

Restoring Functional Mobility Following a Ruptured Abdominal Aortic Aneurysm: A Case Report

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Background & Purpose

- An *abdominal aortic aneurysm* (AAA) is a dilation of the abdominal aortic artery greater than three centimeters involving all layers of the vessel wall.¹
- There are two surgical options for treatment of AAA: open repair and endovascular aneurysm repair (EVAR).
- An *endoleak* is a complication following EVAR when blood leaks into the aneurysm sac.³
- A type III endoleak occurs when there is a defect between parts of endografts causing an increase in the systemic pressure in the aneurysm sac.⁴
- The purpose of this case report was to describe the physical therapy (PT) plan of care of an elderly patient following an open repair of a ruptured AAA with a history of EVAR.

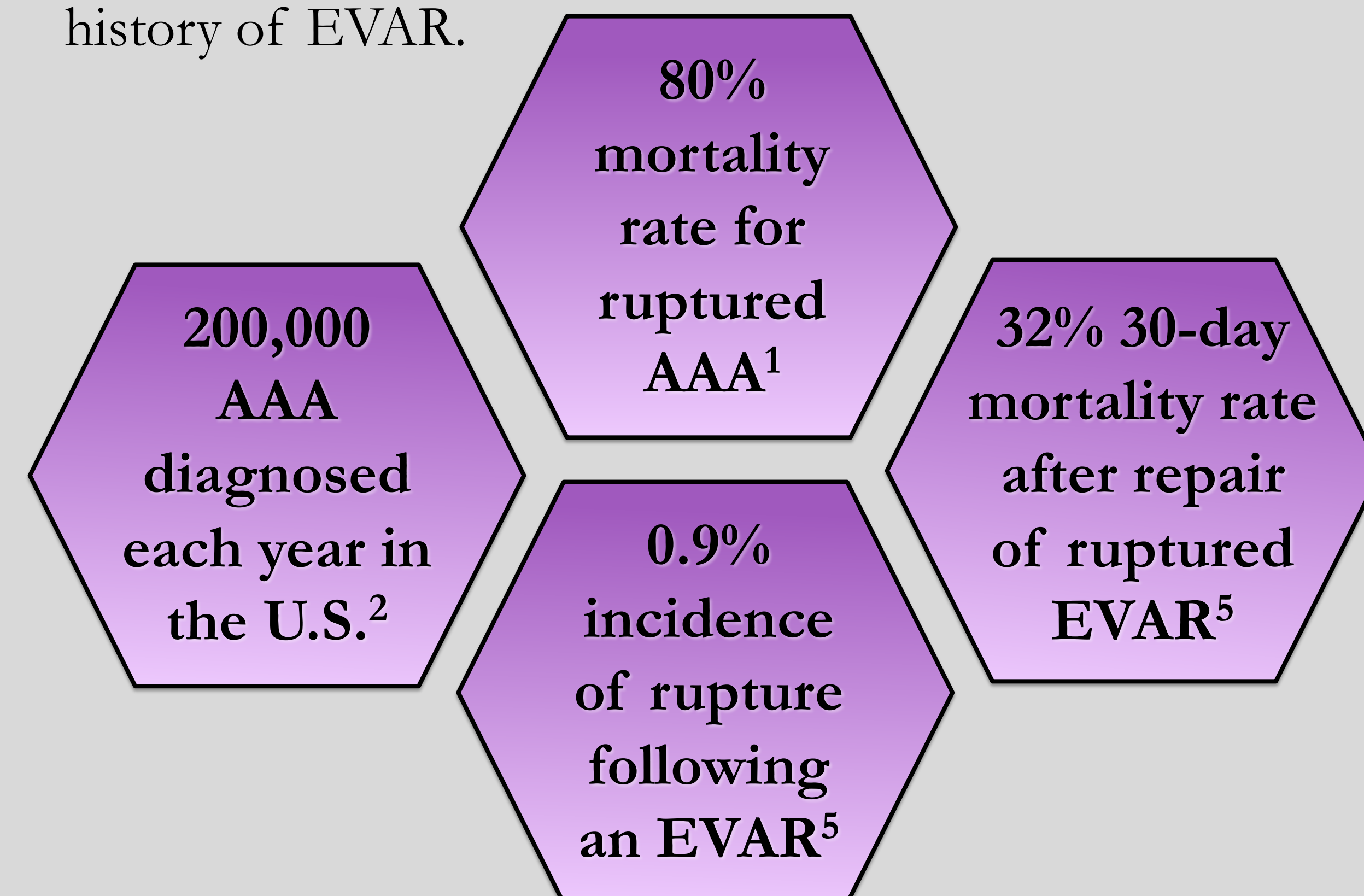


Figure 1. Normal Abdominal Aorta and an AAA

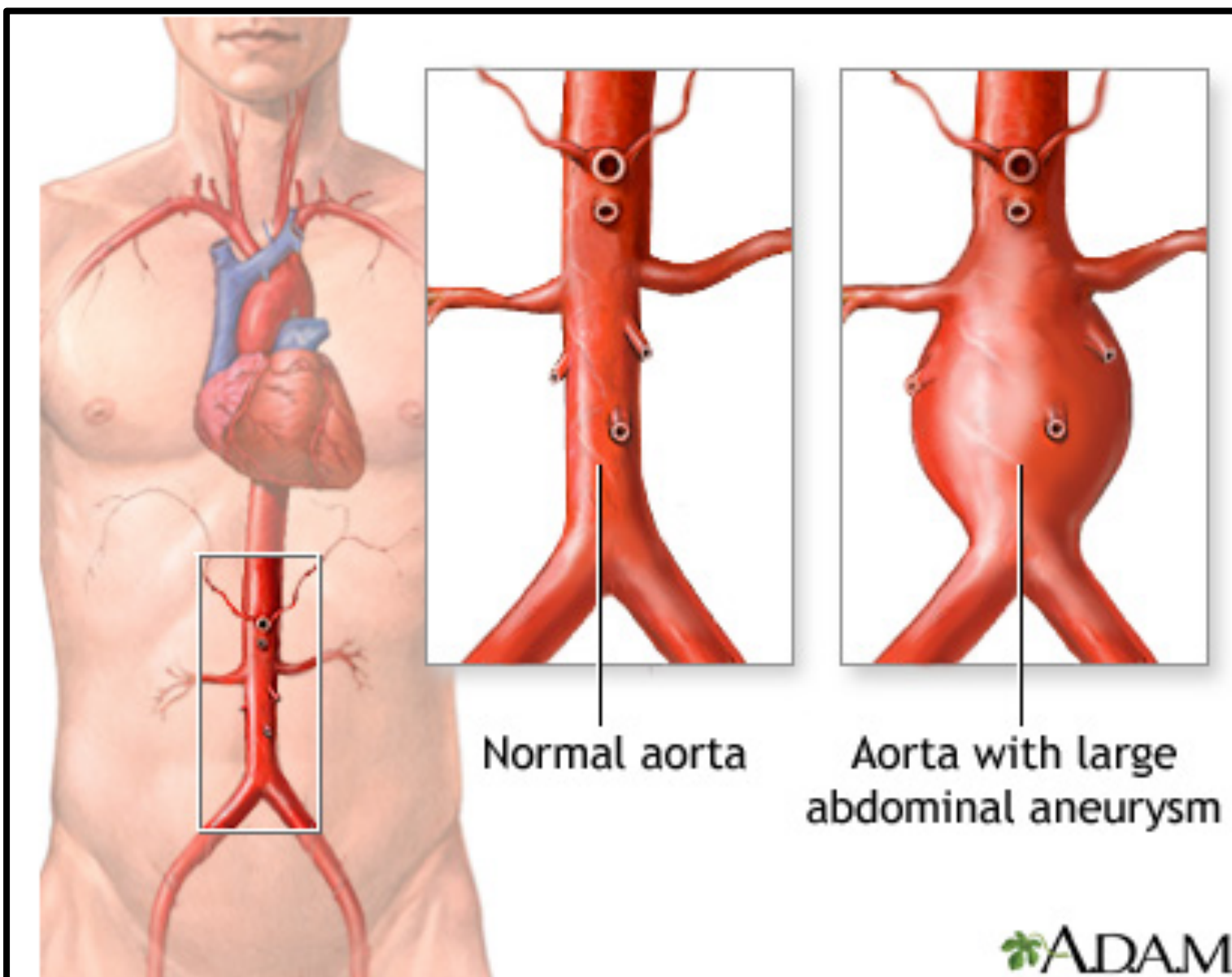


Figure 1. <https://medlineplus.gov/ency/article/000162.htm>

Figure 2. Type III Endoleak

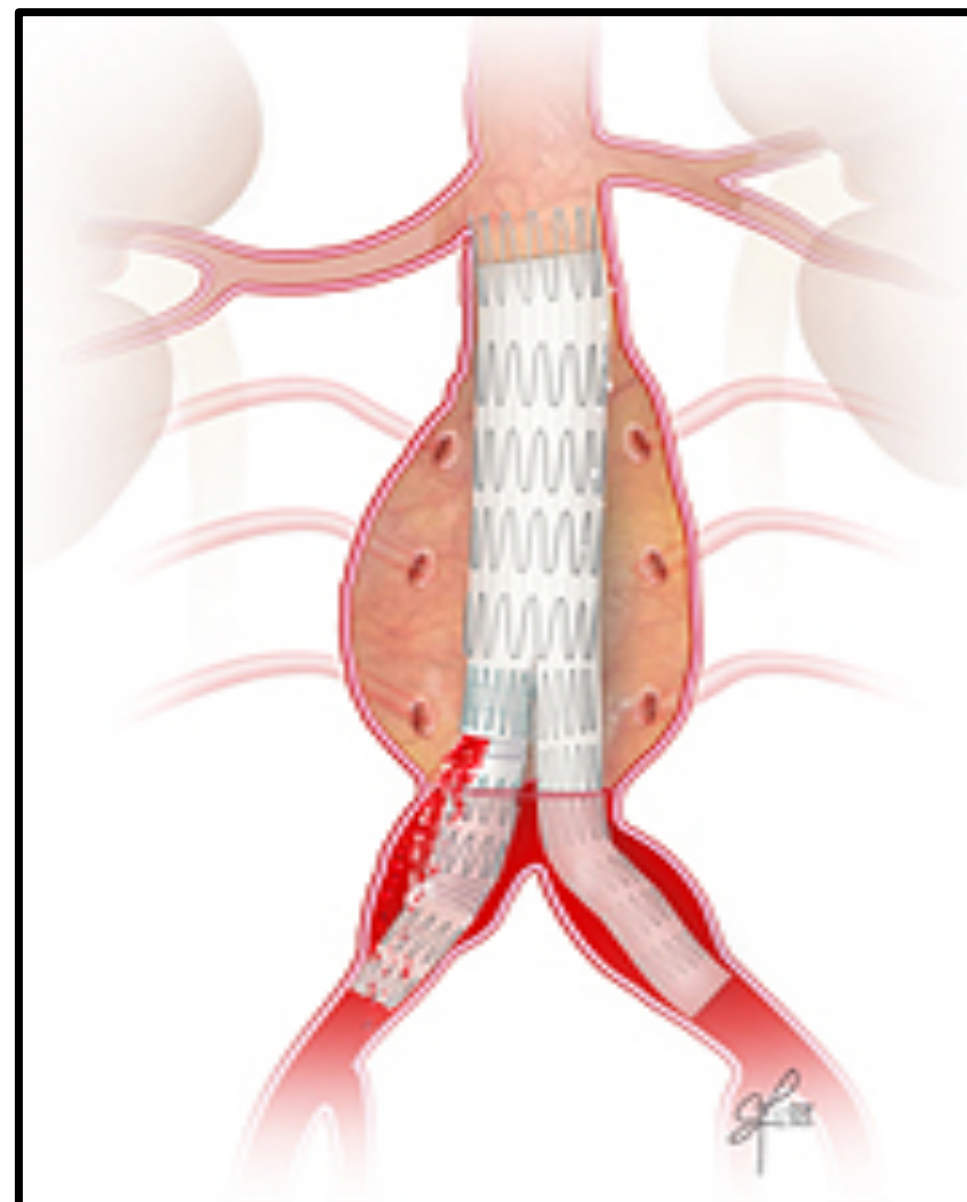
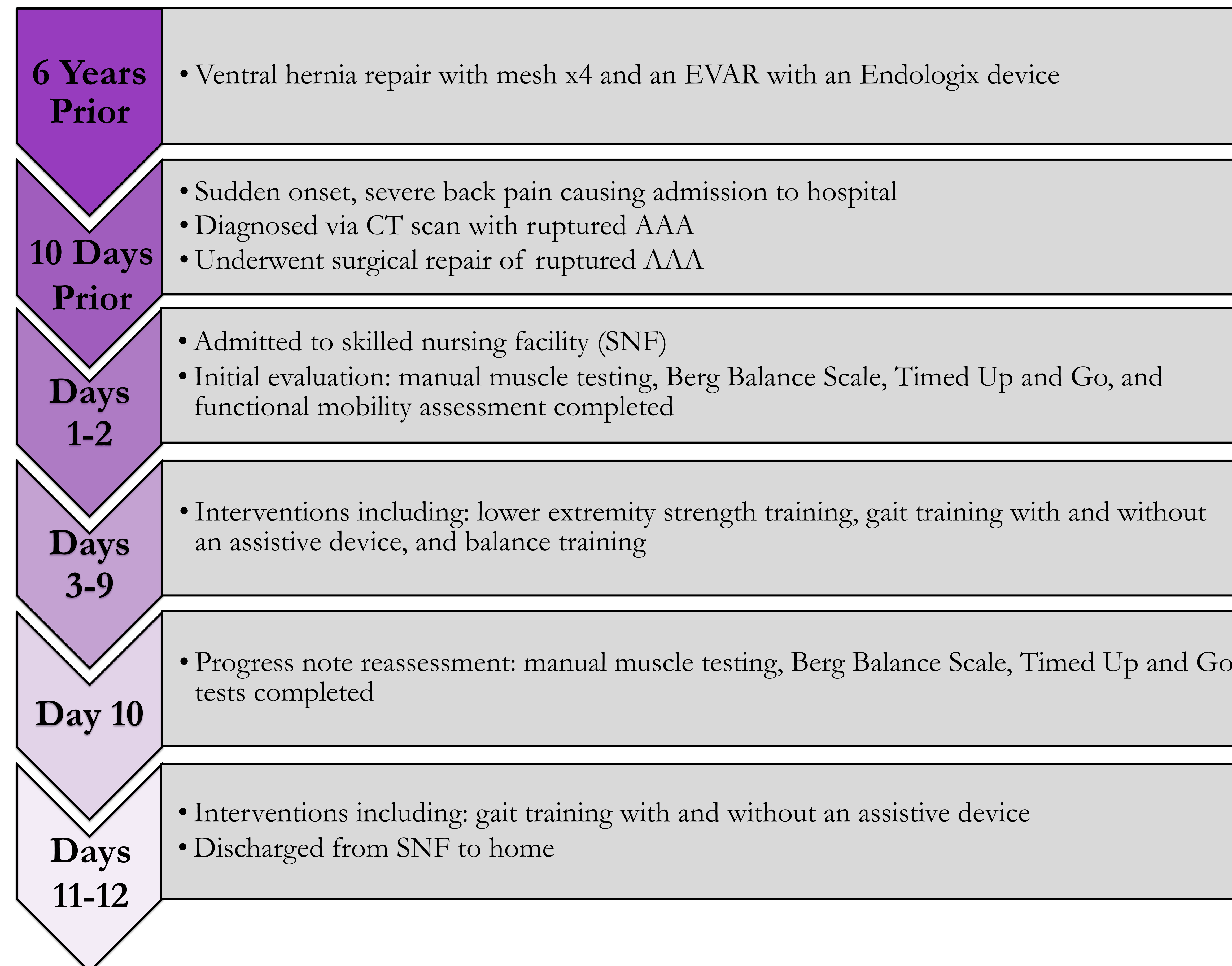


Figure 2. <https://my.clevelandclinic.org/health/treatments/16960-endoleak-treatments>

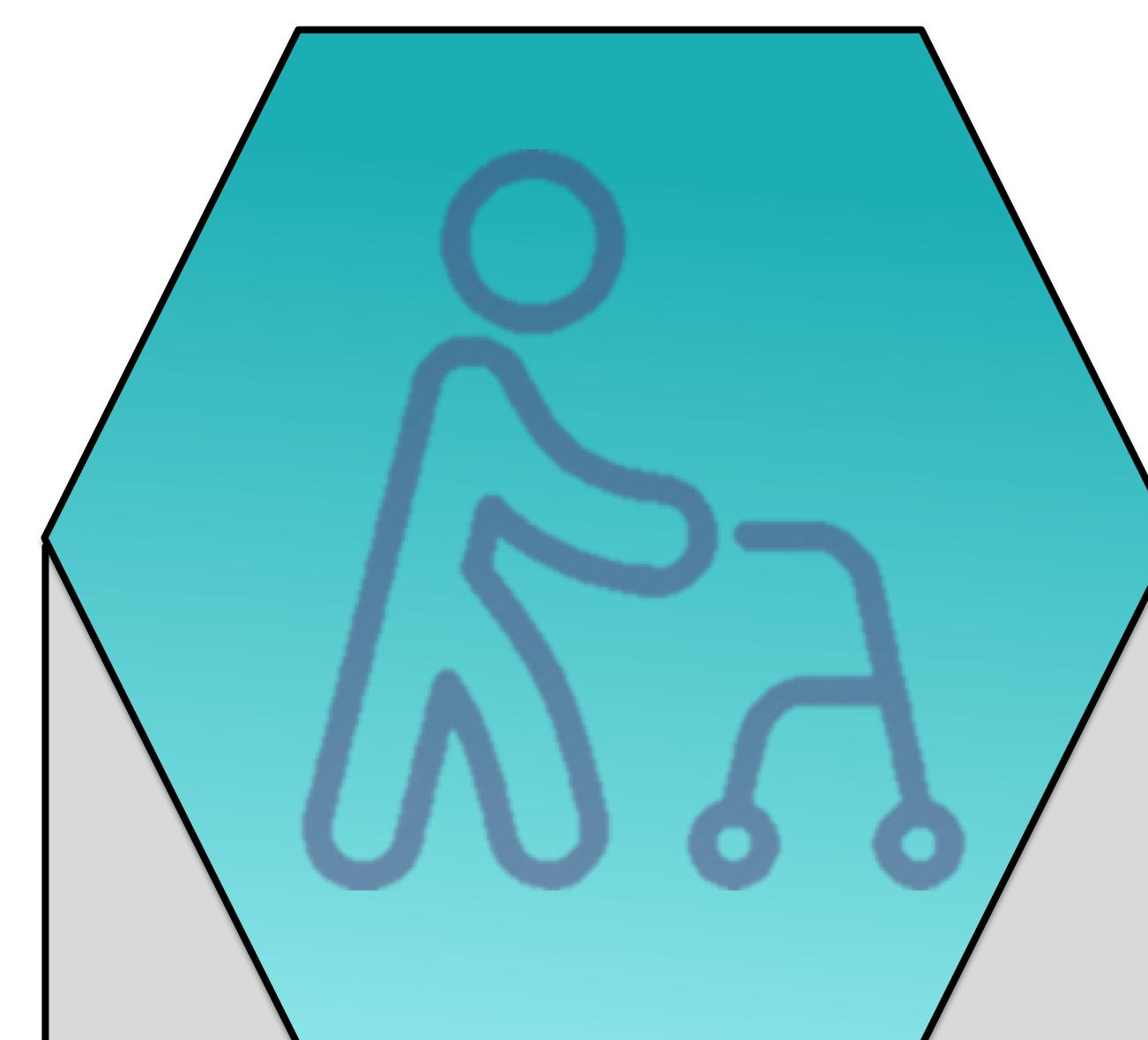
Case Description

- Retired 86 year-old female, lived independently with some assistance from family members and a housekeeper
- Suffered a fall six months prior, but returned home after hospitalization and rehabilitation
- Spent ten days in the hospital following open aortic biliary repair of ruptured AAA and explant of Endologix endograft with intraoperative resuscitation

Timeline

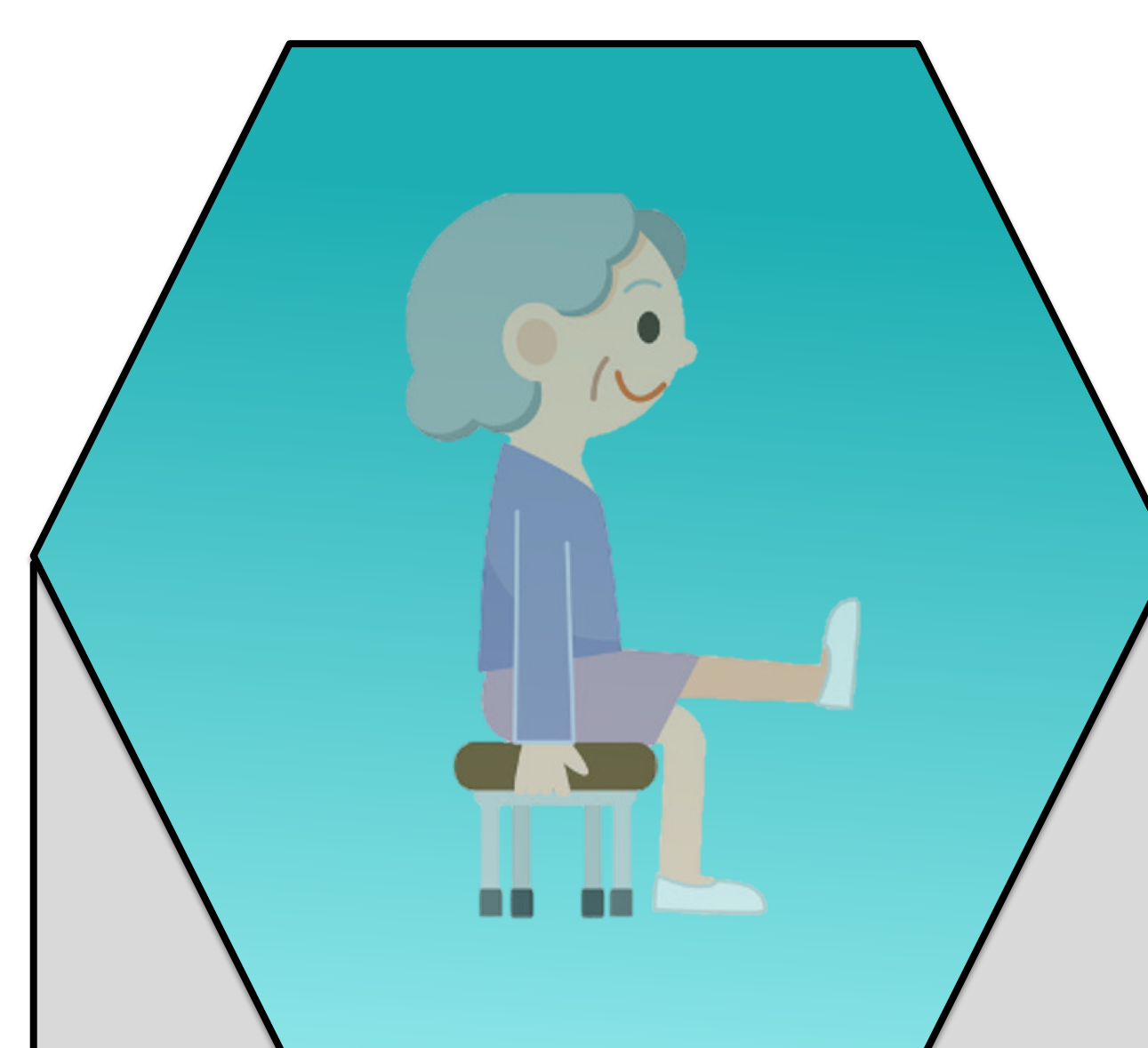


Interventions



Gait Training

- Ambulating with a 2 wheeled-walker
- Ambulating without a 2 wheeled-walker
- Ambulating on various surfaces
- Ascending and descending stairs



Strength Training

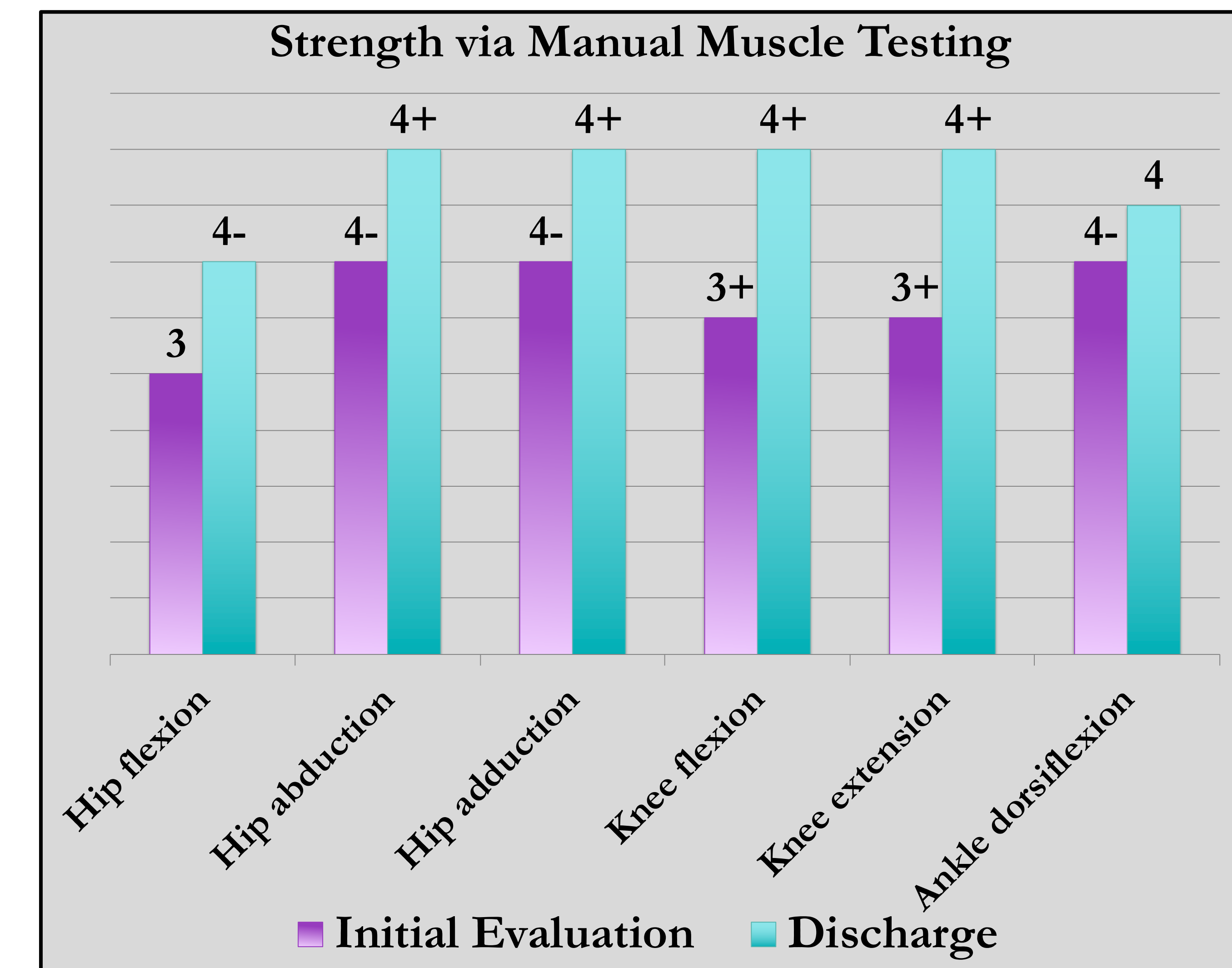
- Supine leg strengthening exercises
- Seated leg strengthening exercises
- Standing leg strengthening exercises



Balance Training

- Static staggered stance
- Dynamic bilateral and unilateral stance and stepping over obstacles
- Dynamic reaching outside the base of support

Outcomes



Test	Initial Evaluation	Discharge
Timed Up and Go	25.29 seconds	16.74 seconds
Berg Balance Scale	34/56	37/56

Discussion & Conclusion

- At discharge, the patient displayed improvements in her lower extremity strength, and static and dynamic balance. These findings are consistent with the current literature that suggests using resistance and balance training following cardiac surgery in elderly patients.⁶
- The primary take-away of this case report is PT interventions designed to address the specific impairments and goals of the patient following an open repair of ruptured AAA could potentially lead to improvements in both strength and balance.
- Due to the rarity of this specific case, large-scale studies are unlikely, however, there is a need for future research into the role of PT for this population in general.

Acknowledgements

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