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# The Effects of Dual Tasks on Balance and Gait in Patients with Parkinson's Disease: A Critically Appraised Topic

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## MISSION STATEMENT

The mission of the Messiah University Doctor of Physical Therapy Program is to graduate ethical, compassionate, autonomous doctors of physical therapy who are competent to practice in diverse settings. Graduates will be life-long learners informed by evidence-based practice who exemplify the values of Messiah University and the physical therapy profession.

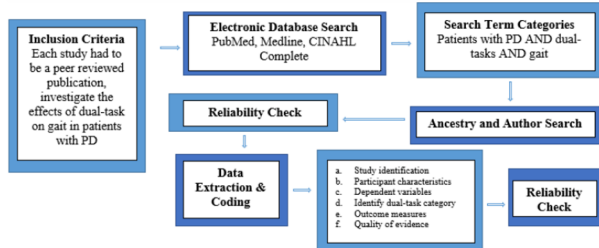
### PICO

*Will patients with PD have more effective gait and balance improvements with dual task interventions compared to single tasks?*

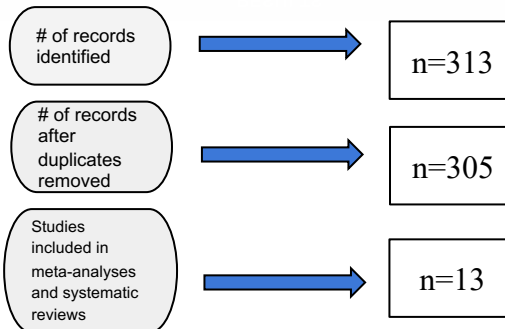
### INTRODUCTION / PURPOSE

- Parkinson's Disease (PD) is a progressive neurodegenerative disease that affects over 10 million people globally.
- There is evidence to suggest that dual-cognitive tasks negatively impact the gait and balance of patients with PD.
- 19-38% of patients with PD will develop cognitive impairments.
- Higher level cognitive functioning dual tasks exacerbate freezing of gait episodes (FoG).
- Research shows potential improvement with dual-tasks during gait secondary to prioritization of motor task of walking.

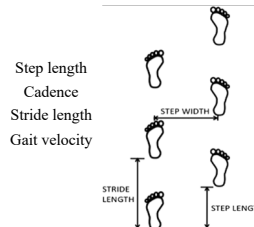
### METHODS



### RESULTS



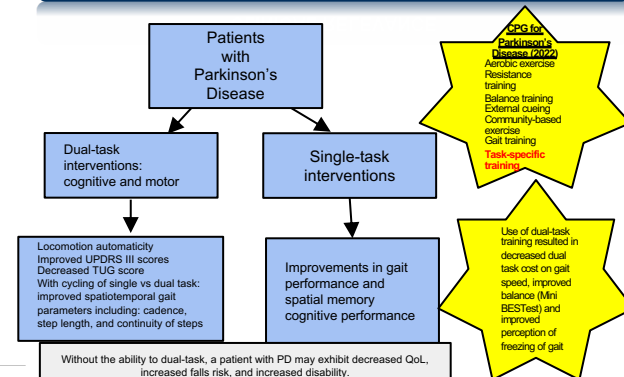
Outcome Measures	Measures
	-TUG
	-TUG-Cog
	-TUG-Motor
	-UPDRS III
	-Mini-BESTest
	-Spatiotemporal gait parameters



### SELECTED REFERENCES



### CLINICAL RELEVANCE



### CONCLUSION

- Involvement of dual tasks can elicit episodes of freezing of gait, decrease gait speed, and effect gait negatively.
- Complex cognitive activities can impact gait to a greater degree than simple tasks
- Between the experimental and control group, there was a mean decrease of gait speed, gaze fixation, or any other dependent variable due to higher cortical involvement.
- This explains the festinating gait that patients with PD may have, especially in the later stages of the disease.
- Different tasks involving auditory feedback and visual feedback have similar impacts on gait. Future research should integrate those components to improve gait in patients with PD.