

# Cognitive Decline in Parkinson's Disease

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MARCH 24, 2018

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# Disclosures

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None

# Objectives

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- Onset
- Course
- Risk Factors
- Specific Cognitive Difficulties
- Treatments

# Onset

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- Parkinson's disease
  - Ages 60 – 70
    - Motor Dysfunction
      - Unilateral tremor
  - 1/3 newly diagnosed pts have MCI
    - Not DEMENTIA

# Dementia

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- Cognitive decline and functional impairment
  - No single test
- Clinical Diagnosis
  - Comprehensive Exam

# Dementia

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- Comprehensive Exam
  - Medical History
  - Cognitive Testing
  - Bloodwork
  - Brain MRI

# Dementia

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- Often progressive but not always
  - Stroke
  - Head Injury
  - Depression
  - Hormone imbalances or nutritional deficiencies
    - TSH, B1, B12
  - Alcohol Abuse

# Dementia

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- Progressive
- Alzheimer's Disease
- Frontotemporal Dementia
- Parkinson's disease dementia (PDD)
- Dementia with Lewy Bodies (DLB)



# PDD vs DLB

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- Timing of dementia
  - $>1$  = PDD
  - $<1$  = DLB
- Mechanism
  - Aggregated protein
    - Alpha-Synuclein
      - Within the brain cell



# PDD course

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- 1/3 with PD will have MCI at time of diagnosis
- 1/2 with PD will have MCI within 5 years
- 2/3 with PD will develop PDD
- 10 years
  - Average time for developing dementia

# Risk Factors for PDD

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- Increasing Age
- Male
- Longer disease duration
- Earlier cognitive weaknesses
- Visual Hallucinations
- Older age of onset of PD
- Greater severity of motor symptoms

# Cognitive Features of PDD

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- Psychomotor Slowing
- Attentional Difficulties
- Executive Dysfunction
- Language Difficulties
- Memory Dysfunction
- Visuospatial Dysfunction

# Psychomotor Slowing

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- Bradykinesia
  - Motor slowing
- Bradyphrenia
  - Thought slowing

# Attentional Difficulties

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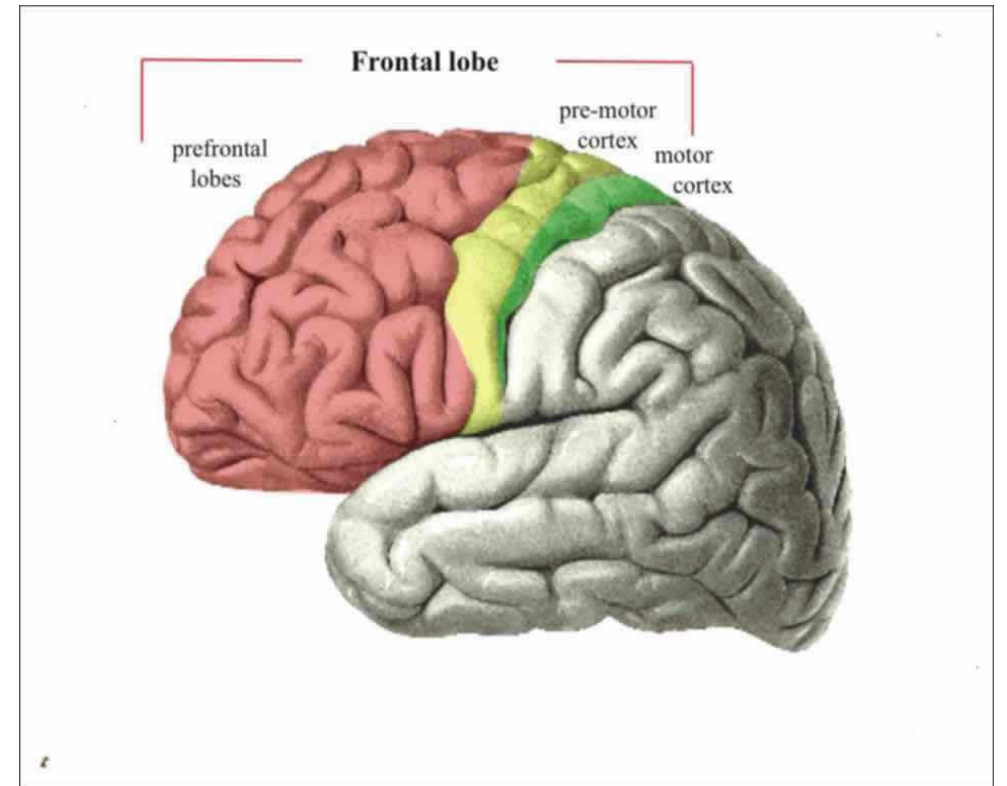
- Fluctuation
  - Seconds to days
    - Confused, staring spells
- Divided Attention
- Working memory



# Executive Dysfunction

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- Executive Functioning
  - Problem solving
  - Task Initiation
  - Shifting
  - Planning
  - Organizing



# Language Dysfunction

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- Muffled/soft speech
- Speech output reduced
  - Word finding difficulties





# Visuospatial Dysfunction

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## ➤ Small Handwriting

BIG	SMALL
Sustainability: securing resources for current use with an eye for the future	Sustainability: securing resources for current use with an eye for the future.

# Visuospatial Dysfunction

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- Visual perception
- Copying of images



# Visuospatial Dysfunction

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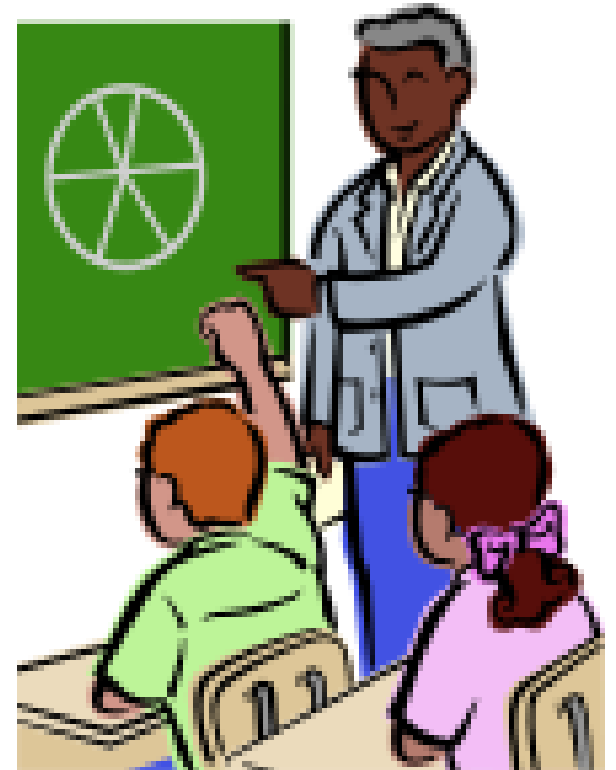
- Visual hallucinations
  - Well formed
  - Recurrent images
  - Generally not distressing



# Memory Dysfunction

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- Memory retrieval
  - Benefit from cues and reminders



# Treatment = Management

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- Good Assessment
  - Neuropsychological assessment
    - Referral by movement disorder neurologist
    - ~4 hours



# Treatment

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- Assessment
- Individualized
- Behavioral
- Medications

# Behavioral Treatments

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- “Don’t go against the grain.”
  - Keep calm and demonstrate concern
- Visual Hallucinations



# Behavioral Treatments

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- Routine
- Sleep
- Simplify/Organize living areas
- Nightlight for visual difficulties





# Behaviors for Brain Health

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- Cognitive Engagement
- Social Engagement
- Exercise
- Sleep
- Healthy/Balanced diet



# Medications

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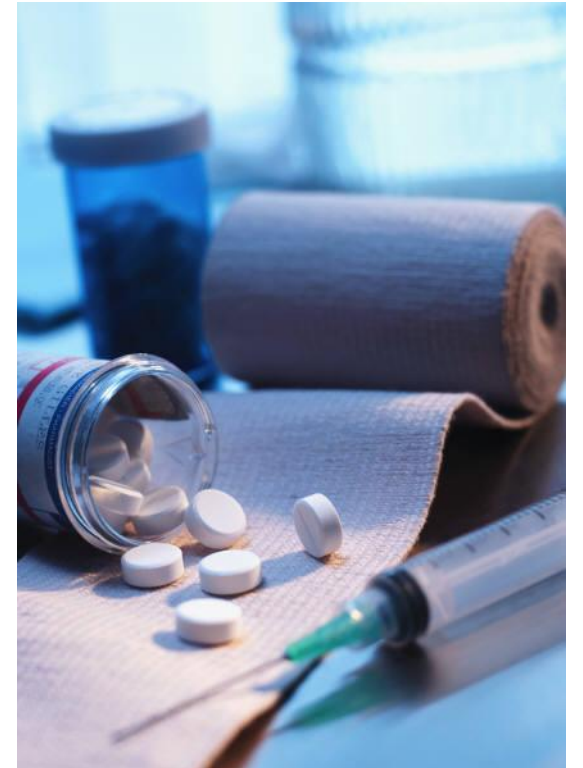
- Cholinesterase inhibitors
  - Aricept
  - Exelon
  - Razadyne



# Medications

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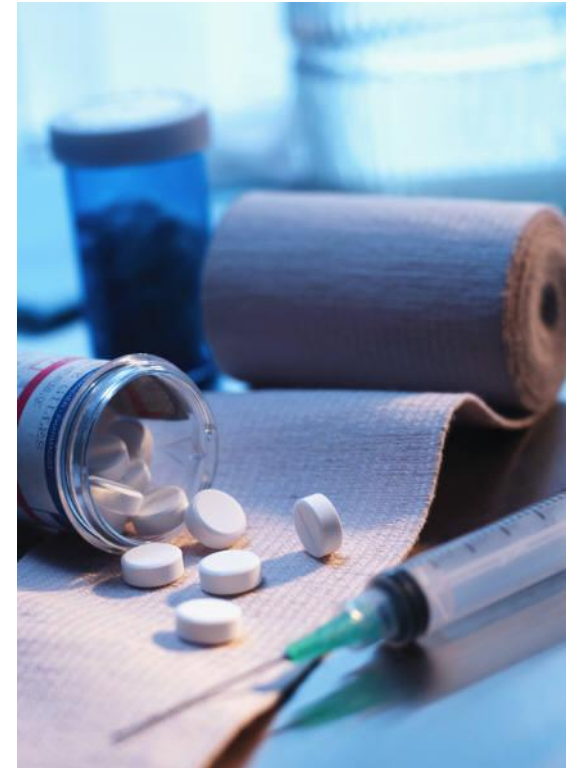
- Neuroleptics aka antipsychotics
  - Visual Hallucinations
  - Neuroleptic sensitivity
    - Worsening symptoms
    - Increased risk of Mortality
  - Newer antipsychotics
    - Quetiapine



# Medications

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- PD
- Carbidopa-Levodopa
  - As prescribed
    - Dose
    - Schedule



# Thanks for Listening!

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