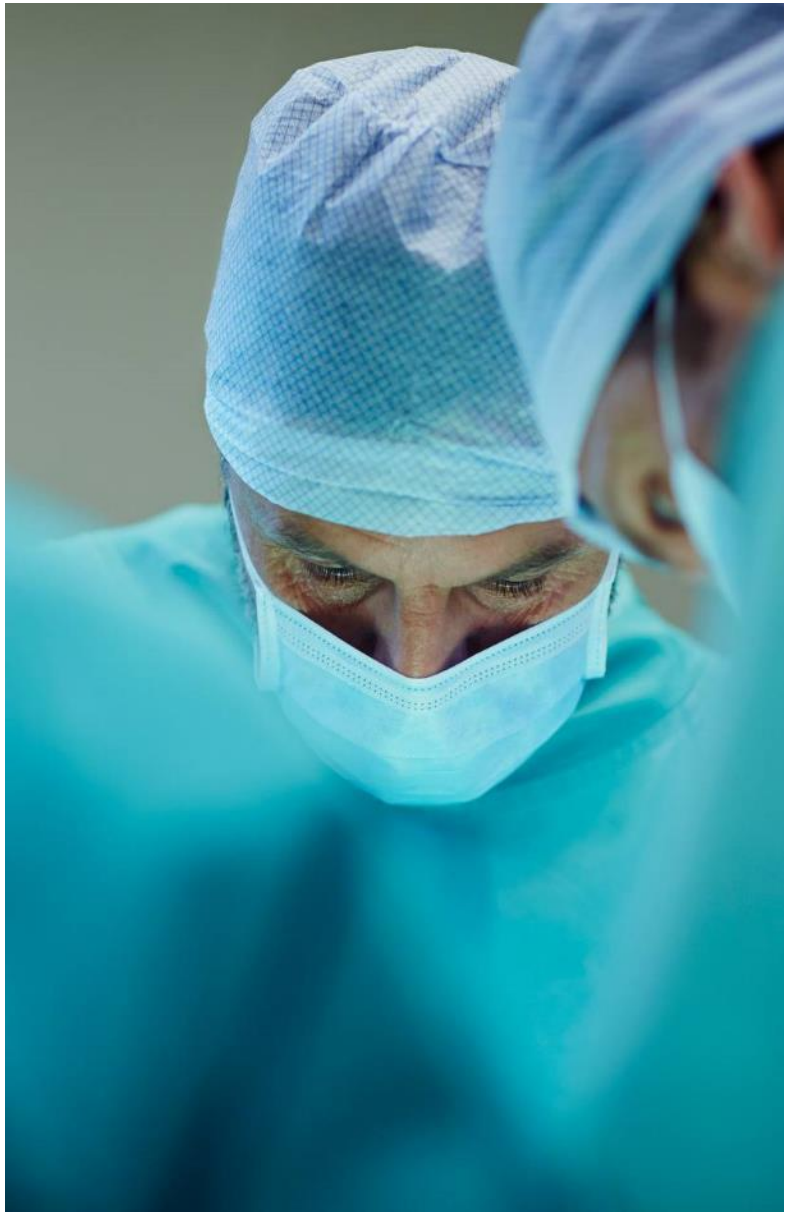
HOSPITALIZATION AND PARKINSON'S

Alex Mitchell, SPT

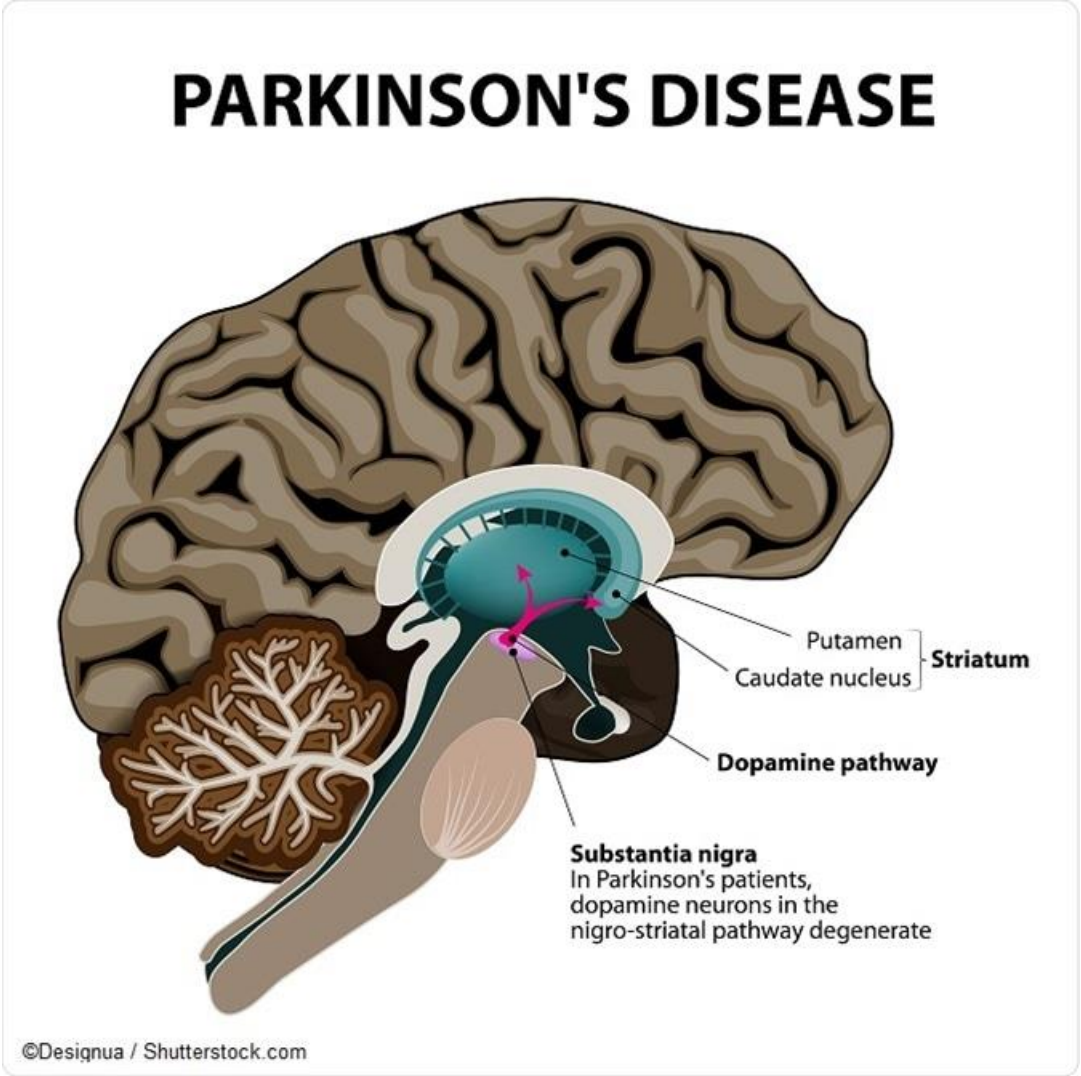
OBJECTIVES

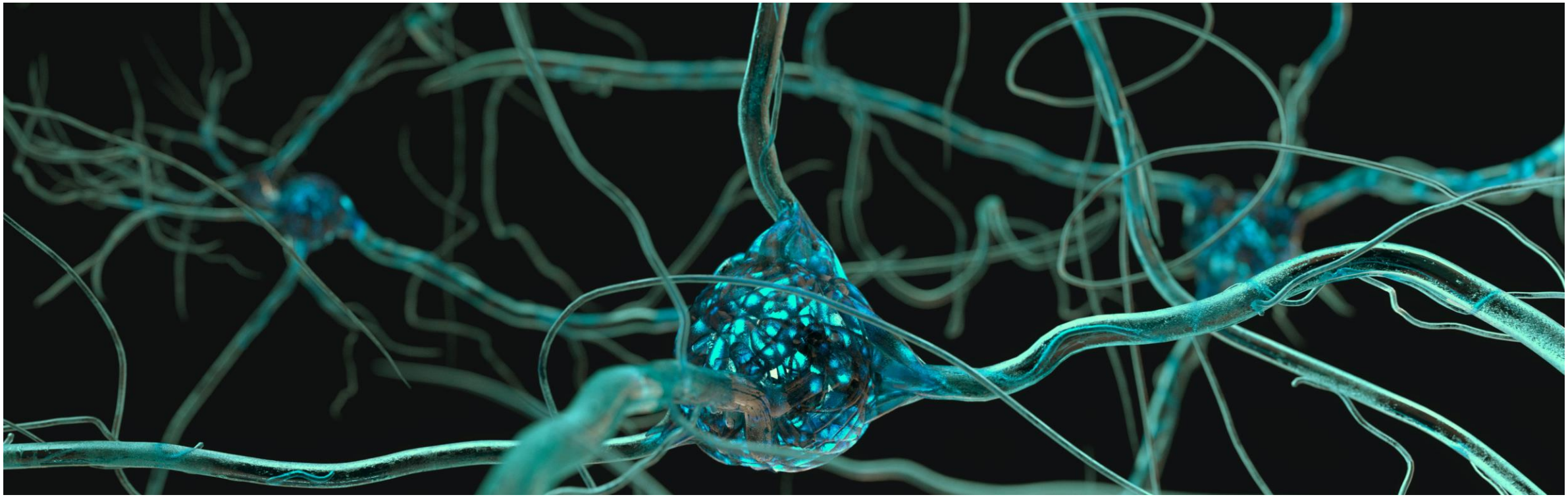
1. The audience will understand the pathophysiology and etiology of Parkinson's Disease.
2. The audience will list primary motor and cognitive impairments that accompany a PD diagnosis, as well as describe the typical disease progression over time.
3. The audience will understand challenges often found in the hospital setting that lead to decreased motor function and overall quality of life for PWPs upon discharge from the hospital.
4. The audience will understand options for interdisciplinary management as well as management unique to the rehab team for PWP during their hospital stay.



INTRODUCTION

- In majority of cases, the cause is unknown
- PD is a neurological disorder affecting the basal ganglia
  - Degradation of dopaminergic neurons in substantia nigra
  - Direct and indirect motor pathways are affected
  - Less dopamine around = hyperactivity of motor inhibitors = inhibition of voluntary movements
- Affects >1million in United States (average age of onset is age 60)
- Comprehensive effect on quality of life





MINI-QUIZ TIME: WHAT ARE SOME KEY SYMPTOMS OF PD THAT YOU'VE SEEN IN PATIENTS?

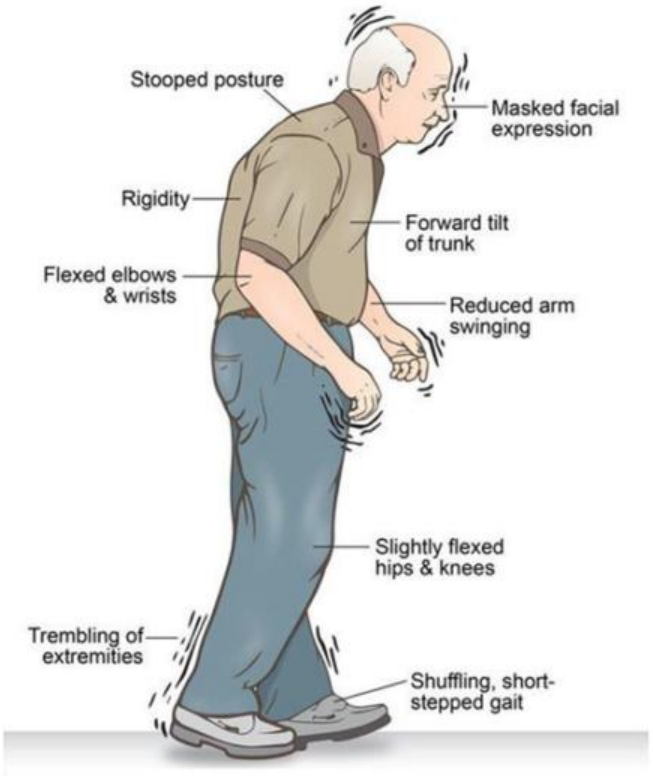
SYMPTOMS OF PARKINSON'S

Motor Impairments

- Tremors (4-7 Hz)
- Rigidity (primarily axial)
- Akinesia (bradykinesia)
- Postural instability

Cognitive Impairments

- Difficulty shifting attention
- Slower processing speed
- Difficulty with dual task activities



T Tremor: shaking, usually starting on one side

R Rigidity: stiffness of the limbs, neck, or trunk

A Akinesia: loss or impairment in power of voluntary movement

P Posture and balance

TYPICAL COURSE OF PD

Early Stage

- Initial symptom is resting tremor and/or micrography, often unilateral
- Rigidity and bradykinesia
- Balance difficulties – not yet to falls

Later Stage

- Festination, dyskinesia, hypokinesia
- Episodes of freezing
- Postural instability
- Reduced activity, weakness, contracture, diminished aerobic capacity

Final Stage

- Unable to ambulate
- Dependent for ADLs
- Severe kyphosis
- Likely cognitive impairment
- Death from pneumonia or DVT

MULTIDISCIPLINARY TEAMMATES

MD team – PCP, Movement Specialist, Neurologist, Pharmacist

Rehab Team – PT/OT/SLP

Social Worker

Psychologist

In the Acute setting, why would this be challenging?

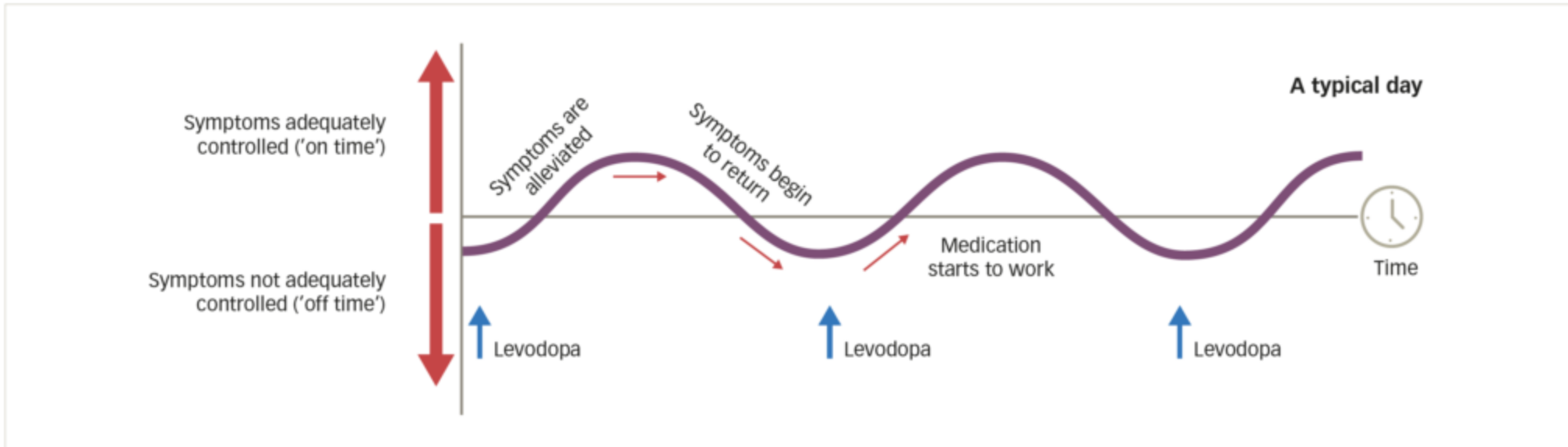
UNIQUE CHALLENGES OF ACUTE CARE SETTING FOR PWP

- Every year in the US, nearly 1/3 of people with PD will have a hospital encounter (planned or unplanned)
- Hospitalized1.5x more often than peers the same age without PD
- One study found that only 16% of admissions are directly related to PD

Clinical Complications compared to peers:

- PwPs experience greater length of hospital stays (up to 14 days longer)
- 28% of those hospitalized experience motor symptom deterioration
- Less likely to be discharged to home (62.9% will be discharged to SNF)
- Higher rates of readmission (more than ½ return to the ED within the year)

Figure 2: Illustration of levodopa pharmacokinetics and wearing-off period over time[5]

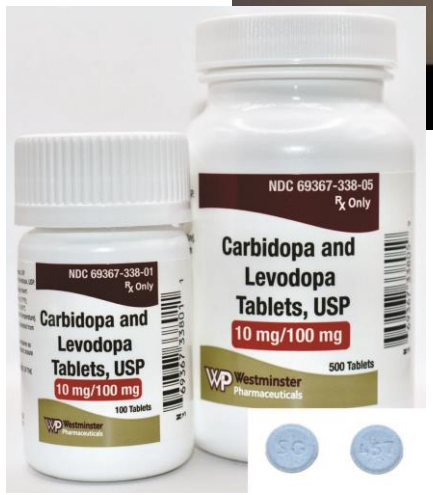


Adapted with permission from Stocchi, 2006.[5]

“THESE PATIENTS POSE A SPECIFIC CHALLENGE TO THE HOSPITALIST, NOT ONLY BECAUSE THE MULTIORGAN SYSTEM MANIFESTATIONS OF PD CAN RAISE SURGICAL RISK, BUT ALSO DUE TO THE DIRECT EFFECTS OF DOPAMINERGIC MEDICATIONS USED TO TREAT PD, LACK OF A PARENTERAL ROUTE FOR THESE MEDICATIONS IN NPO PATIENTS, AND THE RISKS ASSOCIATED WITH ABRUPT WITHDRAWAL OF THESE MEDICATIONS.”

RISK FACTORS FOR DETERIORATION IN HOSPITAL

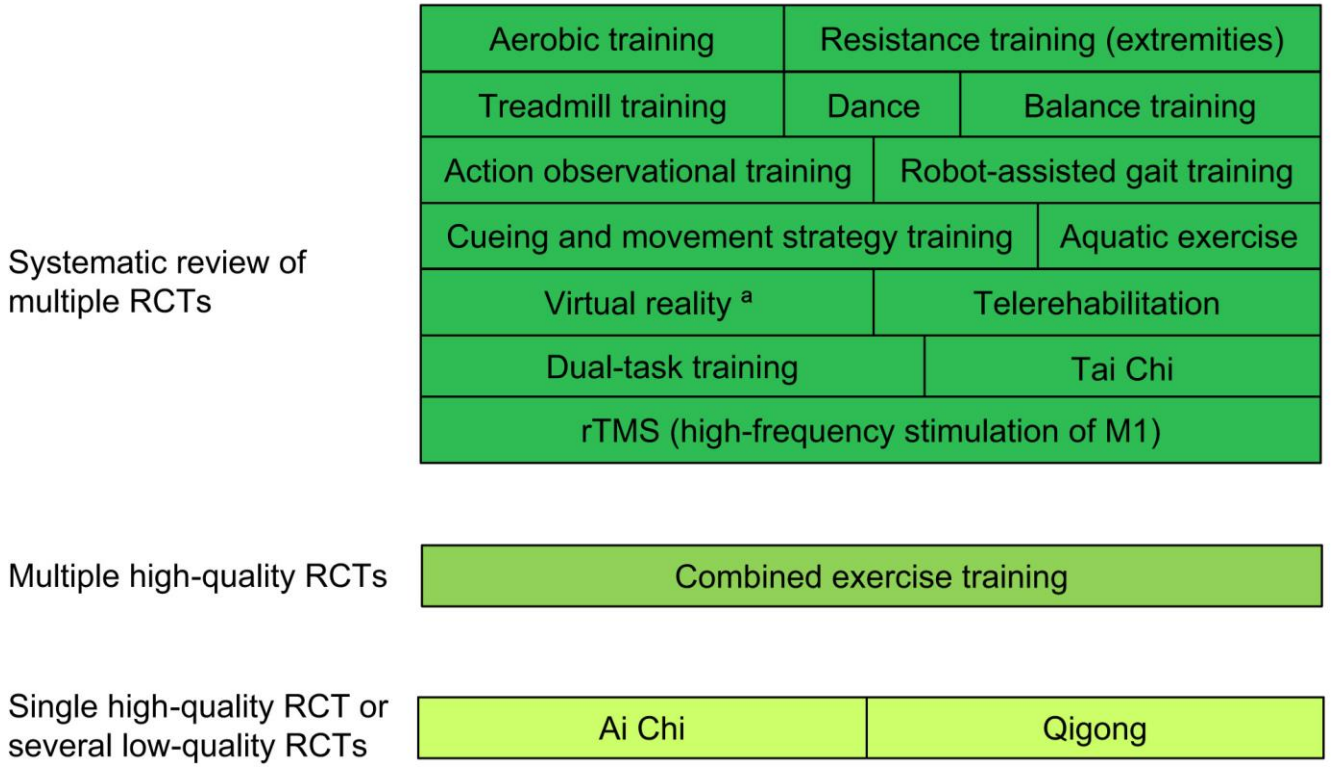
- Medication Issues
  - Timing
  - Standard med sets even though lots of standard hospital meds are contraindicated
- Increased aspiration risk
- Mobility, falls, and fractures
- Other medical issues
  - Orthostatic hypotension
  - Psychiatric problems
- Perceptions of hospital care



WHAT CAN THE ACUTE REHAB TEAM DO?

Manage falls risks!

- Early mobilization should be part of the protocol unless contraindicated
- PT and OT consults should occur for all hospitalized patients with PD
  - Consider "on-off time" = usually peak motor performance is between 1-2 hours after medication administration (protein affects it too, so waiting for an hour after meals is prime)
  - Practice intentional, big movements
  - Cognitive tasks while walking / turning
  - Use external cues if possible
- Outpatient rehab referrals should be arranged (or at least highly encouraged) at discharge for those returning to home



WHAT CAN THE ACUTE REHAB TEAM DO?

Be advocates for other hospital-wide changes:

- Emphasize the importance of timing with medications – allow patients bring in their Rx from home for nursing to work from
- Saying "no" to NPO for procedures
- Keeping an eye out for medications that are antagonists / can worsen PD motor and non-motor symptoms (Haldol, anti-nausea, antidepressants)
- Encouraging our patients to also self-advocate
- Educate other clinical staff on typical movement patterns during "off-time" to avoid inappropriate treatment
- Notify physicians who care for people with PD that their patient has been admitted to the hospital

RESOURCES

Parkinson's Foundation

Parkinson.org/AwareInCare

Alpha-Synuclein Amplification Assay Aids Early Detection, With Potential to Improve Diagnosis and Treatment in Parkinson Disease

Apr 12, 2023
Isabella Ciccone, MPH

New research confirms a key disease pathology identified through examining spinal fluid in patients with Parkinson disease.

In a newly published cross-sectional study in *The Lancet Neurology*, sponsored by The Michael J. Fox Foundation for Parkinson's Research (MJFF), use of an alpha-synuclein seed amplification assay (αSyn-SAA) technique showed high diagnostic accuracy of Parkinson disease (PD), distinguished molecular subtypes, and detected the disease before primary symptoms.[1]

In total, data on αSyn-SAA was collected from 1123 participants from the

THANK YOU!

QUESTIONS?

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UNC DPT

EVALUATION SURVEY

Permission to whip out your phones – a short evaluation survey on this presentation as required by my program. Many thanks!

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Suggested Checklists (from Parkinson's Foundation)

- Emergency Department Medication Reconciliation
- Hospital Admission
  - Notify primary Parkinson's care doctor
  - Reconcile medications
  - Assemble team of specialty care providers (including PT!)
- Perioperative
  - Pre-surgical Parkinson's medication plan
  - Medication management for day of surgery
  - Post-surgical Parkinson's medication plan
- Hospital Discharge