Nothing to disclose
William L Hills
Parkinson’s Disease

- Paralysis agitans
- Shaking palsy
- Neuro-degenerative disorder
- Loss of dopamine producing neurons
- Substantia nigra

Visual Problems in Parkinson’s Disease

- Dry Eye Syndrome
- Double vision
- Difficulty reading
- Light sensitivity
- Blepharospasm
- Visual hallucinations
Dry Eye Syndrome

- Almost 2/3 of patients with early Parkinson's disease
- Dry, gritty, or “sandy” feeling eyes
- Red or irritated eyes
- Excessive tearing
- Light sensitivity
Dry Eye Syndrome

- Decreased eyelid blinking
- Patients with PD blink less
  - 12 blinks/min
- Average
  - 20 blinks/min
Dry Eye Syndrome

- Tear layer evaporates
- Red, irritated eye
- Blurred vision
- Monocular double vision
- Clears with blink
- Blink less:
  - Reading
  - Computer
  - TV
  - Driving
Dry eye syndrome: anatomy

• Tear Film
  – Structure
    • 3 layers
      – Oil/Lipid
      – Water
      – Mucous
  – Function
    • Smooth ocular surface
    • Focuses image

Dry eye syndrome: anatomy

• Lacrimal Gland
• Puncta
• Nasolacrimal duct
Dry eye syndrome: anatomy

Lacrimal Gland
Dry eye syndrome: anatomy

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Dry eye syndrome: anatomy

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Dry eye syndrome: anatomy
Nasolacrimal duct

http://w-radiology.com/scanner-orbites/fullsize/orbite-coronal-0.0001_fs.jpg
Dry eye syndrome: Treatment

- Artificial tears
  - 6-8/day

Dry eye syndrome: Treatment
Dry eye syndrome: Treatment

- Artificial tears
  - Consistency of thick water
  - 6-8/day
- Gel
  - Consistency of olive oil
  - 4-6/day
- Ointment
  - Consistency of Vaseline
  - At bedtime
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Dry eye syndrome: Treatment

• Artificial tears  
  – 6-8/day

• Warm compresses  
  – Closed eyelids  
  – X 10 minutes
Dry eye syndrome: Treatment
Dry eye syndrome: Treatment

http://www.chicagodryeyecenter.com/Content2/punctalplugs/soft_plug.jpg
Dry eye syndrome: Treatment
Dry eye syndrome: Treatment

- Punctal Occlusion
- Usually lower lid
- Blocks drainage
Dry eye syndrome: Treatment

- Which drops?
- Which ointment?
- Brand name vs generic?
- Preservative free?
- Ask your eye care provider for recommendations
Parkinson’s Disease: Double Vision

- Convergence insufficiency
  - Typically two images side-by-side
  - Reading up close, however, not usually in the distance
  - Close one eye and resolves
  - More common as the disease progresses over the years
Parkinson’s Disease: Double Vision

- Convergence insufficiency
- Base in prism
- Reading only glasses
Parkinson’s Disease: Double Vision

- Sometimes improved with medications
  - Effect is not typically long-lasting
- “Pencil push-ups”
  - Simple exercises
- Prism lenses
- “Near vision only”
  - Glasses designed only for reading
- Traditional bifocal or progressive bifocal lenses
  - Typically very challenging
Parkinson’s Disease: Double Vision

- Monocular diplopia
  - Double vision with only one eye (each eye separately)
  - Most commonly due to dry eyes
  - Blinking improves vision temporarily
- Cataracts
- Uncorrected Astigmatism
- Retinal changes
  - Epiretinal membrane
  - Macular degeneration
  - Diabetic retinopathy
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Parkinson’s Disease: Double Vision
Parkinson’s Disease: Reading

- Dry Eye Syndrome
- Double Vision
- Tremor
  - Music stand
  - Cook book stand
- Slowed eye movements
  - Use finger or ruler as guide
- Decreased color vision
- Decreased contrast sensitivity
  - Certain colored lenses may help
  - Use bright task lighting
Parkinson’s Disease: Reading

- Slowed eye movements
  - Use finger or ruler as guide
Parkinson’s Disease: Reading

- Slowed eye movements
  - Use finger or ruler as guide
Parkinson’s Disease: Blepharospasm

- Involuntary closure of the eyes
- Frequent blinking
- Forceful closure

http://library.med.utah.edu/NOVEL/Wray/
Parkinson’s Disease: Blepharospasm

Treatment

• Dry eye therapy
• FL-41 tinted lenses
• Medications
• Botox injections
Parkinson’s Disease: Blepharospasm

Treatment

- Dry eye therapy
- FL-41 tinted lenses
- Medications
- Botox injections
Parkinson’s Disease: Visual Hallucinations

- Up to 25% of PD
- Early in disease
- Formed images
  - People
  - Objects
- Aware that they are not real
- Can be helped or caused by medication
Parkinson’s Disease: Visual Hallucinations vs Illusions
Parkinson’s Disease: Visual Hallucinations

- Check for a urinary tract infection or pneumonia
- Consider the medication - pain medications, muscle relaxants, and benzodiazepines (valium, ativan, clonazepam)
- In some severe cases experts may consider temporarily stopping or reducing certain medications
- In some severe case small doses of sinemet or madopar are used to try to gain control of the hallucinations/psychosis, but one must be aware this strategy could worsen Parkinson’s disease symptoms
- Experts will frequently use dopamine blocking medications such as seroquel or clozaril, but almost never will use other dopamine blockers such as haldol, resperidal, and olanzapine– which all may worsen Parkinson’s symptoms.
- Call your neurologist immediately if you experience hallucinations or...
Parkinson’s Disease:

- Dry Eye Syndrome
- Double vision
- Difficulty reading
- Light sensitivity
- Blepharospasm
- Visual hallucinations

Talk to your:
- Eye care provider
- Neurologist