

Balance and Strength Interventions for an Individual Post Left Sided MCA CVA: A Case Report



UNIVERSITY OF
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INNOVATION FOR A HEALTHIER PLANET

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Putting bodies back in motion

Background

- Cerebrovascular accident (CVA), or stroke, is the fifth leading cause of death in the United States (US) with more than 140,000 deaths each year¹
- It is the leading cause of long-term disability in the US, reducing functional mobility in more than half of all stroke survivors ages 65 or older¹
- This condition costs the US approximately 34 billion dollars a year and it is estimated to increase to 108 billion per year by 2025²
- Strokes are caused by the interruption of the blood supply to the brain, which occurs when a blood vessel ruptures (hemorrhagic stroke) or is blocked by a clot (ischemic stroke)³

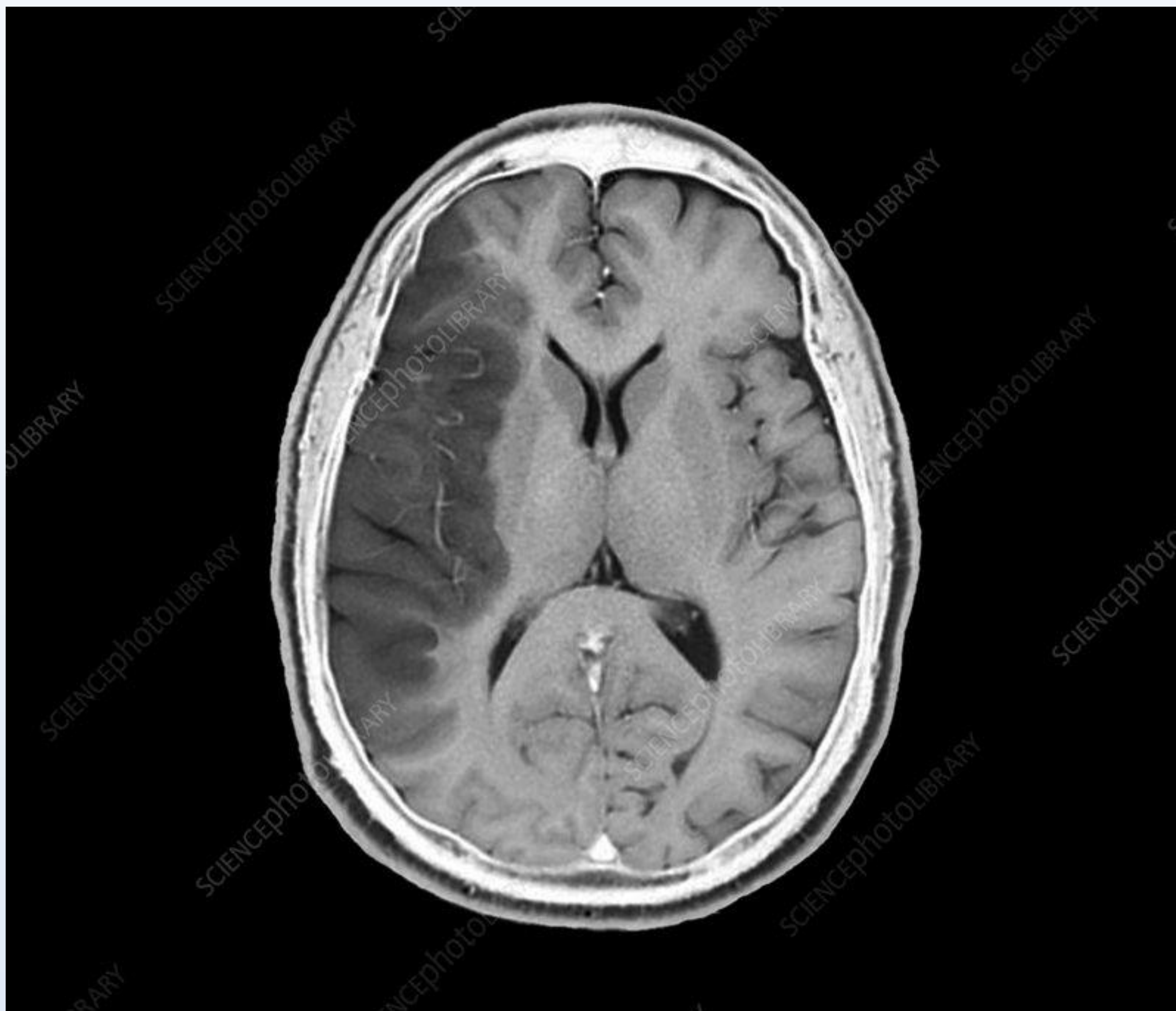


Fig. 1: MRI Image of MCA CVA

<https://www.sciencephoto.com/media/876309/view/stroke-mri-brain-scan>

Purpose

- The purpose of this case report is to describe the multifactorial management of care for a patient affected by chronic stroke in the outpatient physical therapy setting.

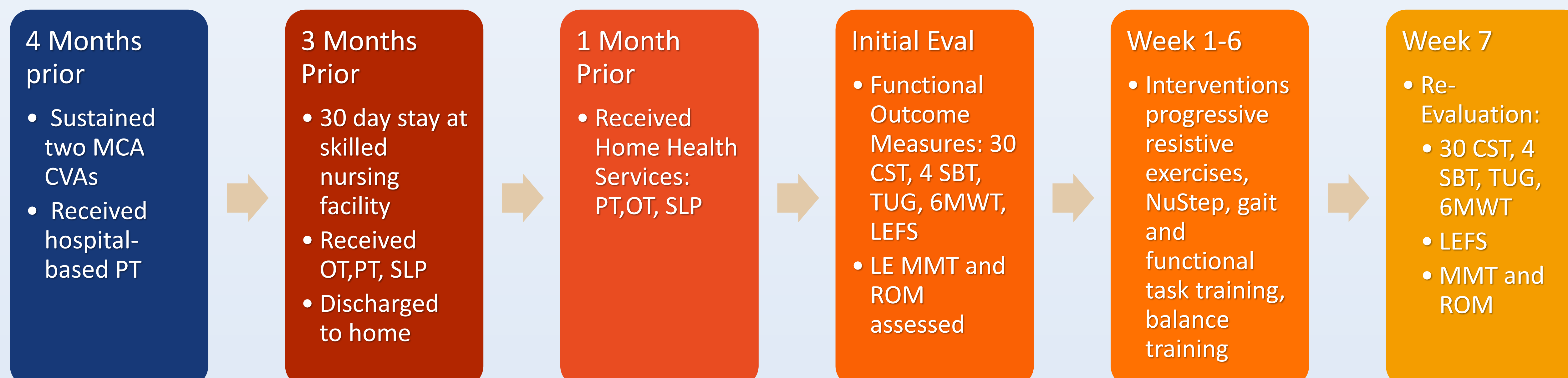
Case Description

- 71-year-old male with right sided hemiparesis, homonymous hemianopsia, Broca's aphasia and dysphagia
- PMH: atrial fibrillation, hypertension, hyperlipidemia, pancreatitis, and right knee osteoarthritis.
- Participated in 10 physical therapy (PT) visits over the course of 7 weeks
- Primary PT goal was to increase his level of independence with ADL performance and functional mobility
- Community ambulator with use of front wheeled walker (FWW)

Tests & Measures

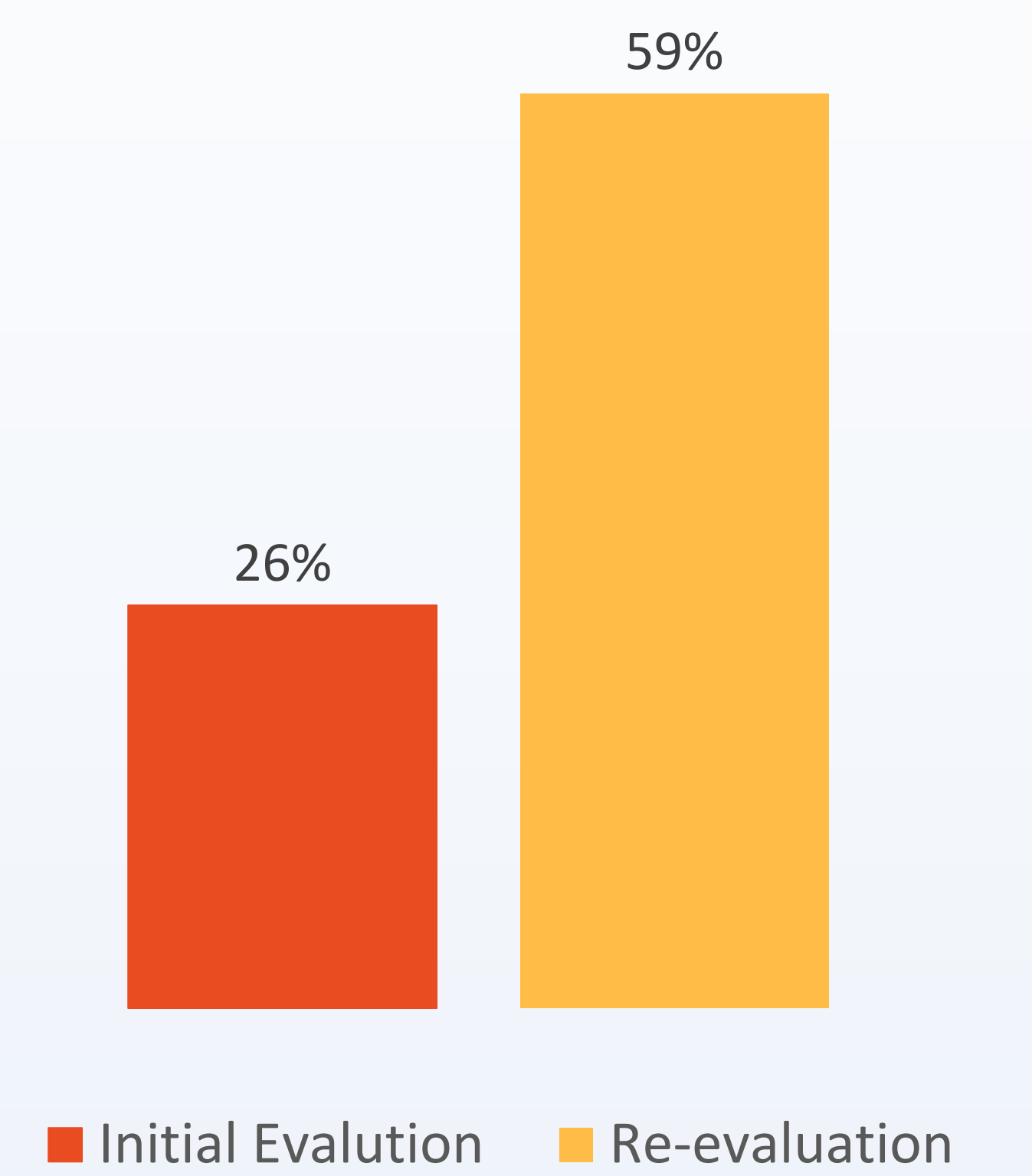
Tests & Measures	Initial Evaluation Results				Re-evaluation Results			
Lower Extremity Function Scale (LEFS)	74% perceived disability rating				41% perceived disability rating			
4 Stage Balance Test (4 SBT)	FT	ST	T	ULS	FT	ST	T	ULS
	10s	10s	3s	0s	10s	10s	10s	R:3s L:5s
Timed Up & Go (TUG)	27s				23s			
Six-minute walk test (6MWT)	132 meters				140 meters			
30 second chair stand (30 CST)	0 repetitions				8 repetitions			

Timeline

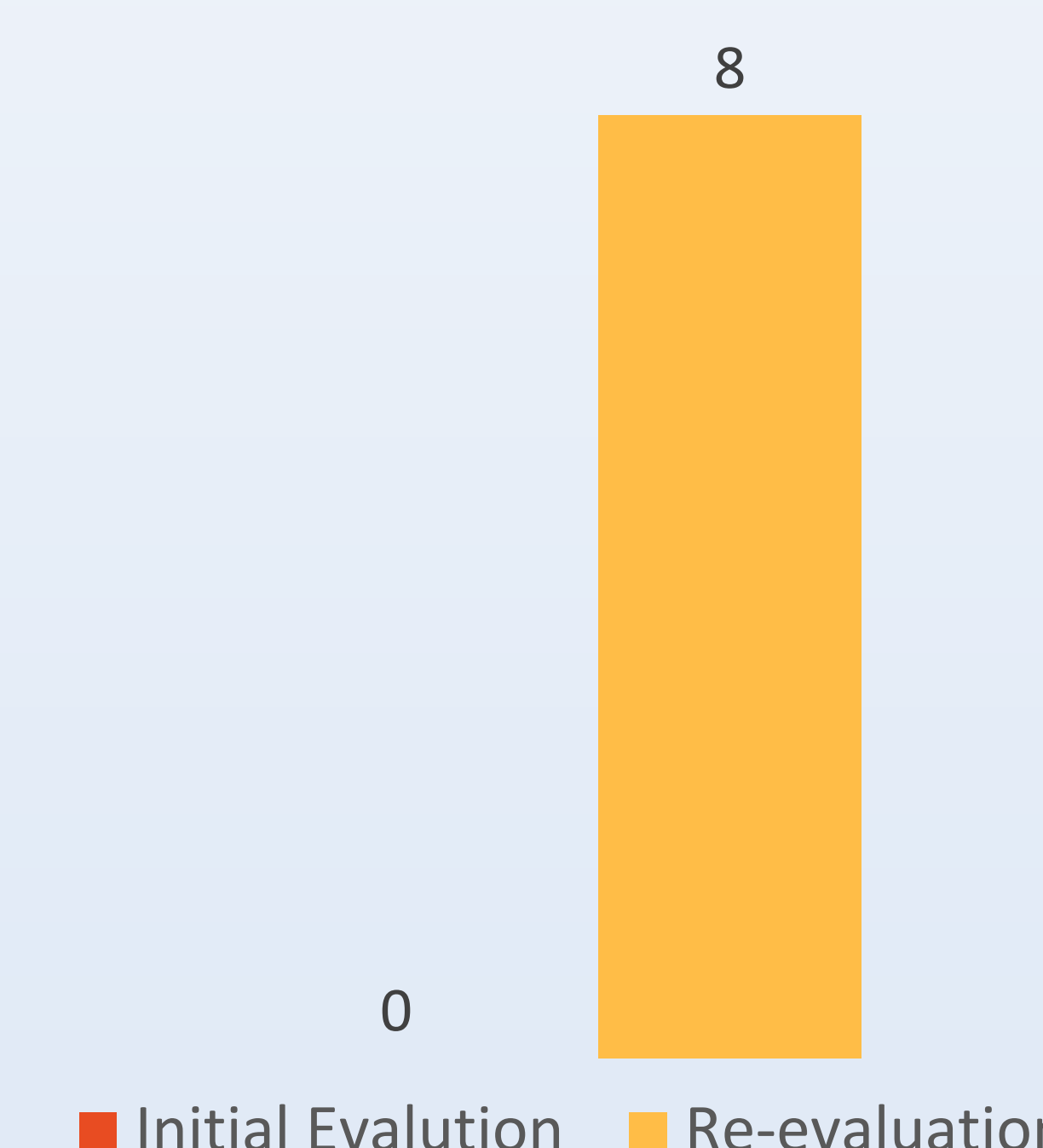


Outcomes Measures

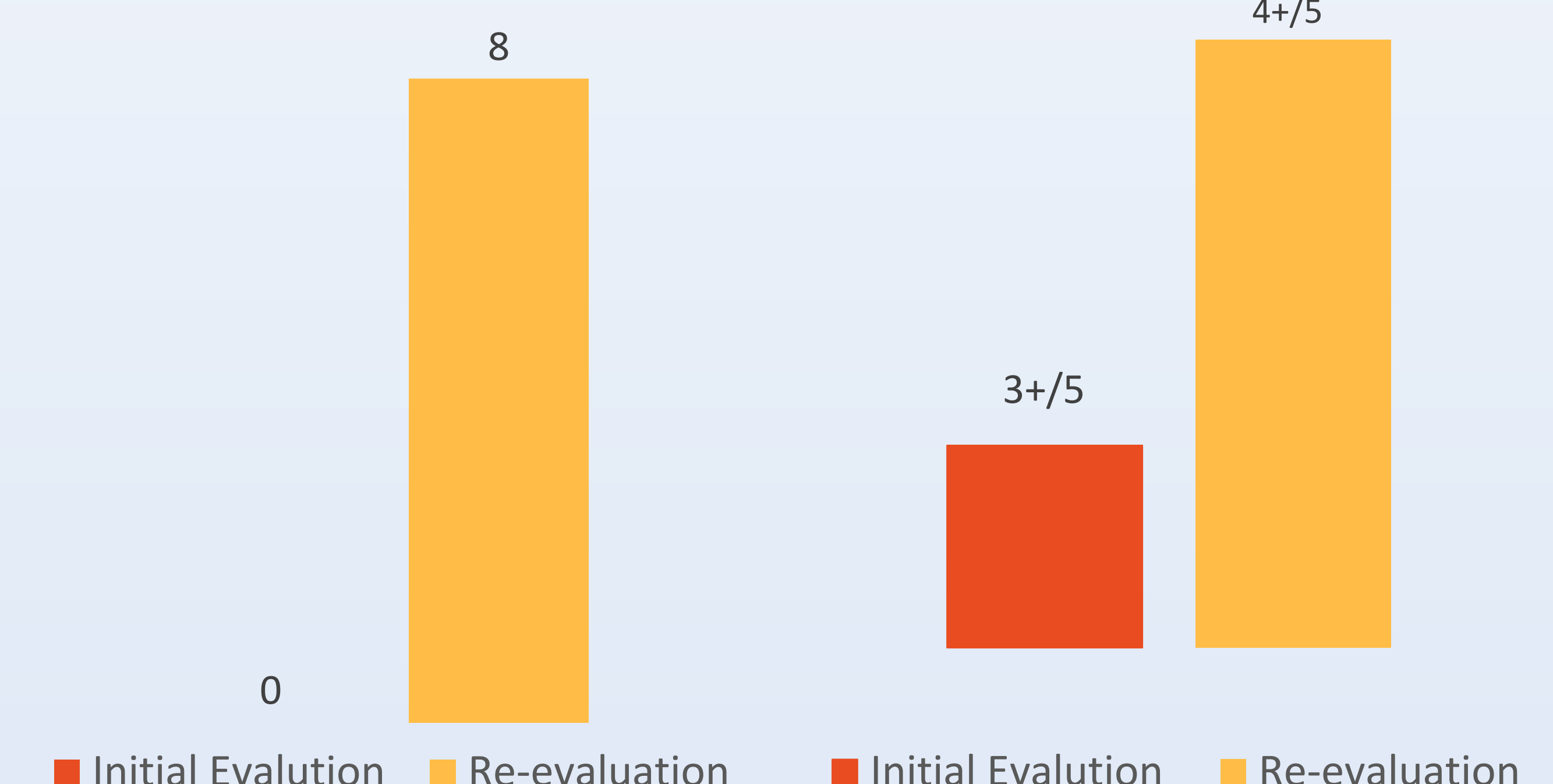
Lower Extremity Functional Scale



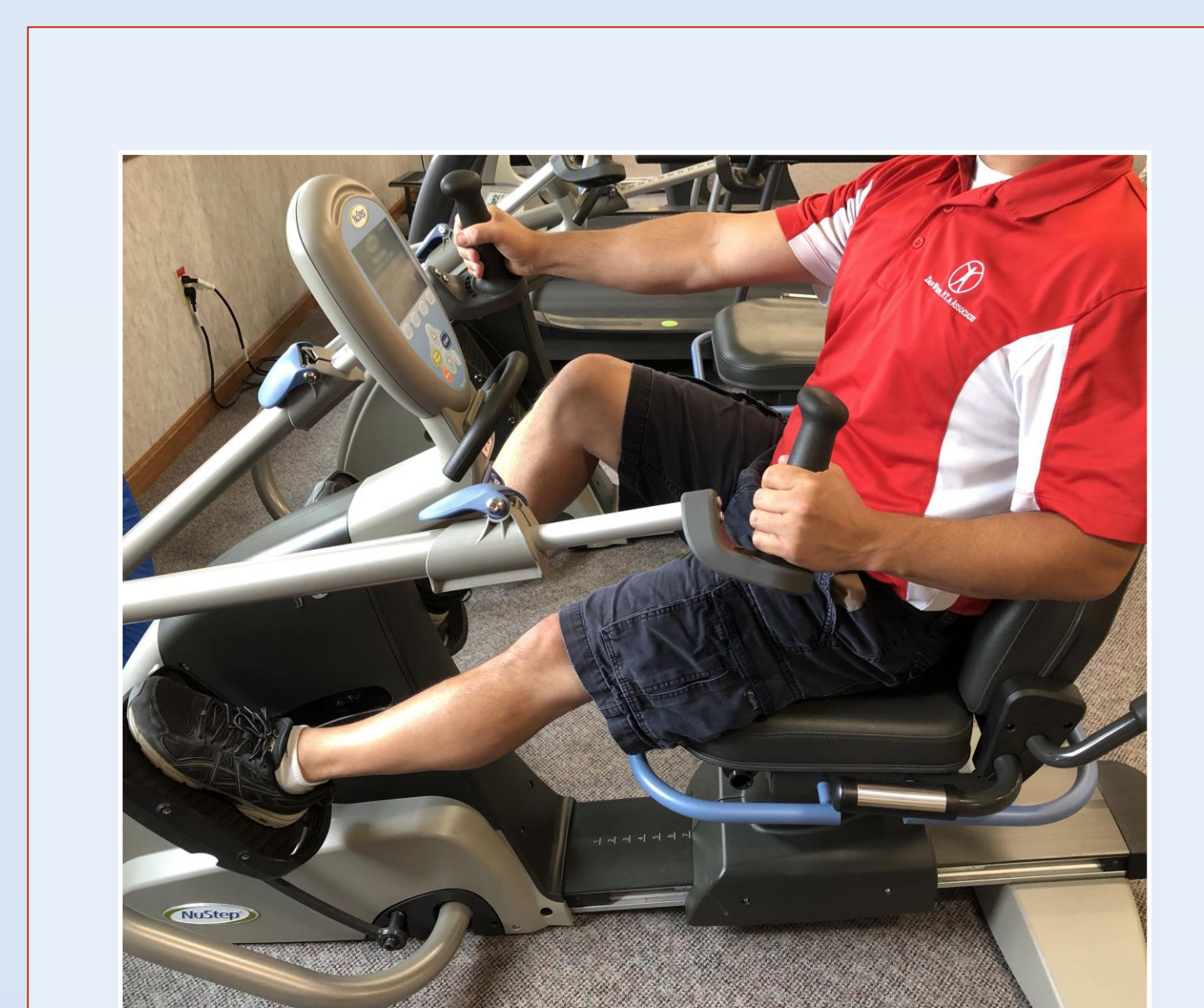
30 second Chair Stand Test



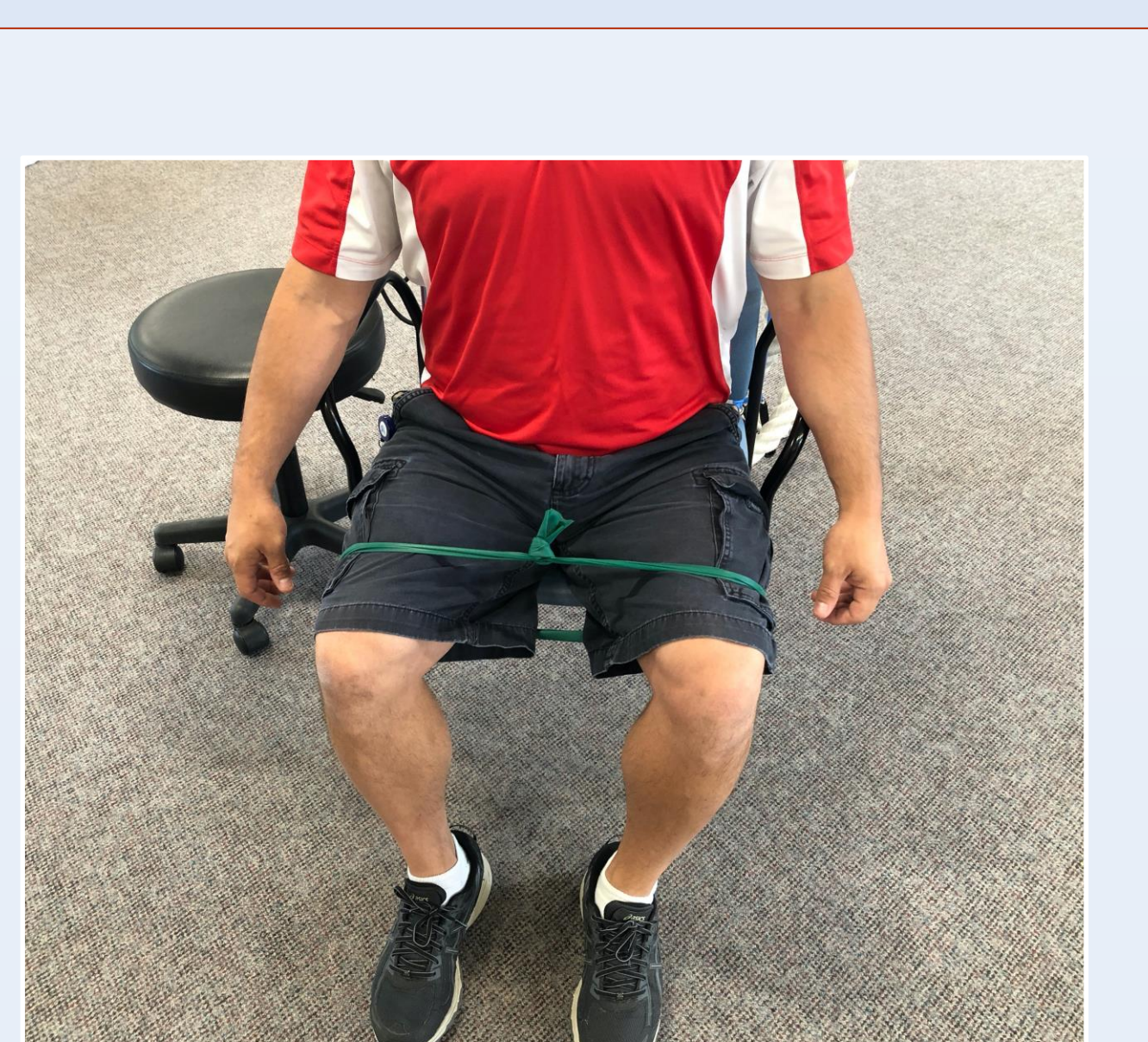
Manual Muscle Testing



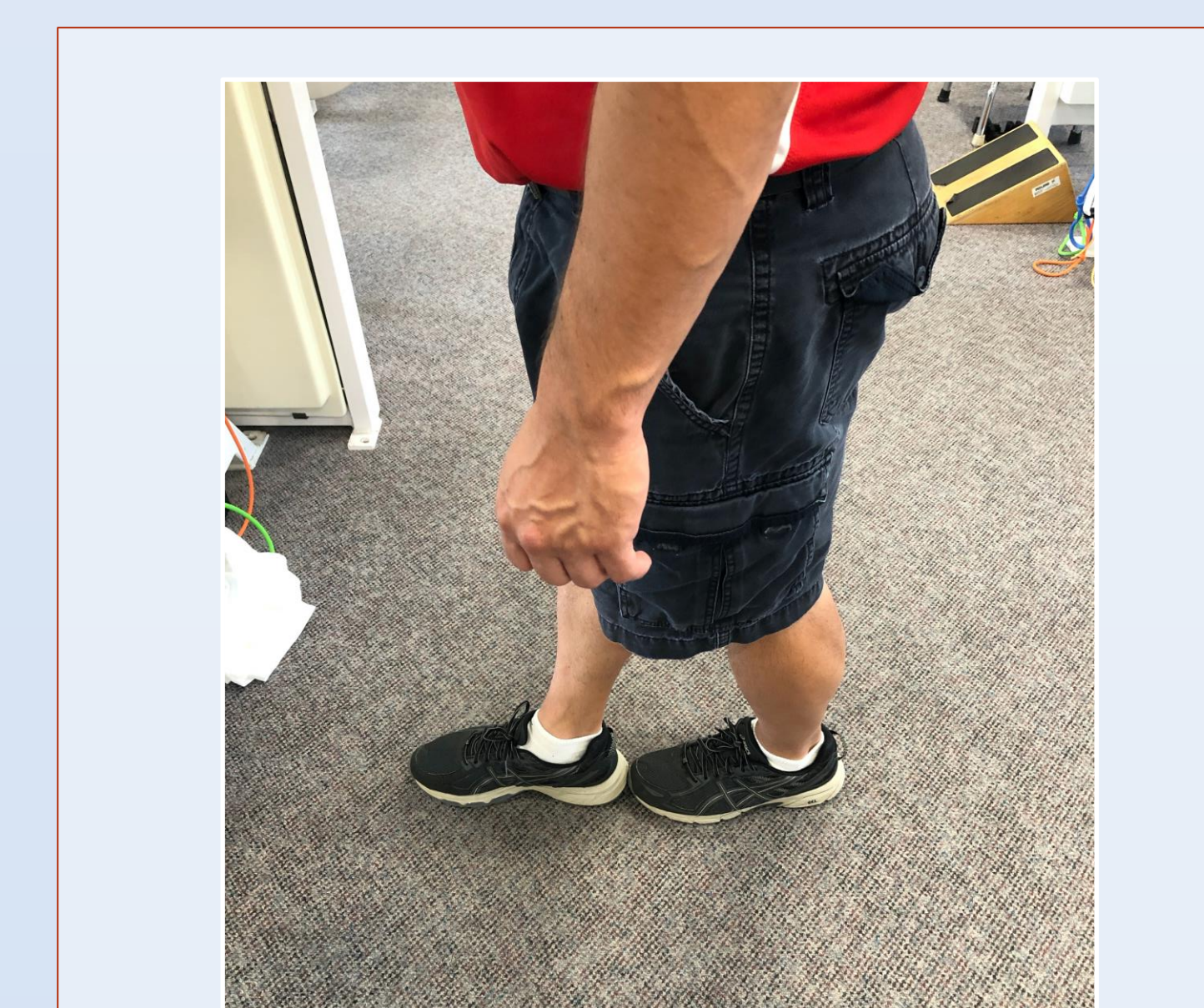
Interventions



Cardiovascular Exercise



Resistance Training



Balance Training

Discussion & Conclusion

- The patient demonstrated significant subjective and functional improvements
- Improvements seen in global strength grades, AROM, 4 SBT, 30 CST, TUG, 6MWT
- Patient-reported lower extremity functional scale (LEFS) scores improved significantly
- These outcome scores suggested that combined global strengthening, cardiovascular exercise, balance training and caregiver education may improve functional mobility in this patient population.

Acknowledgements & References

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