTERFERE WITH DAILY FUNCTIONING

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Multiple sclerosis (MS) is known to cause a variety of sensory symptoms including pain, numbness and tingling, dizziness and vertigo, and **vision problems**. Visual symptoms are often a person's first symptom of MS – the one that prompts a visit to the eye doctor or neurologist and, eventually, an MS diagnosis. These symptoms, all of which can impact a

person's ability to function comfortably in everyday life, include:

- **Optic neuritis** ([https://www.youtube.com/watch?v=4\\_A4ejMnbGY&feature=youtu.be](https://www.youtube.com/watch?v=4_A4ejMnbGY&feature=youtu.be)) (ON), which is caused by inflammation of the optic nerve, typically occurs in one eye at a time. It can cause severe pain behind the affected eye, temporary or permanent loss of vision, patchy vision, and reduced or pale color vision. Episodes of optic neuritis may be treated with corticosteroids if the visual impairment significantly interferes with your ability to function at home or work. Otherwise, the optic neuritis will generally resolve on its own after a few weeks or months.
- **Nystagmus**, which refers to uncontrolled movement of the eyes, is caused by damage to nerves that control eye movements. Nystagmus may cause sideways or up-and-down movements, which appear to others like 'jiggly' or 'dancing' eyes. However, while others may see the unusual eye movements, you may not feel them at all. Nystagmus can come and go or be fairly consistent. These uncontrolled eye movements can interfere with your peripheral vision, depth perception, and balance.
- **Diplopia**, or double vision, occurs when inflammation of the nerves weakens the muscles that coordinate eye movements. When a person's eyes don't move in a coordinated fashion, the result be two side-by-side images, or one image on top of another. Like nystagmus, diplopia can be sporadic or consistent. Your brain will gradually accommodate to the changes, but temporary patching of one eye can help with some of your activities. Special prism glasses may also be prescribed for you.

**Click here** (<https://www.youtube.com/watch?v=0cGJiqBn2DM>) to learn more about vision problems in MS.

# Step 1: Improving Your Functional Vision Begins with a Correct Diagnosis

We are all familiar with getting our eyes checked and wearing glasses or contact lenses when our ability to see clearly (*visual acuity*) up close or at a distance is impaired. We are also familiar with strategies to treat cataracts as our eyes age. But the visual problems caused by MS aren't quite so simple to correct. Glasses or surgery don't do the trick. So, your first step is to determine the cause(s) of the visual changes you're experiencing.

## Who can help?

A visit to an ophthalmologist or neuro-ophthalmologist is your best bet for learning what's interfering with your vision.

# Step 2: Compensatory Strategies Tailored to Your Symptoms and Daily Activities are the Key to Success

To maximize your ability to function independently and safely, it is important to incorporate compensatory strategies into your daily activities. Since MS affects each person differently, the strategies and tools you need to manage your vision problems will need to be personalized to your needs and lifestyle.

## Who can help?

After your visual symptoms have been diagnosed, a low vision specialist can work with you to develop your tool chest of compensatory strategies. Visual rehabilitation specialists include optometrists, occupational therapists, and orientation and mobility specialists with this specialized focus.

The following are some commonly recommended tools and resources to help you manage activities in your daily life.

## Strategies for near vision: reading, writing, computer work, detailed tasks

### Magnification

- Handheld illuminated magnifier
- **Electronic magnifiers** (<http://www.eschenbach.com/>):
  - Cell phone apps
  - Portable electronic magnifier
  - Desk electronic video magnifier for reading books, magazines, etc.
  - Electronic books: Kindle, Nook; use Kindle app on tablet or phone
- Telescopes

- Hand-held monocular telescope
- Mounted telescopic lenses
- Larger monitor or screen size for your tv, computer, and phone

## Lighting

- Lighting that approximates natural daylight (at least 24 watts).
- Eliminating glare and increasing contrast (e.g., black print on white or white on black)
- Pointing a cell phone flashlight app, an LED flashlight, or a portable lamp directly at the task you're working on reduces eye strain and makes your task less fatiguing.

[Click here \(https://www.ottlite.com/\)](https://www.ottlite.com/) for examples of lighting aids.

## Glare control and contrast enhancement

- Invert colors on your phone or computer monitor
- Wear **specialty glasses** ([http://cocooneyewear.com/low\\_vision/](http://cocooneyewear.com/low_vision/)) for glare control (many options can be worn on top of prescription glasses):
  - Blue light blocker lenses for screen use
  - Lighter yellow tinted lenses for inside or lower lighting environments
  - Hazelnut / amber-tinted lenses for brighter, outside environments
- Position yourself and your computer/tv screens away from windows or bright lighting. Try to avoid sitting with a window directly in front or behind you

## Reading aids

- Line guide: use a solid color bookmark or line guide to keep your place on the page and decrease visual clutter from page contents
- If double vision is present, cover one eye with a vision occluder; alternate eyes as appropriate
- Electronic reading device or app (Kindle, Kindle app) to enlarge text size, invert contrast
- Auditory books: Audible, iPad or tablet auditory reading; Audible book app

## Strategies for Mobility and Safety

Visual impairment can directly affect a person's mobility, community access, and fall risk. In addition to near-sightedness, with which we're all familiar, MS-related problems with double vision, blurred vision, impaired depth perception, reduced peripheral vision, uncontrolled eye movements, sensitivity to glare, reduced color vision, and [difficulty processing visual information](https://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Brochures/Brochure-Managing-Cognitive-Problems_1.pdf)

([https://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Brochures/Brochure-Managing-Cognitive-Problems\\_1.pdf](https://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Brochures/Brochure-Managing-Cognitive-Problems_1.pdf)) can all impact your ability to safely navigate in your world.

- If you are challenged by mobility problems as well as visual symptoms, a certified orientation and mobility specialist (COMS) can instruct you on how to use your mobility aid in combination with strategies to compensate for your vision impairment. When working with a physical therapist to select the optimal mobility device for you, be sure to share information regarding any vision problems you have so that the optimal device can be chosen.
- Use good lighting and glare control when walking indoors and outdoors
- On stairways:
  - Hold on to handrails and use sensory feedback from your feet to help with depth perception and judgment of heights.
  - Don't carry items up and down steps
  - Use a ramp, elevator, or stair-glide system if climbing stairs is challenging.

## Strategies for Safe Driving

MS-related vision problems, either ongoing or temporary during a relapse, can challenge your ability to drive safely. **Comprehensive driver evaluations** ([https://s0.hfdstatic.com/sites/the\\_hartford/files/your-road-ahead-2012.pdf](https://s0.hfdstatic.com/sites/the_hartford/files/your-road-ahead-2012.pdf)), which evaluate the physical, cognitive, and visual abilities required for safe driving, are typically available at rehabilitation hospitals. Occupational therapists can also offer tools and strategies to help you drive safely. Here are some strategies that are commonly recommended:

- Compensate for decreased peripheral vision with:
  - Use glare-control sunglasses during daylight hours for high definition of images
  - Avoid driving when you are experiencing intermittent vision changes
  - Use a GPS system to assist with directions
  - Opt for all available safety features on automobiles
- For visual acuity that's stable but doesn't meet Department of Motor Vehicle driving requirements, a bioptic telescope lens system to enhance distance vision may be allowed in some states

To learn more about other sensory symptoms commonly experienced with MS, **[watch this video](https://www.cando-ms.org/multiple-sclerosis-programs/webinar-series/symptom-management-sensory-components)** (<https://www.cando-ms.org/multiple-sclerosis-programs/webinar-series/symptom-management-sensory-components>).

## RESOURCES

Cocoons Eyewear ([http://cocooneyewear.com/low\\_vision/](http://cocooneyewear.com/low_vision/)) [http://cocooneyewear.com/low\\_vision/](http://cocooneyewear.com/low_vision/) ...  
([http://cocooneyewear.com/low\\_vision/](http://cocooneyewear.com/low_vision/))

Eschenbach Optik – eyewear and magnification tools

[\(http://www.eschenbach.com/\)](http://www.eschenbach.com/)<http://www.eschenbach.com> <http://www.eschenbach.com>

Freedom Scientific – low vision computer and phone software

[\(http://www.freedomscientific.com/\)](http://www.freedomscientific.com/)<http://www.freedomscientific.c...> <http://www.freedomscientific.com>

Independent Living Aids, Inc. – low vision aids

[\(http://www.independentliving.com/\)](http://www.independentliving.com/)<http://www.independentliving.c...>

<http://www.independentliving.com>

Maxi-Aids Low Vision Aids – low vision aids [\(https://www.maxiaids.com/\)](https://www.maxiaids.com/)<https://www.maxiaids.com>

<https://www.maxiaids.com>

Optelec Low Vision Aids – low vision aids [\(https://us.optelec.com/\)](https://us.optelec.com/)<https://us.optelec.com>

<https://us.optelec.com>

Ottlite Full Spectrum Lighting - lighting [\(http://www.ottlite.com/\)](http://www.ottlite.com/)<http://www.ottlite.com>

<http://www.ottlite.com>

Comprehensive Driving Evaluation Guide - [\\_ \(https://s0.hfdstatic.com/sites/the\\_hartford/files/your-road-ahead-2012.pdf\)](https://s0.hfdstatic.com/sites/the_hartford/files/your-road-ahead-2012.pdf)<https://s0.hfdstatic.com/sites...> [https://s0.hfdstatic.com/sites/the\\_hartford/files/your-road-ahead-2012.pdf](https://s0.hfdstatic.com/sites/the_hartford/files/your-road-ahead-2012.pdf)

Symptom Management: Sensory Components Webinar [\\_ \(https://www.cando-ms.org/multiple-sclerosis-programs/webinar-series/symptom-management-sensory-components\)](https://www.cando-ms.org/multiple-sclerosis-programs/webinar-series/symptom-management-sensory-components)<https://www.cando-ms.org/multi...> <https://www.cando-ms.org/multiple-sclerosis-programs/webinar-series/symptom-management-sensory-components>

Optic Neuritis – **National MS Society video** [\\_ \(https://www.youtube.com/watch?v=4\\_A4ejMnbGY&feature=youtu.be\)](https://www.youtube.com/watch?v=4_A4ejMnbGY&feature=youtu.be)



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