Can Parkinson’s Disease Affect Vision?  YES

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ANSWER: YES

What does Parkinson’s disease NOT cause

Need for glasses
• Near-sightedness
• Far-sightedness

Age-related eye problems
• Presbyopia
• Cataracts
• Glaucoma
• Macular degeneration
So, what problems does it cause?

1. Basic visual function
2. Eyelid function
3. Eye movements
4. Visual Perception
1. Vision: Contrast and Color

www.testingcolorvision.com/test-examples.php
1. **Vision: Contrast and Color**

- **Cause:** Retina dopamine deficient
- **Usually not the target of treatment**
- **Treat:** Dopaminergic meds

*Fig. 1.1. A drawing of a section through the human eye with a schematic enlargement of the retina.*
2. Eyelid: Decreased blink rate

Treat:

- ?optimal dopamine dosing
- purposeful eye closure (e.g. reading)
- artificial tears

  other: decrease “drying” medications
  other: treat lash and lid (blepharitis)
  other: punctal plug (plug up the drain)
2. Eyelid: Decreased blink rate

• Leads to dry eye

• What is normal blink rate?

A. 25 times a minute • Conversation
B. 15 times a minute • Rest
C. 5 times a minute • Reading
D. All of the above because it is dependent on the what you are doing
2. Eyelid: Blepharospasm

- Involuntary contraction of the muscles that close the eyes
- **Treat**: Botulinum toxin injections
3. **Eye movements:** Convergence insufficiency

- double vision, blurred vision while reading
3. **Eye movements:** Convergence insufficiency

- double vision, blurred vision while reading
3. Eye movements: Convergence insufficiency

- **Treat:**
  - prism lenses
  - optimize dopaminergic medications
  - rarely useful to do eye “exercises”

**OTHER:**
- Separate reading glasses and distance glasses
- Progressive, trifocals, bifocals can make it worse
4. Visual Perceptual

1. Depth perception impairment
2. Visual illusions
3. Visual hallucinations
4. Visual Perceptual
4. Visual Perceptual

**Treat:**

one size does not fit all

- optimize vision
- adjust medications (‘optimize’ dopaminergic medications)
- use a medication to boost neurotransmission in the brain
Parkinson's and **Visual Quality of Life**

**Study 2012**

- 27 PD
- 16 without PD
- 10 point difference (87 v. 97)

**Kirwan Study 2012**

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<td>Near activities</td>
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<td>Distance activities</td>
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<td>Peripheral vision</td>
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Parkinson’s and Vision

1. Basic vision function
   • Decreased contrast and color

2. Eyelid function
   • Decreased blink rate

3. Eye movements
   • Convergence insufficiency (bringing the eyes together)

4. Visual Perception
   • Decreased Depth Perception, Visual hallucinations or illusions
More Than Meets the Eye: Vision Symptoms of PD

Originally presented on March 3, 2015

Did you know that there are changes in vision associated with Parkinson's disease? Learn more about this important topic by joining a one-hour online seminar led by Daniel Gold, D.O., Assistant Professor of Neurology and Assistant Professor of Ophthalmology at The Johns Hopkins University School of Medicine.

View this PD ExpertBriefing Now

Download Presentation Slides (also shown during seminar)

Learning Objectives

- Understand common eye movement disorders in Parkinson's disease.
- Learn about common visual issues in Parkinson's disease and treatments.
- Find practical advice for coping with vision issues in Parkinson's disease at home and with your health care team.
Thank you

- Questions?