

VISION AND PARKINSON'S

Approximately 75% of people with Parkinson's disease (PD) experience oculomotor symptoms (pertaining to the movement of the eyes), along with changes in vision, and eyelid function. Changes in vision can have a detrimental impact on quality of life, and can increase the risk of falls.

Discuss all eye-related problems with your neurologist, because, like other symptoms of PD, vision problems can relate to inadequate medication management. A medication review and adjustment may be necessary. It is also important to be examined regularly by an ophthalmologist, preferably one specializing in neurological disorders. Do not make any changes to your medications without talking to your doctor. Remember, PD does not cause blindness or loss of vision.

Age-Related Changes

Changes in vision due to aging are extremely common. As people age, many require stronger glasses, and some notice discomfort in their eyes. Age-related vision problems include:

- dry eyes
- changes in visual acuity (clearness or sharpness of vision)
- cataracts
- macular degeneration
- glaucoma

Dry eyes can changes in visual acuity can be more common in people with PD, and treatment of these symptoms usually becomes a part of overall PD management. Cataracts, macular degeneration and glaucoma are no more common in people with PD than in the general population.

Many people with PD are understandably concerned about eye surgery, particularly if they experience dyskinesia. People with PD can be candidates for cataract surgery and their dyskinesia can be effectively managed. Any concerns or fears about surgery should be discussed with your neurologist and ophthalmologist.

Eye Problems in Parkinson's

Similar to movements such as walking or writing movement of the eyes can be affected by a lack of dopamine in the brain. Rather than being smooth and effortless, eye movement can become jerky and require extra effort. Some of the important eye movements that can be effected by PD are:

Saccadic eye movement

This is defined as the rapid, involuntary eye movements that direct our gaze to an object of interest. Saccadic eye movement is required for activities such as driving, reading, and walking.

Pursuit eye movement

This type of eye movement allows us to stabilize (or fix) our gaze on an object, and follow it as it moves.

Vergence eye movement

This movement ensures the eyes remain focused together to avoid double vision.

Parkinson's can also affect the function of eyelids, including the following:

Blink reflexes and dry eyes

Normally, we blink 16 to 18 times per minute, but PD—and bradykinesia in particular—can reduce this motor function to 1 or 2 times per minute. This can cause the eyes to become very dry. You may want to consider using gentle shampoos to avoid irritating your eyes. Ask your doctor about eye drops and artificial tears.

Oculomotor apraxia

Apraxia is the inability to perform voluntary functions. For some people with Parkinson's, this includes the inability to open the eyes voluntarily.

Blepharospasm

This is a form of dystonia that causes involuntary closure of the eyes. It is often associated with levodopa "off" periods. Improved medication management can alleviate this symptom, and in some cases, Botox injections can be helpful.

Blurred vision

Blurred vision is often a side effect of medication. Drugs most commonly associated with blurred vision are anti-cholinergics, such as Artane and Cogentin.

Sensory deficits

A decrease in motor function can lead to a loss of contrast and colour sensitivity.

Double vision

People with advancing PD, who are on higher doses of medication, occasionally experience double vision (diplopia). Dopamine agonists, such as ReQuip, Mirapex, or Parlodel, are more likely to be the cause. Some ophthalmologists will recommend special glasses containing a prism to address the problem of double vision.

Sources

Ahlskog, J. (2005). *The Parkinson's Disease Treatment Book*. New York.

American Parkinson Disease Association (2007). *Neuro-ophthalmology and Parkinson's Disease*. New York.