Improving Functional Mobility Following a Basal Ganglia Stroke
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Background
- The basal ganglia are located in the and are involved in voluntary motor control, emotional reactions, and cognition.
- The putamen is housed in the basal ganglia, and is involved in learning and motor skills.
- Stroke is the 4th leading cause of death in the U.S. and leads to 1 out of every 19 deaths.
- Stroke is the largest cause of disability in older adults, and the largest consumer of rehabilitation services in the U.S.
- Hypertension is a major risk factor for causing a stroke, and over 90% of patients that have had a basal ganglia stroke have also had stage 2 hypertension (160/100).

Patient History
- JD is a 55 year old male that had a left basal ganglia stroke, specifically to his left putamen in March of 2012.
- JD has a history of hypertension since 1999, and a history of low back pain since 2004.
- He lives at home with his supportive wife. He has two adult daughters that don’t live with him, but help support him when needed.

Interventions
- The main focus of his interventions were to improve his functional mobility, balance, and lower extremity strength and active range of motion.
- JD needed frequent breaks between interventions due to his decreased respiratory capacity and exercise tolerance.
- Interventions to improve functional mobility were performed at almost every treatment.
- All interventions were performed in the parallel bars with a gait belt on for safety.
- Common Interventions performed are pictured below.

Outcomes
- JD was still receiving physical therapy at the end of my clinical rotation, so I was unable to perform a discharge evaluation.

Figure 3
Figure 3 shows the amount of assistance JD needed with his mobility at week 4, week 8, and week 12 of his treatment.

Discussion
- Positive factors in JD’s improvement include: his motivation to improve, family support, treatment from an interprofessional team, and improved exercise tolerance as treatment progressed.
- Negative factors limiting JD from further improvement include: his age, cognitive impairments, fear of falling, and slower than expected improvements in strength and active range of motion.

References
2. Gutman IA, Schoffind RE. Screening Adult Neurologic Populations. 2nd Ed. ACP-ASIM Press, Bethesda, 2009