At Risk to Decline – a PT Responsibility?

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Editor's Note: This clinical case commentary was part of content for the March 2022 Journal Club. These case studies are intended to demystify the more formal statistics and format of a peer-reviewed article and translate key concepts into clinically usable information. Join us for Journal Club on the third Tuesdays of January, March, May, July, September and November at 8 pm ET to discuss current concepts with a wide range of peers. Register to join us or view archived recordings at geriatricspt.org/journal-geriatric-physical-therapy.

Line 3B of the Code of Ethics for the Physical Therapist states: "Physical therapists shall demonstrate professional judgment informed by professional standards, evidence (including current literature and established best practice), practitioner experience, and patient and client values."[1]

The following patient case represents situations physical therapists routinely encounter in US hospital environments. It explores applying outcomes used in the study: Menezes KVRS, Auger C, Barbosa JFS, Gomes CS, Menezes WRS, Guerra RO. Trajectories and Predictors of Functional Capacity Decline in Older Adults from a Brazilian Northeastern Hospital. *J Geriatr Phys Ther*. 2021;44(2):82-87. doi:10.1519/JPT.0000000000000255.[2]

Menezes et al. determined it is beneficial to identify people at risk of decline in function as early as possible in an inpatient stay to provide support to the patient to prevent deterioration in mobility. Utilization of screening tools to identify functional capacity change is common in the United States. However, in the US healthcare system, screening tools are more commonly used to predict post-acute discharge needs versus the amount of rehabilitation support a patient needs during hospitalization.[3] The research paper identified additional impact factors that are predictors of functional decline: advanced age, dependence in IADLs, low levels of cognition, the presence of depression, and limited in-hospital mobility. How these factors are assessed and monitored in patients can make a difference in an outcome.

Patient Case

MP, an 82-year-old male, presented to a community hospital with increasing left leg pain 3 days after being diagnosed with left LE cellulitis; he was prescribed antibiotics. The diagnosis at admission was worsening left lower extremity cellulitis.

Prior Medical History: MP has a PMH significant for CAD s/p CABG (2007); metal stent on RCA (2016); paroxysmal Afib on Eliquis; venous insufficiency; chronic lymphedema; bilateral carotid artery stenosis; renal artery stenosis; HTN; HLD; prior traumatic SAH (2013); Right hip replacement (2016); TIA (transient ischemic attack); Mobitz type 1 second degree atrioventricular block.

Height: 5'8"; 240lb; 3+ Lower extremity edema, Left lower extremity gauze wrap for wound

Social History: MP demonstrates modified independence using a rolling walker for functional mobility; his spouse assists "as needed" for activities of daily living. He resides, with wife, in a ranch home with 2 steps to enter. He plays the clarinet and enjoys listening to classical music. He has supportive family; wife and daughter were at bedside daily while MP was hospitalized.

Hospital course

Day 2: He was seen for a physical therapy (PT) evaluation and treatment (prior to planned vascular intervention). He scored 13/24 on the AM-PAC, required maximum assistance for functional transfers; he was walking in the room with a rolling walker and minimum assistance. He declined suggestions for discussing inpatient rehabilitation. He was oriented and joking with the physical therapist and agreed to placement on a therapy caseload while hospitalized.

Day 4: He scored 13/24 on the PT administered AM-PAC, required maximum assistance for functional transfers, and was walking in the room with a rolling walker and minimum assistance. Orientation not evaluated.

Day 5: Vascular studies were completed; he underwent L LE angioplasty with 2 stents.

Day 6-7: He developed increasing pain in his LLE. PT continued to follow him as medical status allowed during hospital stay.

Day 8: Reassessed by PT with AMPAC 7/24 (reflecting need for maximum assist for transfers and all mobility); was oriented only to person/place (not time or situation), still alert and interactive but becoming confused, decreased accuracy of following commands noted despite increased prompting (50-75%).

Day 13: Urgent transfer, direct admit to a medical surgical floor, to tertiary care hospital with concern for worsening cellulitis, decreasing mental status. ICU admission 4 hours post transfer when unable to protect his airway and there were concerns of aspiration. Started treatment with humidified high flow oxygen.

Day 15: PT scored AMPAC at 6, MP was obtunded and not able to participate in cognitive testing or to follow commands, RASS -3.

Day 16: Intubated; medical status and arousal precluded mobility until day 21

Day 21: extubated; PT and occupational therapy (OT) co-treating session; AMPAC 7. LE heavy from cellulitis (foley leaves indentation on thigh and leg); global muscle weakness from immobility, oriented x 1, CAM-ICU+, maximum assist x2 for all bed mobility and transfer to edge of bed; 70% FIO2 at 50L/min

Day 22-28: 4 PT visits in 7 days completed post-extubation and focused on mechanical lift bed>chair for pulmonary toilet and cognitive stimulation. He remained disoriented but no delirium was noted at end of ICU therapy sessions. Nursing recommendation for mobility was use of mechanical lift bed <> chair BID (unclear compliance with this plan).

Day 29 – 31: 2 PT visits in 3 days while O2 needs decreasing (AMPAC 10/24 at ICU discharge); he required max assist for all transfers without device.

Day 32-37: Transferred to Med-Surg floor; completed 2 therapy visits in 7 days; visit 1 cotreat PT and OT (AMPAC 6) and the second visit PT moderate assist for transfers (AMPAC 11/24). MP continued to be disoriented, waxing and waning delirium noted, no outcome measures completed for cognition. Family was frustrated but agreed to rehab because of difficulty of transfers (single, slightly built caregiver).

Day 38: D/C SNF

MP's story was selected for this case presentation because his course of care is similar to many patients that present to acute care physical therapists. MP arrived at the hospital walking. After a series of medical failures, he was unable to return to his prior level of function. Researchers in Brazil have identified similar concerns about older patients in their care. Their recommendations are to identify those at risk early to help clinicians implement interventions to maintain or recover functional capacity. In the United States early screening measures are becoming a standard of care. The AMPAC "6- clicks" is a tool familiar to many US acute care therapists and it was utilized in MP's care. Unfortunately, despite early and frequent utilization of the AMPAC "6 clicks", MP was not able to avoid a significant functional decline. In MP's case his initial AMPAC "6 clicks" score supported impaired mobility. Ongoing follow up by physical therapy during his stay was recommended and several visits were provided but by day 8 of the hospital stay MP was confused and required maximum assistance. Reflecting on his course, utilization of a screening tool was not enough. Additional factors highlighted by the researchers, if employed during the initial phases of the hospital course, may have impacted outcomes. Two specific factors considered in this discussion are cognitive assessment and in-hospital mobility.

*Days not listed were comprised of standard nursing care and no physical therapy services.

Cognitive assessment

Cognitive assessment is an area of United States acute care physical therapy practice that is typically defined by the use of the alert and oriented scale. In the article, the Leganes Cognitive test was utilized to assess cognition. More commonly utilized tools, in the US, are the Montreal Cognitive Assessment (MOCA)[6], The Saint Louis University Mental Status exam (SLUMS)[7], and Confusion Assessment Method(CAM)[8]. However, the frequency of using these tests by physical therapy is low.[9] More specific assessment of cognitive impairment would alert therapists to patients that are at risk for cognitive changes that can affect functional mobility. A person that presents with cognitive limitations that impact their ability to manage IADLs such as finances and medications will

	Assessments						
Hospital Day	Orientation	AMPAC-Mobility	RASS4	CAM-ICU5	Response to Commands	Mobility or Balance Outcome	Mobility Plan
2	X3	13			100%	No	No
4	NR	13			NR	No	No
8	X2	7			50-75%	No	No
15	Unable	6	-3		0%	Gait speed as goal	No
21	X1	7		+	75%	No	No
22 to 28 (4 visits)	X2	7			90%	No	OOB to chair with lift 2x/day
29 to 31 (2 visits)	NT (only report person)	10			90%	No	OOB to chair with lift 2x/day
32 to 36 (1 visit)	NT	7			90%	No	No
37 to 38 (1 visits)	NT	11			90%	No	No

have a lower cognitive reserve; they may be impacted more significantly by sleep disruptions, utilization of pain medications, as well as anesthesia use during procedures.[10] Without a clear picture of MP's baseline cognition, it is also difficult to assess when underlying cognitive impairments may have been replaced with delirium. As MP's function further deteriorated, occupational therapy began to utilize the CAM-ICU which was positive for delirium. Earlier identification of delirium/change in cognitive function may have allowed decisions to be made to increase intervention frequency to combat both cognitive and functional deterioration.

Hospital mobility

Hospital mobility can be defined as any activity that mobilizes the patient. Regular mobility during hospitalization has been found by the Brazilian researchers to have a protective effect against longitudinal decline in functional capacity. Additional research also supports the importance of in-hospital mobility.[11] There are efforts, in this country, to establish daily mobility goals for patients in the acute care environment. Some organizations utilize the John Hopkins Highest Level of Mobility (JH-HLM) tool.[12] JH-HLM triggers a mobility assessment of the patient daily, establishment of a daily mobility goal, and documentation to support if the goal was met.[13] In MP's case, there was no documentation to support he was mobilizing outside of physical therapy visits, which totaled 4 in the first thirteen days of hospitalization. It is unclear what affect the increased mobility would have been for MP. In his case, increasing mobility is a clear opportunity to modify his course of care.

Application of the findings from the Brazilian research study go beyond MP's case. While patients similar to MP frequently present to acute care therapists and translation of the research recommendations can be clearly understood through MP, additional reflection on the deeper issues facing geriatric care should not be ignored. Clinicians have the ability to use screening tools to identify patients at risk for functional decline, but the ability to provide early intervention is elusive. It happens in practice that resources are lean to provide interventions; deployment of therapy resources at times is prioritized related to discharge destination versus risk for functional collapse. The deeper issue, now that we can identify those at risk, is to determine how can healthcare systems throughout the world coordinate resources to support geriatric patients in the acute care environment?

References

1. American Physical Therapy Association. Code of Ethics for the Physical Therapist. APTA.ORG. 2020. Accessed February 5, 2022. https://www.apta.org/siteassets/pdfs/policies/codeofethic-shods06-20-28-25.pdf
2. Menezes KVRS, Auger C, Barbosa JFS, Gomes CS, Menezes WRS, Guerra RO. Trajectories and Predictors of Functional Capacity Decline in Older Adults From a Brazilian Northeastern Hospital. *J Geriatr Phys Ther*. 2021;44(2):82-87. doi:10.1519/JPT.0000000000000255
3. Jette DU, Stilphen M, Ranganathan VK, Passek SD, Frost FS, Jette AM. AM-PAC "6-Clicks" Functional Assessment Scores Predict Acute Care Hospital Discharge Destination, *Phys Ther*; 94(9):1252–1261. https://doi.org/10.2522/ptj.20130359. Accessed February 5, 2022
4. Sessler C, Gosnell M, Grap MJ, et al. The Richmond agitation-sedation scale. Validity and reliability in adult intensive care unit patients. *Am J Respir Crit Care Med 2002; 166:1338.* Accessed February 5, 2022 https://www.uptodate.com/contents/image?imageKey=PULM%2F57874
5. Khan BA, Perkins AJ, Gao S, et al. The Confusion Assessment Method for the ICU-7 Delirium Severity Scale: A Novel Delirium Severity Instrument for Use in the ICU. *Crit Care Med*. 2017;45(5):851-857. doi:10.1097/CCM.0000000000002368. Accessed February 5, 2022
6. Freitas S, Simões MR, Alves L, et al. Montreal cognitive assessment: validation study for mild cognitive impairment and Alzheimer disease. *Alzheimer Dis Assoc Disord*. 2013;*27*(1), 37-43.

7. Feliciano L, Horning SM, Klebe KJ, Anderson SL, Cornwell RE, Davis HP. Utility of the SLUMS as a cognitive screening tool among a nonveteran sample of older adults. *Am J Geriatr Psychiatry*. 2013;21(7):623-630. doi:10.1016/j.jagp.2013.01.024
8. Inouye SK, van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: the confusion assessment method. A new method for detection of delirium. *Ann Intern Med*. 1990;113(12):941-948. doi:10.7326/0003-4819-113-12-941
9. Schaefer SY, McCulloch KL, Lang CE. Pondering the Cognitive-Motor Interface in Neurologic Physical Therapy. *J Neurol Phys Ther*. 2022;46(1):1-2. doi:10.1097/NPT.0000000000000381
10. Boustani M, Baker MS, Campbell N, et al. Impact and recognition of cognitive impairment among hospitalized elders. *J Hosp Med*. 2010;5(2):69-75. doi:10.1002/jhm.589
11. Hastings SN, Choate AL, Mahanna EP, et al. Early Mobility in the Hospital: Lessons Learned from the STRIDE Program. *Geriatrics (Basel)*. 2018;3(4):61. doi:10.3390/geriatrics3040061
12. Klein LM, Young D, Feng D, et al. Increasing patient mobility through an individualized goal-centered hospital mobility program: A quasi-experimental quality improvement project. *Nurs Outlook*. 2018;66(3):254-262. doi:10.1016/j.outlook.2018.02.006
13. Hoyer EH, Friedman M, Lavezza A, et al. Promoting mobility and reducing length of stay in hospitalized general medicine patients: A quality-improvement project. *J Hosp Med.* 2016;11(5):341-347. doi:10.1002/jhm.2546

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Academy of Geriatric Physical Therapy at GSA

The Academy of Geriatric Physical Therapy was well represented at the Gerontological Society of America (GSA) Conference this past November. Greg Hicks, University of Delaware received the Excellence in Rehabilitation of Aging Persons Award, one of the highest awards for the Health Sciences Section. Greg was also named a GSA Fellow. Jessie VanSwearigen, University of Pittsburgh and Hao (Howe) Liu, University of North Texas Health Science Center, Fort Worth were also honored as GSA Fellows. Over 4,000 attendees joined the virtual meeting representing 36 countries and a wide range of ageing disciplines engaged in biological sciences, health sciences, social research policy/practice and behavioral/social sciences.

The call for abstracts for the November 2-6, 2022 GSA Scientific Meeting in Indianapolis, Ind. has been issued. To learn more, email abstracts@geron.org.

The theme of 2022 conference is: Embracing Our Diversity. Embracing Our Discovery.The deadline for abstracts is March 3, 2022. Another opportunity to submit starts on July 8, 2022 for late-breaking posters.