



Sights, Sounds and Parkinson's

WELCOME TO EXPERT BRIEFINGS!

- ✓ The program will begin at the top of the hour
- ✓ Meeting attendees will be muted

Better Lives. Together.



Sights, Sounds and Parkinson's

James Beck, PhD

Chief Scientific Officer, Parkinson's Foundation

Ali G. Hamedani, MD, MHS

Assistant Professor of Neurology

Divisions of Neuro-Ophthalmology and Movement Disorders

University of Pennsylvania

Better Lives. Together.

Expert Briefings
Parkinson's Foundation

Sights, Sounds and Parkinson's

James Beck, PhD
Chief Scientific Officer, Parkinson's Foundation

Ali G. Hamedani, MD, MHS
Assistant Professor of Neurology
Divisions of Neuro-Ophthalmology and Movement Disorders
University of Pennsylvania

Better Lives. Together.

Audio Settings ^ Chat Q&A Live Transcript Leave

A red arrow points from the text of Ali G. Hamedani down to the Q&A icon in the Zoom meeting interface.

Expert Briefings
Parkinson's Foundation

Sights, Sounds and Parkinson's

James Beck, PhD
Chief Scientific Officer, Parkinson's Foundation

Ali G. Hamedani, MD, MHS
Assistant Professor of Neurology
Divisions of Neuro-Ophthalmology and Movement Disorders
University of Pennsylvania

Better Lives. Together.

Audio Settings ^ Chat Q&A Live Transcript Leave

A red arrow points from the text of Ali G. Hamedani down to the Q&A icon in the Zoom meeting interface.



Sights, Sounds and Parkinson's

James Beck, PhD

Chief Scientific Officer, Parkinson's Foundation

Ali G. Hamedani, MD, MHS

Assistant Professor of Neurology
Divisions of Neuro-Ophthalmology and Movement Disorders
University of Pennsylvania

Better Lives. Together.



Audio Settings ^



Chat



Q&A



Live Transcript

Leave

Our Mission



The Parkinson's Foundation

makes life better for people with Parkinson's disease by improving care and advancing research toward a cure. In everything we do, we build on the energy, experience and passion of our global Parkinson's community.

We have everything you need to live better with Parkinson's.

Better Lives. Together.

Our Goals



To help our global community live better with Parkinson's, we pursue **three goals**:

1. Improve **care** for everyone with Parkinson's
2. Advance **research** toward a cure
3. Empower and educate our global **community**

Better Lives. Together.

Thank You!



Genentech
A Member of the Roche Group

Better Lives. Together.

For Your Convenience



RECORDING

Expert Briefings are recorded and archived on **Parkinson.org/ExpertBriefings** within one week

SLIDES

Download today's presentation via link in the chat.

Better Lives. Together.

Poll: Getting to Know You

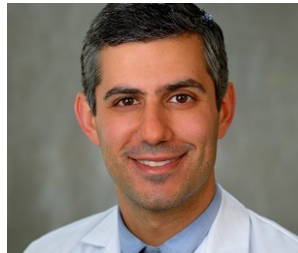


What best describes your connection to PD?

- Person with PD
- Spouse/Partner
- Parent has/had PD
- Other family
- Healthcare Professional
- Physician/Clinician
- Scientist/Researcher
- Nurse/Nurse Practitioner
- Other

Better Lives. Together.

Meet Your Presenter



Ali Hamedani, MD, MHS

Professor of Neurology

Divisions of Neuro-Ophthalmology and Movement Disorders

Perelman School of Medicine, University of Pennsylvania

Better Lives. Together.



Sights, Sounds and Parkinson's

Ali G. Hamedani, MD, MHS

Assistant Professor of Neurology

Divisions of Neuro-Ophthalmology and Movement Disorders

University of Pennsylvania

Better Lives. Together.

Vision & general health (including PD)

- Vision is our most dominant sense.
- Integral to many daily activities (e.g. reading, writing, driving).
- Increasingly important as technology plays a greater role in our lives (e.g. using text/email instead of talking on the phone).
- Visual impairment is associated with poor health outcomes in the general population (regardless of PD).
 - Falls/injury (e.g. hip fracture)
 - Depression/anxiety
 - Cognitive impairment/dementia

Vision & general health (cont.)

- At least half of all visual impairment is caused by eye diseases that are treatable or preventable!
 - E.g. refractive error, cataracts, glaucoma, macular degeneration
 - Associated with age.
- Important to see an eye doctor regularly (regardless of PD).

Vision & PD: General principles



- Vision is affected in PD.
- PD can affect vision in a number of different ways, and the experience is different for everyone.
- PD-related difficulty with vision can negatively impact quality of life.
 - However, generally does not result in loss of vision (“blindness”).
- Good news! Symptoms are treatable ... but typically not by adjusting PD medications.
 - Adjusting glasses prescription, eyedrops, lifestyle modifications.

Vision & PD: General principles (cont.)



- If you develop a new problem with vision, it is very difficult to tell based on the symptoms alone whether it is related to PD or something else (e.g. cataracts).
 - Visual symptoms are often difficult to describe (e.g. “I’m having difficulty seeing”).
- Important for your doctor to distinguish between PD and non-PD causes of visual dysfunction, as these are treated differently.

Common visual symptoms in Parkinson's disease



1. Dry eye
2. Double vision
3. Difficulty reading
4. Impaired depth perception
5. Visual hallucinations

Better Lives. Together.

Dry eye



- Silly question: Why do we blink?
 - Answer: To keep the surface of the eye moist.
- Because people with PD blink less frequently, they are prone to dry eye.
 - Some PD medications can worsen dry eye (e.g. amantadine).
 - Can also develop irritation of eyelids called blepharitis.

Better Lives. Together.

Dry eye (cont.)

- Symptoms include:
 - Blurring of vision, glare, sensitivity to light
 - Feeling of dryness/irritation, at times painful (sore, aching, stinging)
 - Itching, redness, foreign body sensation (feels like sand is in eye)
 - **Eye watering, tearing**
 - Some or all of the above
 - None of the above (asymptomatic!)
- Untreated dry eye can cause scarring of the outer layer of the eye (cornea), which can lead to permanent problems with vision.

Dry eye: Treatment

- Try to blink more often?? Very hard to do...
 - Blink rate naturally increases with stimulation/activity.
 - Be mindful of screen/reading time (we blink less when reading or looking at a screen than when doing other things).
- Artificial tears
 - Available over the counter.
 - Make sure they are preservative-free (avoid anything that says “get the red out”).
 - Daytime and nighttime preparations (nighttime is thicker).
 - Can use up to 4-6 times daily (no such thing as too much).
 - Easy to forget (consider timing with carbidopa-levodopa or other medications).
 - Examples: Systane, Genteel, Refresh, etc.

Dry eye: Treatment (cont.)

- Warm compresses (for blepharitis).
- If these don't work, then follow-up with your eye doctor (prescription eyedrops, in-office procedures).

Double vision



Double vision

Can occur for two reasons:

1. Problem in the front of the eye (e.g. need for eyeglasses, dry eye, cataracts)
→ double vision persists even when covering the other eye. Unrelated to PD.
2. Each eye is individually healthy, but they are pointed in slightly different directions (misaligned) → double vision resolves when covering either eye.
Related to PD.

Double vision (cont.)

- Affects up to 30% of people with PD.
 - Most common pattern is to have double vision at near (e.g. reading) but not when looking at distance (called convergence insufficiency).
 - Can emerge/worsen after deep brain stimulation.
- Treatment: eyeglasses with prisms.
 - Can also wear an eyepatch as needed.
 - Eye muscle exercises generally don't work.

Difficulty reading

- Reading is a complex and demanding task.
 - Requires clear vision, especially up close.
 - Eyes move quickly from one word to the next
- Anything that affects vision (including dry eye or double vision from PD) will disproportionately affect reading.
- Everyone (regardless of PD) needs reading glasses after age 40.



Difficulty reading (cont.)

- Some people use bifocals or progressive lenses instead of separate distance and near glasses.
 - However, bifocals/progressives limit the amount of space you can look through to read, and we know that people with PD have difficulty generating quick and accurate eye movements in small space.
 - Therefore, many people with PD benefit from having separate distance and near glasses rather than using bifocals/progressives.

Depth perception

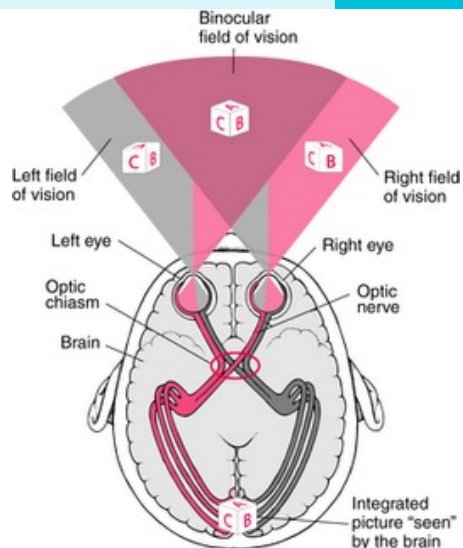
Ability to perceive 3-dimensional space.

- Brain uses 2-dimensional images from each eye to construction a 3-dimensional “map” of the space around you.

Can be affected in PD for several different reasons.

Requirements

1. Good vision in each eye.
2. Eyes pointed at the same target (no double vision).
3. Ability to process images from each eye to create depth perception.



Better Lives. Together.

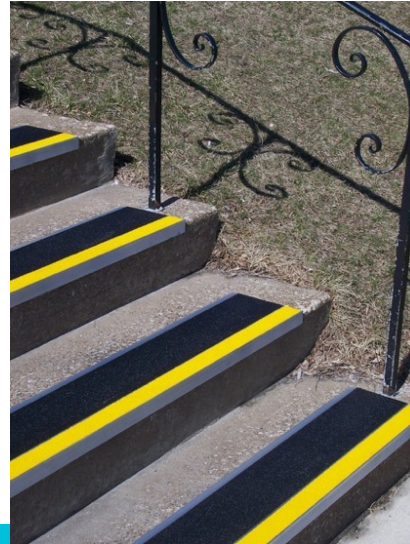
Effects of impaired depth perception

1. Reaching for objects
2. Driving/parking
3. Freezing?



Better Lives. Together.

Compensation strategies



Better Lives. Together.

Driving

- Driving is a complex task that involves a number of modalities, one of which is vision.
 - Attention, coordination, and reaction time also important.
- PD-related visual symptoms can affect driving (e.g. depth perception).
 - Effects of vision on driving can usually be mitigated with caution.
- Many PD patients have to stop driving at some point, but this is usually not because of vision.
 - FYI vision requirements for driving vary by state.

Better Lives. Together.

Visual hallucinations

- Seeing something that is not there.
- Very common (half of PD patients will experience at some point) but frequently under-reported.
 - Afraid of being perceived as “crazy” or having dementia.
- Direct manifestation of PD, can appear/worsen with certain medications.

Visual hallucinations (cont.)

- Wide range of symptoms
 - Illusion of presence/movement in peripheral vision
 - Brief shadow, passing shape
 - Animals, children
 - Can be distressing/threatening (e.g. people trying to break into house)
- Treatment
 - Can adjust PD medications
 - Add specific medication for hallucinations

Is poor vision a risk factor for hallucinations?



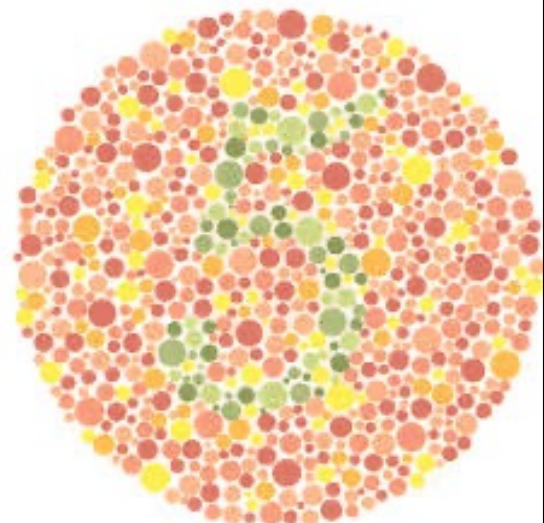
- Balance between visual information that comes from the outside world and information that is stored inside our brains.
 - E.g. images from previous memories, dreams, etc.
- Hallucinations represent an imbalance between external and internal images.
 - Too much internal vs. not enough external?
- Having good vision (clear images of the outside world) is important for suppressing/preventing hallucinations.
 - Some people who have vision loss due to eye disease (e.g. macular degeneration) can have hallucinations just like the ones that occur in PD, but they don't have PD!
 - May also be true of hearing

Better Lives. Together.

Contrast/color vision



- Have been shown to be reduced in PD compared to non-PD in multiple studies.
- Largely asymptomatic.



Better Lives. Together.

Hearing and PD

- Less well studied than vision.
- Some studies suggest that people with PD (especially early onset) may have mildly reduced hearing compared to people without PD.
- May also have trouble localizing sounds in space.
- Like vision, hearing impairment may also be associated with hallucinations.
- Primarily treated with hearing aids.

Frequently Asked Questions

Q: When I take my glasses off, I cannot see well, but when I put my glasses on, I see fine. Is this related to PD/a sign of another problem?

A: No, needing glasses is related to changes in the shape of the front of the eye and increases with age.

Frequently Asked Questions (cont.)

Q: My eye doctor told me that I have cataracts/glaucoma/macular degeneration. Is this condition related to PD?

A: Probably not.

- These conditions are associated with age, and because PD is also more common with age, they are relatively common among PD patients.
- Glaucoma and macular degeneration are neurodegenerative conditions, and so is PD, so there is the suggestion that they may have some shared risk factors, but this has not been definitively shown yet.
- Cataracts are correctable with minor surgery, and PD does not disqualify you from any eye treatments (if anything, they are more important than ever).

Questions?





2022 Expert Briefings



Wednesday, February 2

Sights, Sounds and Parkinson's
Ali G. Hamedani, MD, MHS



Wednesday, March 2

**Conversations About
Complementary Therapies and PD**
Natalie Diaz, MD

Wednesday, April 6

**Can We Put the Brakes on
PD Progression?**
Joash Lazarus, MD

Wednesday, September 7

**The Impact of Physical
Activity in PD**
Miriam Rafferty, PT, DPT, PhD

Wednesday, October 5

**Understanding Gene and Cell-
Based Therapies in PD**
Roger Barker, BA, MBB, MRCP, PhD

Wednesday, November 2

Let's Talk About Dementia
James Leverenz, MD

Register at Parkinson.org/ExpertBriefings

Resources and Support



Aware in Care

Parkinson.org/AwareInCare



PD Library

Parkinson.org/PDLibrary



PD GENERation

Parkinson.org/PDGeneration

Better Lives. Together.

Continued



Podcast: Substantial Matters

Parkinson.org/Podcast



PD Health @ Home

Parkinson.org/PDHealth



Professional Education

Parkinson.org/ProfessionalEducation

Better Lives. Together.

We're Here For You



Parkinson.org
1-800-4PD-INFO
Helpline@Parkinson.org



Better Lives. Together.

Before You Go...



Your feedback is important to us! Please complete the evaluation after the close of this webinar.

EXPERT BRIEFING EVALUATION

Page 1 of 1

1. What best describes your connection to Parkinson's disease (PD)?

- Person with Parkinson's
- Spouse / Partner
- Parent has / had Parkinson's
- Other family of person with Parkinson's
- Friend of person with Parkinson's
- Healthcare Professional
- Other

Better Lives. Together.