GeriNotes

May 2022 • Vol. 29 No. 3

APTA Geriatrics
An Academy of the American Physical Therapy Association
Age on.™

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In This Issue

Special Feature

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From the President

Cathy Ciolek
President,
APTA Geriatrics

Amidst the chaos of COVID-19, in 2020, a group of representatives from multiple academies, APTA, and other organizations started meeting to discuss the creation of principles and objectives for a unified post-acute care payment system. The IMPACT Act of 2014 directed CMS to standardize patient assessment data across post-acute settings and for MedPAC to recommend a unified payment system for post-acute care. With APTA and academies representing PTs who work across the post-acute care continuum, this group decided it was important to establish guiding principles and objectives that could be used to direct these efforts for fair payment across settings (without favor to anyone) and that linked better payment for better care. Whatever was decided needed to meet the triple aim of improving the care experience, improving the health of the population, and reducing costs of health care. It would mean showing value.

As this process started to move forward to address payment, I noticed we struggled with defining best practices. We had state laws for the protection of the public and federal regulations in various settings. We had the *Guide to PT Practice* that gave a wide range of visits, assessments, and interventions over the course of an episode of care. So, I asked then APTA Geriatrics President Greg Hartley, "Shouldn't this be our role as an academy?" He supported moving to the Board of Directors: "What if we were to put together a group to define what we consider to be best practices for physical therapy care of ageing adults?" The board agreed to this and we put a call out for people to serve on the task force, with Ken Miller and I serving as co-chairs to get it started.

Our goal is to support guiding principles and objectives for a unified payment system that will reflect best practice care principles and show the value of physical therapy in rehabilitation.

The result of this expert consensus group is the APTA Geriatrics' Guiding Principles for Best Practices in Geriatric Physical Therapy: An Executive Summary. The intention of the group was always that there would be accompanying documents translating this into cases across the continuum of care for older adults. These cases you will find in this issue of *GeriNotes* developed by members of the task force. Their first education session was presented at the APTA Combined Sections Meeting this past February and is likely to be the first of many. I couldn't be prouder of the work this team did to put these together to help you and future clinicians provide best-practice care for our patients.

As with many things, COVID stalled the work at the federal level for a unified post-acute care payment model. We stand ready with our recommendations of what should be included when providing care, no matter the setting it is provided in. APTA Geriatrics pro-actively took the steps so we, as a profession, are ready to advocate for the payment component when it happens. Our goal is to support guiding principles and objectives for a unified payment system that will reflect best practice care principles and show the value of physical therapy in rehabilitation.

I challenge you, what are your "What if" questions and how can you take that step to start answering them? I firmly believe each of us has the potential to proactively change the world one person at a time.

APTA Geriatrics, An Academy of the American Physical Therapy Association
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From the Editor

by Michele Stanley, PT, DPT, Editor

In the current issue of the *Journal of Geriatric Physical Therapy*, our Academy published the Guiding Principles for Best Practices in Geriatric Physical Therapy.[1] This clinical practice guideline (CPG) sets the theme for the May 2022 issue of this clinical magazine. Knowledge translation (KT) has been defined as methods for closing the gaps from knowledge to practice.[2]

More than an academic buzz word, as physical therapists we have a responsibility to use evidence-based practice (EBP) to improve the quality of life across the lifespan. Dr. Carole Lewis challenged us, during the inaugural Carole Lewis Lecture in 2019, to use research to reduce age bias in therapy practice.[3] Too often, we fail to use this evidence and thus contribute to the inefficiency of healthcare outcomes. Dr Dale Avers, in her Carole Lewis Lecture in 2020, notes that therapists underdose exercise prescriptions for ageing adults and thus contribute to the reduction of quality of life of the people we serve.[4] Correcting this practice pattern among therapists working in geriatric settings must be *intentional***.**

GeriNotes is here to help! From the reimbursement facts vs myths reported by Ellen Strunk and illustrated by the Lewis/McAllister column GetLit to the 4 concrete case examples provided by the CPG task force, there are examples to guide you to re-think your own practice(s).

In subsequent issues, **you** are invited to provide your own illustrations of how implementing best practices is not only good physical therapy but also a good business practice. Share your knowledge with your peers! Fox Rehab has already accepted this challenge. We challenge every other healthcare system, contract company, geriatric post-acute program, along with individual PTs to participate by contributing an article on how best practice looks in their world. What are you doing to improve the quality of life among older adults that you treat?

A review of the Geriatric 5Ms may be helpful to understand and process the CPG case examples. These Geriatric 5Ms are a practical and easy-to-remember way to define care issues that must be considered for *every* older adult:

Geriatric 5 Ms[5]

Mind: Mentation; Dementia; Delirium; Depression
Mobility: Impaired gait; balance; Fall injury prevention
Medications: Polypharmacy, Adverse medication effects
Multicomplexity: Multimorbidity; Complex biopsychosocial situations
Matters Most: Each person's own meaningful health outcome goals and care preferences

For more assistance to help integrate evidence-based practical care into your immediate workflow, consider taking the CEEAA classes offered by the Academy (see page 5) for immediate utility. APTA Geriatrics is here to help you advance care. Members of the Board of Directors, committee chairs, faculty of the CEEAA, among others are willing to listen, help, and mentor you to develop your skills to utilize EBP in your everyday life. This will change your practice as well as your own life. Working together and using EBP, *we* are the first step to eliminate age bias and make a difference.

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Mission: To provide engaging content that empowers the community of physical therapy clinicians to build expertise and expand the delivery of evidence-informed care that promotes health and wellness in ageing adults.

Vision: To create an evolving online community through which clinicians develop their knowledge and skills based in shared ideals that are person-centered; and promote a world where ageing adults move, live, and age well.

They're Baaaack!

CEEAA courses on schedule again

by Jill Heitzman, PT, DPT, PhD

After 2 years of delays, reschedules, and sometimes long delays between courses, we were finally able to finish the 3 courses started at the beginning of the COVID Pandemic. We thank NOVA Southeastern in Ft. Lauderdale, FL (completed September 2021), Methodist Hospital in Minneapolis, MN (completed Nov 2021), and Touro Infirmary in New Orleans, LA (completed April 2022) for sticking with us and helping us to ensure safe protocols were in place throughout the course. We now have 3 more graduate classes that are starting in 2022: Texas, St. Louis, and Atlanta.

Since starting in 2009, CEEAA has been offered in over 35 locations resulting in 2,100+ therapists who have become Credentialed Exercise Experts for Ageing Adults. We have also hosted since 2019, the PTA Focus Course (1 weekend) and The Advanced CEEAA Course (1 weekend). Current faculty include co-coordinators Tamara Gravano and Jill Heitzman, Bill Staples, Richard Bohannon, Cathy Ciolek, Kathy Brewer, Myles Quiben, Ken Miller, Sue Wenker, Larry Hochreiter, Lucy Jones, Laurel Abruzzi, Robin Brandt, and Brad Abrams.

We are making a difference to change the way people work with ageing adults. Some of the comments from recent attendees include:

"Best continuing education course I have ever taken!"

"This has changed not only my professional practice but my personal life."

"These courses helped me prepare and pass my GCS!"

"The faculty are so engaging and keep everything up to date with current research and practice ideas."

"I am telling everyone I work with to take these courses."

See aptageriatrics.org for more on dates and locations. We are always looking for hosts for this 3-course CEEAA, as well as for both the Advanced CEEAA and the Focus PTA Course. Be on the lookout, as well, as we transition to also offering a hybrid model of these courses.

Touro Infirmary, New Orleans

Methodist Hospital, Minneapolis

NOVA Southeastern, Ft. Lauderdale

Measuring Best Practices

by Ellen R. Strunk, PT, MS

You cannot talk about "best practice"' without thinking about the question, "How did it become a best practice?" While the answers might be different, they probably all have something in common. That "something" is that the practice produces meaningful results for the people we treat. The outcome of the practice(s) is a measurable difference in function or quality of life.

A discussion of best practices is not complete without including a discussion about the real-world implications for clinical best practices. That is, exploring why the physical therapy community should be incentivized to move away from status quo clinical practices. The reasons are many, including it is the right thing to do for patients, but what is in it for the physical therapy community? The answer is "value."

APTA Geriatrics has been talking about the future of physical therapy payment for many years; it is inching ever so closer. Whether you are an owner of a PT clinic, an owner of a conglomerate of PT clinics, or a department head of a hospital system, you are thinking about it. If you are an employee of a PT clinic, a skilled nursing facility (SNF), a home health agency (HHA), a hospital, or a contract therapy company, you should be thinking about it.

Value-based payment models are coming for us all. The key ingredient to value is measuring resource use. After all, that is definition of value: the health outcomes achieved per dollar spent (See Figure 1).[1] However, there are still too many physical therapists/physical therapy entities who are reluctant to let go of their "volume-based" payment mechanisms. After all the fee-for-service, per diem rates, per minute rates are all predictable and can be "managed." Those payment models are falling one-by-one.

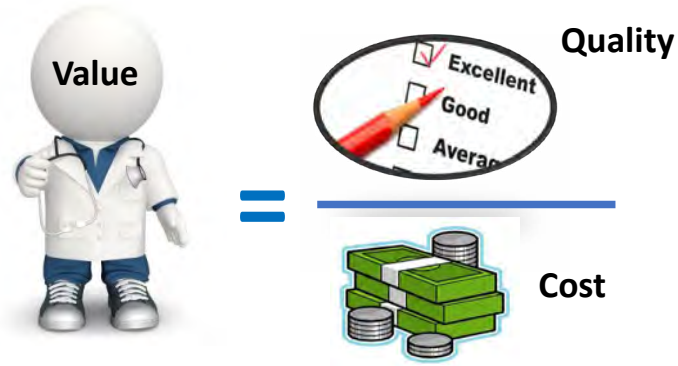
Take post-acute care[2] for instance. The 2 post-acute care settings with the largest number of providers, SNFs and HHAs, have recently expanded their value-based purchasing programs (VBPs). The Protecting Access to Medicare Act of 2014[3] required the Secretary of the Department of Health and Human Services (HHS) to establish the SNF VBP Program. Beginning Oct. 1, 2018, SNFs' payments were either increased or decreased based on their all-cause rehospitalization rates. The Consolidated Appropriations Act, 2021[4] (CAA) amended the Social Security Act to allow the Secretary of HHS to apply up to 9 additional measures, determined appropriate, for the SNF VBP. What do you think was listed first? Functional status. Other areas were patient safety, care coordination or patient experience. Furthermore, CAA requires the Secretary to consider and apply, as appropriate, measures specified under the SNF QRP. That certainly gives us insight into the measure themes CMS is considering. Table 1 includes a description of those measures CMS requested feedback on in the FY 2022 SNF Prospective Payment System proposed rule. Given CMS' comments over the last year, providers are expecting to hear additional announcements in this year's SNF PPS proposed rule. Take a look at the measures. Physical therapy can impact not just the functional measures, but also the resource use, discharge to community, change in skin integrity, falls with injury, and patient reported outcome measures.

HHAs, on the other hand, had their Home Health Value-Based Purchasing (HHVBP) Model implemented by the Center for Medicare and Medicaid Innovation, under authority of section 1115A of the SSA. The HHVBP Model began as a demonstration in 9 states, scheduled to run from Jan. 1, 2016 through Dec. 31, 2021.[5] It was so successful in it first 4 years, that CMS announced its intent to expand the HHVBP model to all HHAs nationwide beginning Jan. 1, 2023.[6] Table 2 includes a description of those measures CMS finalized for inclusion in the HHVBP Program.

Value-based payment programs are here. No matter the setting you work in you have influence over value. Let us all embrace it with practicing at the top of our license.

Uses of Measures

Figure 1. Value Equation



Source: Rehab Resources & Consulting, Inc.

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References continued on page 10. Tables begin on next page.

Table 1. QUALITY MEASURES UNDER CONSIDERATION FOR AN EXPANDED SKILLED NURSING FACILITY VALUE-BASED PURCHASING PROGRAM

Measure Name	Numerator	Denominator	Other Details
Application of IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients	Percentage of patients with a discharge self-care score that is equal to or higher than the calculated expected discharge self-care score.	The total number of Medicare Part A patients with a discharge date in the measure target period.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in SNF QRP: Yes Measure currently publicly reported: Yes
Application of IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients	Percentage of patients with a discharge mobility score that is equal to or higher than the calculated expected discharge self-care score.	The total number of Medicare Part A patients with a discharge date in the measure target period.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in SNF QRP: Yes Measure currently publicly reported: Yes
Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)	Number of Medicare Part A patient stays during the selected time window who experienced one or more falls that resulted in major injury	The denominator is the number of Medicare Part A patient stays during the selected time window	Risk Adjusted: No Exclusions: Only if the item is blank NQF Endorsed: Yes Measure currently used in SNF QRP: Yes Measure currently publicly reported: Yes
Percent of High Risk Residents with Pressure Ulcers (Long Stay)	All long-stay residents with a selected target assessment that have a Stage II, IV, or unstageable pressure ulcer	All long-stay residents with a selected target assessment who meet the definition of high risk: impaired bed mobility or transfer, comatose, malnutrition/at-risk	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Percent of Residents Whose Ability to Move Independently Worsened (Long Stay)	Long-stay residents with a selected target assessment and at least one qualifying prior assessment who have a decline in locomotion when comparing their target assessment with the prior assessment.	Long-stay residents who have a qualifying MDS 3.0 target assessment and at least one qualifying prior assessment.	Risk Adjusted: No Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (Long Stay)	Long-stay residents with selected target and prior assessments that indicate the need for help with late-loss Activities of Daily Living (ADLs) has increased when the selected assessments are compared (Bed mobility, Transfers, Eating, Toileting)	All long-stay residents with a selected target and prior assessment	Risk Adjusted: No Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Transfer of Health Information to the Provider–Post Acute Care	The number of patient stays with a MDS discharge assessment indicating that a current reconciled medication list was provided to the subsequent provider at the time of discharge.	The total number of SNF stays ending in discharge to the following settings only: a short-term general hospital, a SNF, intermediate care, home under care of an organized home health service organization or hospice, hospice in an institutional facility, a swing bed, an IRF, another LTCH, a Medicaid nursing facility, an inpatient psychiatric facility, or a critical access hospital.	Risk Adjusted: No Exclusions: No NQF Endorsed: No Measure currently used in SNF QRP: Yes Measure currently publicly reported: No
Percentage of Long-Stay Residents who got an Antipsychotic Medication	Long-stay residents with a selected target assessment where antipsychotic medications received.	Long-stay nursing home residents with a selected target assessment.	Risk Adjusted: No Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes

Discharge to Community Measure-Post Acute Care Skilled Nursing Facility Quality Reporting Program.	Number of Medicare Part A residents who are discharged to the community following a SNF stay, and do not have an unplanned readmission to an acute care hospital or LTCH in the 31 days following discharge to community, and who remain alive during the 31 days following discharge to community.	The risk-adjusted expected number of discharges to community.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in SNF QRP: Yes Measure currently publicly reported: Yes

Medicare Spending per Beneficiary (MSPB)-Post Acute Care Skilled Nursing Facility Quality Reporting Program.	The numerator is the MSPB-SNF Amount. The MSPB-SNF Amount is the average risk-adjusted episode spending across all episodes for the SNF, multiplied by the national average episode spending level for all SNFs	The episode-weighted national median of the MSPB-SNF amount across all SNFs.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: Yes Measure currently publicly reported: Yes
Skilled Nursing Facility Healthcare-Associated Infections Requiring Hospitalization Measure	The number of stays with an HAI acquired during SNF care and resulting in an inpatient hospitalization. The hospitalization must occur during the period beginning on day four after SNF admission and within three days of SNF discharge.	The measure denominator is the risk adjusted "expected" number of SNF stays with the measure outcome.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: Yes Measure currently publicly reported: No
Number of hospitalizations per 1,000 long-stay resident days (Long Stay)	The number of admissions to an acute care or critical access hospital, for an inpatient or outpatient observation stay, occurring while the individual is a long-term nursing home resident.	The sum of all long-stay days in the target period, divided by 1,000.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Patient-Reported Outcomes Measurement Information System [PROMIS]-PROMIS Global Health, Physical.	The measure is currently not used in any CMS programs. It is a series of 10 questions asking patients about their health, quality of life, physical and mental health, satisfaction with social activities and relationships, their ability to carry out usual social activities and roles as well as their everyday physical activities, how often they have been bothered by emotional problems, fatigue and pain. Persons rate it on a scale of 1/very severe to 5/never.		Risk Adjusted: Unknown Exclusions: Unknown NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: No
CoreQ: Short Stay Discharge Measure	The number of long-stay residents with an average score greater than or equal to 3.0 on a questionnaire of their satisfaction/experience with their stay.	The total number of valid responses to the questionnaire.	Risk Adjusted: No Exclusions: Yes NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: No
Nurse staffing hours per resident day per day;	Total nursing hours (RN hours) per resident day derived from Payroll-Based Journaling (PBJ) System.	A count of daily resident census derived from Minimum Data Set (MDS) resident assessments.	Risk Adjusted: Yes, via case-mix using RUG-IV Exclusions: No NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Nurse staffing hours per resident day per day;	Total nursing hours (RN hours) per resident day derived from Payroll-Based Journaling (PBJ) System.	A count of daily resident census derived from Minimum Data Set (MDS) resident assessments.	Risk Adjusted: Yes, via case-mix using RUG-IV Exclusions: No NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes
Total nurse staffing (including RN, licensed practical nurse (LPN), and nurse aide) hours per resident per day.	Total nursing hours (RN + LPN + nurse aide hours) per resident day derived from Payroll-Based Journaling (PBJ) System.	A count of daily resident census derived from Minimum Data Set (MDS) resident assessments	Risk Adjusted: Yes, via case-mix using RUG-IV Exclusions: No NQF Endorsed: No Measure currently used in SNF QRP: No Measure currently publicly reported: Yes

Table 2. QUALITY MEASURES FOR THE HOME HEALTH VALUE-BASED PURCHASING PROGRAM EFFECTIVE CY 2023

Measure Name	Numerator	Denominator	Other Details
Acute Care Hospitalization During the First 60 Days of Home Health	Number of home health stays for patients who have a Medicare claim for an admission to an acute care hospital in the 60 days following the start of home health care.	Number of home health stays that begin during the 12-month observation period. A home health stay is a sequence of home health payment episodes separated from other home health payment episodes by at least 60 days.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes
Emergency Department Use Without Hospitalization during the First 60 days of Home Health	Number of home health stays for patients who have a Medicare claim for outpatient emergency department use and no claims for acute care hospitalization in the 60 days following the start of home health care.	Number of home health stays that begin during the 12-month observation period. A home health stay is a sequence of home health payment episodes separated from other home health payment episodes by at least 60 days.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes, as part of HH QRP
Discharge to Community	The measure numerator is the risk-adjusted estimate of the number of patients who are discharged to the community, do not have an unplanned admission to an acute care hospital or LTCH in the 31-day post-discharge observation window, and who remain alive during the post-discharge observation window.	The denominator for the discharge to community measure is the risk-adjusted expected number of discharges to community.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: No Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes, as part of HH QRP
Total Normalized Composite (TNC) Change in Self-Care	As a composite measure, the TNC Change in Self-Care measures reflect multiple OASIS items, so there is no numerator and denominator for this measure. It captures the magnitude of change (not just improvement) in M1800 Grooming, M1810 Upper Body Dressing, M1820 Lower Body Dressing, M1820 Bathing, M1845 Toileting Hygiene, M1870 Eating.		Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: No Measure currently used in HH VBP: Yes Measure currently publicly reported: No
Total Normalized Composite Change in Mobility	As a composite measure, the TNC Change in Mobility measures reflect multiple OASIS items, so there is no numerator and denominator for this measure. It captures the magnitude of change (not just improvement) in M1840 Toilet Transferring, M1850 Bed Transferring, M1860 Ambulation/Locomotion.		Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: No Measure currently used in HH VBP: Yes Measure currently publicly reported: No
Improvement in Dyspnea	Home health quality episodes where the discharge assessment indicates less dyspnea at discharge than at start (or resumption) of care as determined by responses to M1400.	Home health quality episodes ending with a discharge from the agency (not to an inpatient facility) during the reporting period, except for those meeting the exclusion criteria.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes
Improvement in Oral Medications	Home health quality episodes where the value recorded on the discharge assessment indicates less impairment in taking oral medications correctly at discharge than at start (or resumption) of care as determined by responses to M2020.	Home health quality episodes ending with a discharge from the agency (not to an inpatient facility) during the reporting period, except for those meeting the exclusion criteria.	Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes
HHCAHPS	Home Health Consumer Assessment of Healthcare Providers and Systems. The survey collects feedback from current or recently discharged home health agency patients (or their family or friends) about their experiences with a home health agency		
Professional Care	How often the home health team gave care in a professional way.		Risk Adjusted: Yes Exclusions: Yes NQF Endorsed: Yes Measure currently used in HH VBP: Yes Measure currently publicly reported: Yes, if the HHA has at least 40 completed surveys
Communication	How well did the home health team communicates with patients.		
Team Discussion	Whether the home health team discussed medicines, pain, and home safety with patients.		
Overall Rating	How patients rate the overall care from the home health agency.		
Willingness to Recommend	Whether patients recommend the home health agency to friends and family		

Continued from page 6

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Ellen R. Strunk is President and Owner of Rehab Resources & Consulting, Inc., a company providing consulting services and training to providers in postacute care settings with a focus on helping customers understand the CMS prospective payment systems. She also lectures nationally on the topics of pharmacology for rehabilitation professionals, exercise and wellness for older adults, and coding/ billing/ documentation to meet medical necessity guidelines and payer regulations.

APTA Geriatrics' Guiding Principles for Best Practices in Geriatric Physical Therapy

by Kenneth L. Miller, PT, DPT and Carole B. Lewis, PT, DPT, MPH, PhD, FAPTA

On June 4, 2020, the Board of Directors of APTA Geriatrics moved to establish a task force to develop a position statement on best practice in all major settings. The task force met regularly for over a year. The first months were spent reviewing the literature for existing best practice statements and guidelines for the care of older adults. Once this was completed, the task force composed the APTA Geriatrics Physical Therapy Best Practice Guiding Principles document, and the remaining months were spent designing illustrative case studies demonstrating the principles in the draft document.

Why did the Board decide to do this? We all have seen the disparity in physical therapy delivered to older adults. The Academy wants to make a statement and give guidance, so all practitioners have suggestions of ways to make their practice better.

The Board voted in June 2020 and by the end of June individuals had been recommended to serve on the task force. The task force's kick off meeting was was held July 27, 2020 and led by Ken Miller and Cathy Ciolek who were selected to co-chair the task force. This group met bi-weekly to work on the guiding principles document. On Nov. 25, 2020 the draft Guiding Principles document was submitted to the Board (expanded and short versions). On Dec. 22, 2020 the Board approved the Guiding Principles document. In order to reach a wider audience, the task force created a dissemination plan and have sought to share the document via publication in an article in the *Journal of Geriatric Physical Therapy*[1], providing an educational session at the Combined Sections Meeting of the APTA, and through publication of cases to illustrate the Guiding Principles in this thematic issue of *GeriNotes* dedicated to best practices.

The purpose of this issue is to highlight the principles in action for different practice settings and for different patient potentials and prior level of functions as illustrated by each case. It is clear in some cases there may be more evidence than others and the evidence is always changing and updating. The reader will see the thought processes of the task force as they look at the Guiding Principles document as well as in the cases.

The cases picked by the task force are varied and complex as are most of our patients. Case 1 is set in acute care and involves a 70-year-old hiker that sustains a hip fracture. Case 2 is a 90-year-old woman seen in her home for balance and falls issues. Case 3 is an 81-year-old home health patient admitted back to the hospital with pneumonia. The final Case 4 is in the outpatient setting and examines the principles with a 75-year-old patient who has had a shoulder arthroplasty. Even as we write this paragraph, we realize the first impulse is to visualize what these brief descriptions might look like. We think you will be intrigued at the variability of how each of these cases presents and how the principles are addressed.

The goal of the Board, as well as the task force, is to provide a framework for achieving best practice. Yet what is best practice? The interchange and debate that ensued during task force meetings was invigorating. Think about best practice. How would you even tackle that? Now that there is a product, however, it is clearly a living document that will need to be updated and modified as research and other variables change. With that in mind it might be better if we called this entire effort "better practice" as the concept of best practice is a goal for all of us, but striving for better practice is reachable, if we realize it is always evolving and progressing. It is our hope that this is a good start for all of us.

Thank you to the APTA Geriatrics Board for recognizing the importance of this issue and for supporting the task force in our endeavors. Special thank you to all the members of the task force for the hours of dedicated work on this project: Dale Avers, PT, DPT, PhD, FAPTA; Cathy Ciolek, PT, DPT, FAPTA* (co-chair); Michelle Criss, PT, DPT, PhD; Carole Lewis, PT, DPT, MPH, PhD, FAPTA*; Kenneth Miller, PT, DPT * (co-chair); Traci Norris, PT, DPT*; William Staples, PT, DPT, DHSc*; Veronica Southard, PT*; Ellen Strunk, PT, MS*; Mariana Wingood, PT, DPT*

*Denotes Board Certified Clinical Specialist in Geriatric Physical Therapy

Best Practice Case Studies in this Issue:

- **Case 1: Acute Care:** William Staples, PT, DPT, DHSc; Veronica Southard, PT; Traci Norris, PT, DPT
- **Case 2: Outpatient Home Care Practice:** Dale Avers, PT, DPT, PhD, FAPTA; Michelle Criss, PT, DPT, PhD
- **Case 3: Home Health:** Veronica Southard, PT; Ellen Strunk, PT, MS; Traci Norris, PT, DPT
- **Case 4: Outpatient:** Kenneth Miller, PT, DPT; William Staples, PT, DPT, DHSc

References for all citations are included in a composite list at the end of the case reports.

1. The definitive Guiding Principles for best practice is published in the *Journal of Geriatric Physical Therapy*: Criss MG, Wingood M, Staples WH, Southard V, Miller KL, et al. APTA Geriatrics' Guiding Principles for Best Practices in Geriatric Physical Therapy: An Executive Summary. *J Geriatr Phys Ther*. 2022;45(2)70-75. doi: 10.1519/JPT.0000000000000342

Case 1: Acute Care

by William Staples, PT, DPT, DHSc; Veronica Southard, PT; and Traci Norris, PT, DPT

[Adapted from: Staples WH, ed. Geriatric Physical Therapy: A Case Study Approach. 2nd ed. New York, NY; McGraw-Hill. 2021.[1]]

A 73-year-old male was admitted to acute care s/p L intertrochanteric femur fracture. Fracture occurred while taking a 6-mile hike in a state park. He was trying to build back his endurance as preparation for a long hike after spending 3 weeks in a hospital and rehab hospital with a diagnosis of COVID. Surgical repair/ORIF completed yesterday without complication and chart indicates WBAT LLE and activity as tolerated. Patient also has bruising/abrasions on L ankle, L knee, B elbows, L shoulder, and face near the orbit with stitches visible above L eyebrow. His medications include Xarelto (rivaroxaban) blood thinner, Vicodin (hydrocodone and acetaminophen) for pain. Imaging for spine, L ankle, and L shoulder are negative for fracture. Head CT is negative for intracranial bleeding and the patient is cleared for out of bed activity without bracing.

Vital signs at rest are the following: pulse 72 bpm, respiratory rate 14 bpm, blood pressure 132/82 mmHg, and pulse oximetry 97% on room air. He can follow instructions but is slow to perform. He cannot remember anything about the fall, although he thinks he tripped on a tree root. He denies any vomiting but does complain of nausea. He has reddened, bruised, and swollen areas over the right orbit laterally and superiorly which are painful to palpation. He denies dizziness but complains of a headache. Cranial nerve testing reveals difficulty with eye movements (CN III, IV) but otherwise intact. He transfers supine to sit and sit to and from stand with minimal assist for surgical leg.

PMH: non-smoker, cataracts, HTN, osteopenia, COVID recovered 2 months ago.

PLOF: Lives with wife in 2 story home, bedroom on second floor. Prior to the fall he was independent with IADL/ADLs, including driving. He walked 3 miles in an hour, 4 days/week (prior to admission), but now can only walk for 5 minutes without short recovery due to fatigue and LLE pain.

Principle 1: Utilize person centered care to elicit and prioritize the individual's preferences, values, and goals to drive the plan of care

Considerations for the Principle	Approaches to the Plan of Care
His goal is to backpack on the Appalachian Trail. His timeline is three months. This should make that central to his care.[2]	· Will he be ready to backpack in 3 months? · How long can he walk or how far without stopping? · What was his normal walking distance before stopping?
Previously the patient walked 3 miles, on 4 days of the week. Presently, can only remain walking 5 minutes.	· Physical therapy program to include activities that will enable return to walking programs. · Assess ability to climb stairs.
Patient will likely require an assistive device.	· He should agree with whatever device is recommended.
Empower patient to be the driver of his mobility plan during hospitalization.	· Out of bed and walking outside of physical therapy sessions with assist as needed to prevent hospital acquired deconditioning · Physical therapy for mobility, strength and aerobic capacity issues, education in energy conservation by PT or Nursing · Teach the patient how to use the RPE scale.

Principle 2: Strive for anti-ageist practice

Considerations for the Principle	Approaches to the Plan of Care
Do not assume what an older person can do, he is a very active person.	· Ask questions not just about basic mobility but also exercise history. · Do not assume this fall indicates a history of falls- ask patient questions about nature of fall and number of falls in past year. · Exercise prescription strategies including overload with appropriate exercise modification based on perceived exertion and vital sign changes, a 6/10 initially.
Assistive device: maybe this person wants crutches and not a wheeled walker.	· Stairs: this person may be ascending/descending steps multiple times/day, so stairs should be practiced several times before discharge. Don't assume that older patients would avoid stairs. · Assess for safety with patient preferred assistive device.

Principle 3: Conduct a holistic assessment and evaluation utilizing sound outcome measures that help inform the treatment plan and relate to the patient's stated goals

Considerations for the Principle	Approaches to the Plan of Care
What we do for a frail person might be different than what we do for this person but in acute care might be very similar initially.	· Use part of the 5Ms to determine mobility preferences.[3] · Investigate possible contributors to the fall. If the patient tripped, screen for sensation issues in LEs/feet, look for range of motion/strength issues in ankle/feet, query about recent eye examination/visual impairment.
Use sound outcome measures to inform the treatment plan and goals.[2,4]	· Did the patient have outcome measures performed during previous hospital admission with COVID? · Systems review

Principle 4: Provide positive outcomes of physical therapy care by completing intervention(s) that are based on the best available evidence

Considerations for the Principle	Approaches to the Plan of Care
Use the best available evidence.	· Physical Therapy Management of Older Adults With Hip Fracture (jospt.org)[5] · Physiotherapy management for COVID-19 in the acute hospital setting and beyond: an update to clinical practice recommendations.[6]
White paper on strength training	· White Paper Strength Training for the Older Adult[7]
Reassessment of objective measures	· Meaningful change and responsiveness in common physical performance measures in older adults[8]
Functional training	· Geriatric Rehabilitation Should Not Be an Oxymoron: A Path Forward[9] · High-Intensity Functional Training Shows Promise for Improving Physical Functioning and Activity in Community-Dwelling Older Adults[6] · Incorporating Specific Functional Strength Integration Techniques to Improve Functional Performance for Veterans After Total Hip Arthroplasty: Protocol for a Randomized Clinical Trial[11]
Patient engagement	· Enhanced Medical Rehabilitation increases therapy intensity and engagement and improves functional outcomes in post-acute rehabilitation of older adults: a randomized controlled trial.[12]
	· Self-help tool to help with recognizing ways to get muscles stronger. · What the evidence shows about patient activation[13] · Suggestions upon discharge: Local library, Silver Sneakers™, join support groups on hikes, senior center

Principle 5: Prioritize physical activity to promote health, well-being, chronic disease management, and enhance mobility

Considerations for the Principle	Approaches to the Plan of Care
Our most important consideration is what we can do to promote activity.[14]	· As the patient improves it is anticipated that he will be able to do increasing levels of activity. · Education on self-monitoring during exercise (use of Borg scale, etc.).[15] · Activities he does should be meaningful to enhance participation. · At discharge, provide a plan for future physical activity that he is in agreement with and is easy to transition to.
Possible alternatives after discharge to enforce engagement at pts. ability.	· Home walking program · Hike with poles for a while on a paved trail rather than very uneven terrain · Selecting portion of trail instead of entire distance · For balance issues, the PT might discuss the possibility of continuing PT or joining an evidence-based group[16]

Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers

Considerations for the Principle	Approaches to the Plan of Care
Activities of daily living and Energy Conservation	· Consider occupational therapy referral
Resources for the patient	· Social worker, Meals on Wheels
Osteopenia	· Bone health consult
Case manager	· Obtain home health referral if patient is unable to complete wound care or does not have a way to get to outpatient therapy.
Feelings of being overwhelmed	· Depression screens and communicating that information to the appropriate mental health professional · Coordinate caregivers to give patient respite to exercise.

Case 2: Home-Based Outpatient Practice

by Dale Avers, PT, DPT, PhD, FAPTA and Michelle Criss, PT, DPT, PhD

Rachel, a 90-year-old female, was referred to a home-visit outpatient practice because of an injurious fall (bruising, facial fracture) 2 weeks ago. Her daughter is present for the interview. Rachel is concerned about her balance because of the fall and accepts the physical therapy consultation. She shares her medical history that includes anxiety, severe urge and stress urinary incontinence that prevents her from traveling, postural hypotension, chronic hyperlipidemia, and osteoporosis (-3.5 BMD at the hip and several old vertebral fractures). She admits to having fallen off her treadmill twice in the past 2 years. She did not sustain any injuries and says "I just roll off" the treadmill, seemingly unconcerned about the risk. Currently, the only pain she has is in her upper back after standing for more than 30 minutes. She has not gotten on her treadmill since her fall upon the recommendation of the doctor. She is anxious to resume her daily walks. Her goal is to resume walking on the treadmill that is in her apartment and not to fall again.

Medications: Prozac 10mg/day, Estradiol (estrogen vaginal cream), calcium supplement, CholestOff (OTC supplement for hyperlipidemia), Rachel reports being on a Fosamax for 10 years, but decided to not take it about 3 years ago because it upset her stomach and she wanted to decrease her medications.

Fall history: The current fall, 2 weeks prior, occurred in the lobby of her senior living residence while she was getting her mail. The floor is tile and was not wet. She relates she must have tripped over her toe and landed face first. She does not believe she lost consciousness and has not reported dizziness. She was wearing rubber soled slip-on shoes that she feels do not fit her well and has since discarded. Her daughter, who lives out of state, came to stay with her after the fall, and her daughter reports she suspected a concussion as her "judgment and thinking seemed to be affected." She was taken to the ED after the fall and X-rays confirmed a facial fracture. She did not see her MD until about one week after the fall, when he confirmed a concussion. She also reported an increase in anxiety. The doctor treated this by doubling her Prozac dose from 5 mg to 10 mg. She says this has helped and she is not as anxious anymore. She does fear falling, and says it is "what is normal at my age."

Psychosocial History: Rachel lives alone in a 2-bedroom apartment in a senior living complex where 2 meals/day are provided. She teaches a 30-minute sit/stand exercise class for 8-10 residents of varying abilities. She is an expert seamstress and quilter and enjoys crafting. She teaches a Bible study class. She was a former religious education director for a large region of the Methodist Church. She only drives locally ("my daughter doesn't like me driving on the highway") and says she likes taking care of her friends in the complex (she is one of the more active and fit residents there). Her 4 children each live at least 4 hours away. She monitors her weight daily, recording the reading in a notebook. She proudly says her weight is #122 and it only fluctuates a pound or two due to her diligence. Her height is 64.5" for a BMI of 20.6. Patient admitted to having word finding problems.

Physical Activity History: Rachel is proud of her fitness, relating that her fitness is her "insurance policy." She walks on the treadmill in her apartment daily for 2 miles in 30 min at a 6-degree incline holding onto 2 straps that fasten onto the front bar. She performs a few floor exercises each day that she began just 2 months ago. These include planks (holds for 3 min), Superman, bilateral bridge, and chair stands. She does each of these 2x/week, spreading them out over the week. She uses stairs most of the time and goes out for errands 4-5x/week. She takes a nap each afternoon, reports sleeping well but does tire easily and needs a day to recover from unusual activity such as that which occurs when she is visiting her daughter. She teaches the 30-minute exercise class 3x/week. She is passionate about walking on the treadmill and feels this is what keeps her healthy and active.

Principle 1: Utilize person centered care to elicit and prioritize the individual's preferences, values, and goals to drive the plan of care

Considerations for the Principle	Approaches to the Plan of Care
· Prioritize Rachel's preferences, values, and goals to drive the care plan. · Rachel was functioning at a high level prior to her fall and the therapist should understand that her prior level of function is the motivation for participation and should be the primary focus of intervention. · Matters most = person centered care in the 5Ms model; this is where we start (and then proceed to investigate mobility, mind, multi complexity, and meds).[2]	· Patient is adamant that walking on treadmill remains her goal and is very important to her. — This is motivation for this person, do not discount this goal. — Why is walking on the treadmill so important to her? · Discuss risks/benefits of her goal and use positive risk management (e.g., what are the benefits/risks of walking on the treadmill? What risk is she willing to accept? Does that risk match the benefits received?) · Explore additional goals to guide treatment. — Rachel does also state standing on one foot to put on her pants is difficult and this would also be a goal.

Principle 2: Strive for anti-ageist practice

Considerations for the Principle	Approaches to the Plan of Care
· This ties in with person-centered goals: if we are anti-ageist, we work towards the patient's goals. · CHALLENGE THIS PATIENT - her self-perception is tied to being an active adult who exercises. Do not under-dose. — Ask about content in the class she teaches and offer to introduce new exercises that she could share with her students. · Do not reinforce stereotypes based solely on age: Daughter expresses concern about Rachel driving. · Consider linking goals to physical requirements for those goals .	· Reinforce ability, do not assume inability. · Risk benefit discussions as presented in Principle 1 reveal that Rachel walks on the treadmill for cardiovascular benefits. Explain that at 90 years of age, she has achieved remarkable benefits and that the treadmill is now maintaining more than creating health. Therefore, less vigorous intensity/incline of the treadmill could be appropriate at this time and reduce fall risk. · Consider linking goals to physical requirements for those goals. — Then discuss these requirements in relation to the patient's abilities after examination (e.g., determine optimal speed/incline to meet goal of treadmill walking). · Suggest activities she has not done before (e.g., adding some impact like jumping). · Share normative values for people her age to reinforce her self-perception and improvements gained.[17] · Daughter's driving concerns: Ask further questions to see if this concern is based upon ability or simply the perception that older adults should not drive. — Ask patient how she feels her driving is and how she will know when she is unsafe to drive. — Suggest local programs that assess driving ability (e.g., some insurances, local OT driving assessments, local DMV rules).

Principle 3: Conduct a holistic assessment and evaluation utilizing sound outcome measures that help inform the treatment plan and relate to the patient's stated goals

Considerations for the Principle	Approaches to the Plan of Care
· Design an examination that aligns with her goals and that also addresses common deficits seen in older adults. · Consider implications of osteoporosis with all examination and treatment techniques.	· Frailty should be screened for in older adults. · Gait speed is easy to assess and offers a wealth of information. · Prioritizing balance would be key in this case based upon the patient's goals (single leg stance, safety with treadmill use, balance in complex environments and tasks). · Careful questioning about falls — Details regarding situation, medication changes, etc. — Why not add walking outside? Rachel reveals she feels a little unsteady outside (consider evaluating for vestibular hypofunction which is common in older adults).[18] — Consider a possible relationship between urinary incontinence and falls. · Getting up off the floor is an important skill, but especially in presence of falls. — Suggested reference for timed stand from floor for individuals greater than 65 years old[19] · Do not forget to screen all systems including integumentary system.

Principle 4: Provide positive outcomes of physical therapy care by completing intervention(s) that are based on the best available evidence

Considerations for the Principle	Approaches to the Plan of Care
· Use of best available evidence · Aim interventions at 5Ms (mobility, mind, multi-complexity, meds, matters most)	Balance should be a focus of treatment: · Perturbation-based balance training for falls reduction among older adults[20] · Protective Stepping for Lateral Balance Recovery in Older Adults[21] · Effect of a Balance Training Program, Including Calf Muscle Strengthening[22] · Exercise to prevent falls in older adults: An updated systematic review and meta-analysis[23] Be cognizant of osteoporosis diagnosis: · Too fit to fracture[24]

Principle 5: Prioritize physical activity to promote health, well-being, chronic disease management, and enhance mobility

Considerations for the Principle	Approaches to the Plan of Care
· This patient already places a strong emphasis on physical activity, therefore, the principle of physical activity can focus more on refining and making suggestions.	· "Rolling off the back of the treadmill" is concerning. — Telling the patient to stop this activity will completely disenfranchise her. — Honest discussion about risks and benefits is important with the benefits of exercise and the risks in her situation discussed (See discussion under Principle 1). · The class she teaches is primarily seated exercise. — Incorporate new exercises for LE strength and power (repeated sit to stand), balance (e.g., narrow stance eyes open and closed, single leg stance, standing with head turns with chair for support), as well as back strengthening for both her and her pupil's benefit. · Challenging her through suggestions about impact or other types of agility and power activities, especially those with age-based norms, might also appeal to Rachel.

Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers

Considerations for the Principle	Approaches to the Plan of Care
· Consider co-morbidities that require regular follow-up for management. · Consider 5Ms to enhance collaboration (mobility, mind, multi-complexity, meds, matters most).[2]	· Refer to PCP concerning medical intervention for osteoporosis. · Discuss strategies to involve caregivers who live 4 hours away, if Rachel agreeable (e.g., phone or video check ins). · Rachel did seek help from a pelvic floor PT in the past and found that pelvic floor exercises help, but she forgets to do them. Consider referral if not competent in this aspect of care. · Possible vestibular hypofunction as patient reports not liking to walk outside and increased occurrence of this in older adults. Consider referral to a vestibular specialist if basic exercises do not improve vestibular function. · Prides herself on fitness - consider referral if PT has good working relationship with personal trainer post-PT or other group classes that would challenge her (perhaps adapted yoga, Tai Chi for balance, boxing, etc.).

Case 3: Home Health

by Veronica Southard, PT; Ellen Strunk, PT, MS; and Traci Norris, PT, DPT

[Adapted from: Staples WH, ed. Geriatric Physical Therapy: A Case Study Approach.2nd ed. New York, NY; McGraw-Hill. 2021.[1]]

Acute Care

A 70-year-old retired real estate saleswoman, has been a patient of the local hospital for 1 week prior to discharge home with home health referral. The following is a summary of her acute care hospital stay.

She initially presented with a cough, dyspnea, chills, and fever of 102.8.

PMH: includes chronic conditions of hypertension, osteoarthritis, and coronary artery disease.

Hospital Course: Patient was diagnosed with bacterial pneumonia. Hospital course was complicated by admission to ICU for 5 days due to respiratory distress requiring the use of 4L supplemental oxygen via nasal cannula (NC) and IV antibiotics. Patient was then transferred to a nursing division for 2 days before discharge to home. Patient was seen by physical therapy during hospitalization. Summary of physical therapy can be found below.

PLOF: Patient was fully functional, independent in ADLs and IADLs including light cleaning, cooking, and driving. Patient was not using an assistive device or oxygen at baseline. Patient provides care for a homebound husband who has severe chronic obstructive pulmonary disease. Patient's husband is now being cared for by a daughter who lives nearby.

Patient was A & O x 4 but needed increased time for command following. Physical therapy assessment found strength deficits in UB and LB related to deconditioning (proximal muscles weaker than distal), as well as deficits in balance and endurance. At last PT visit, patient required multiple short rest breaks during the session. During supine to edge of bed transfer patient required moderate assist for trunk elevation from side-lying and movement of hips toward edge of bed secondary to weakness. Patient required assist in sit to stand transfers from high and low surfaces with a wheeled walker due to decreased force production (min vs. mod assist), ambulated with minimal assistance with handheld assistance for distances of 60 feet x 1 and 20-feet x1 but required 2L O_2 via nasal cannula (NC). She is limited by dyspnea; reported her RPE to be 14 with a Borg's Breathlessness Scale at 4. Patient was noted to have slow gait speed, increased trunk flexion with mobility, loss of balance with turns and dual tasking, and required 1 standing rest break during the 60 feet due to complaints of SOB.

A geriatrician consultation was ordered as the patient has not seen a physician in over a year due to concerns about COVID. The geriatrician diagnosed frailty based on history, self-report, gait speed, grip strength, weakness, and other items from the geriatrician and physical therapy consultations.[25]

Home Health

At evaluation, the patient was sitting up in bed, has a surgical mask, and is on 2L O_2 NC. Patient appears very thin.

Interview: Patient prefers to use she/her pronouns when referring to herself. She is worried about her husband. She reports that prior to admission, she was feeling very tired and was beginning to feel overwhelmed just doing household chores. However, she attributed this to having a cold and fatigue from the stress of caregiving for her husband but became afraid when she became SOB. A neighbor drove her to the hospital.

The patient admitted she had been losing weight but blamed it on being too tired to eat. She reported that lately it seems like it takes her forever to do the slightest task. Prior to her hospitalization, she routinely did all the shopping and administered all the household operations including bill paying.

Her goal is to return to her independent function as well as her social role as the caregiver for her husband. She would like to resume driving locally to the store. She reports that prior to her hospitalization she did not participate in formal exercise beyond household activities and was able to slowly walk about 1 to 2 blocks. Currently, she has private personal caregivers hired for 4 hours/day to assist with her husband and medical appointments, her daughter plans to stay at the house for a couple of weeks to assist as well. The patient and her husband reside in a single family, ranch style home with 1 large step at the entrance. There is a walk-in shower in the bathroom. The doorways are narrow, but the house is otherwise barrier free.

Meds: Norvasc (Hypertension), Metoprolol (Hypertension), Albuterol Sulfate HFA (pneumonia), O2@ 2l/m, methylprednisolone (2 more days) (pneumonia), Lipitor (hyperlipidemia)

Cardiopulmonary: Resting: BP 132/80, HR 78, RR 24, SpO_2 94% on 2L O_2. No c/o chest pain. After walking 20 feet with a wheeled walker: 126/80, 90, RR 28, SpO2 92% on 2L O_2 NC.

Musculoskeletal: Gross muscle strength reduced throughout. The patient was unable to complete a full bridge in bed, indicating 3/5 hip extensor strength, had negative break test in open chain quad, and PF, and was not able to raise body weight on either leg in single heel raise. As a result, she is unable to stand unsupported, and requires min assist to stand from the bed. Able to walk short distances with a wheeled walker demonstrating increased postural sway, leaning forward. Her gait quickly deteriorates due to shortness of breath and dyspnea, requiring minimal assistance to complete. Unable to perform any specialized tests currently due to fatigue.

Principle 1: Utilize person centered care to elicit and prioritize the individual's preferences, values, and goals to drive the plan of care

Considerations for the Principle	Approaches to the Plan of Care
Her goal is to assume her previous role as caregiver to her husband. We should make that central to her care.	· Refused admission to a subacute facility for rehab · Arrangements were made by the discharge team to assure patient safety. · Goals should be functionally oriented based on the patient's priorities. · Assess her long-range plans for her own wellness and respond appropriately.
Consider needs and available resources. Physical therapy will address her mobility needs. Friends and family will prepare food.	· Church friends/family to prepare meals until she can prepare her own meals · Some church members will visit.
Patient reports her exercise was in her garden in the fall, spring, and summer about ½ hour in early mornings.	· PT program to include activities that will enable her to return to the garden. · Patient is willing to try if that will get her back "up to speed."
Assess home environment, address needs to move safely through the home.	· Assistive device choice: The patient expresses a desire to, "lose the walker" · PT for mobility, strength and aerobic capacity issues, education in energy conservation · Teach patient how to use the RPE scale.[25]

Principle 2: Strive for anti-ageist practice

Considerations for the Principle	Approaches to the Plan of Care
Assess and address this woman as a person that is going to achieve the highest level of function from the most informed care possible.	· Progress assistive device per patient wishes and as appropriate · Trial gait without assistive device during plan of care
Consider desired activities and home/community environments. This could necessitate a cane instead of a walker.	· Exercise prescription strategies including overload with appropriate exercise modification based on perceived exertion and vital sign changes, at 6/10 initially[25]

We make no age-based assumptions relative to this patient's abilities or probable outcomes. Our expectations are to educate her regarding her present status and help facilitate her progress to return to the best possible level of function relative to her abilities, rather than a function of age-based expectations.

Principle 3: Conduct a holistic assessment and evaluation utilizing sound outcome measures that help inform the treatment plan and relate to the patient's stated goals

Considerations for the Principle	Approaches to the Plan of Care
Our approach for a frail person might be more functional in nature and less resistance-based initially at both evaluation and during treatment.[26]	· What types of transfers does she need to be able to do in the home? · Review the hospital documentation to determine the standardized tests conducted there. If possible, reassess those, and translate the results into what it means for her everyday participation in activities. · She mentioned that she could walk a block or two so this might be an activity to begin with.
Use the 5 M's: Multicomplexity, Mind, Mobility, Medications, What Matters Most[2]	· Apply the 5M's as appropriate for this patient's goals and mobility needs.
Use sound functionally oriented outcome measures to inform the treatment plan and goals.	· Frailty should be screened for in older adults.[26] · Gait speed is easy to assess and offers a wealth of information. · Assessing cardiorespiratory systems would be important.

Principle 4: Provide positive outcomes of physical therapy care by completing intervention(s) that are based on the best available evidence

Considerations for the Principle	Approaches to the Plan of Care
Use the best available evidence	· Frailty in Elderly People CPG[27]
White paper on strength training	· White paper[7]
Re-assessment of objective measures	· Meaningful change and responsiveness in common physical performance measures in older adults[8]
Functional Training	· High-Intensity Functional Training Shows Promise for Improving Physical Functioning and Activity in Community-Dwelling Older Adults: A Pilot Study[10] · Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial[28] · Progressive resistance strength training for improving physical function in older adults[29]
Patient engagement	· Enhanced Medical Rehabilitation increases therapy intensity and engagement and improves functional outcomes in post-acute rehabilitation of older adults.[12] · What the Evidence Shows about Patient Activation[13] · Self-help tool to help with recognizing ways to get muscles stronger · Local library, veterans clubs · Join church groups on hikes, senior center

Principle 5: Prioritize physical activity to promote health, well-being, chronic disease management, and enhance mobility

Considerations for the Principle	Approaches to the Plan of Care
Our most important consideration is what we can do to promote activity.[30]	· As the patient improves it is anticipated that she will be able to do increasing levels of activity every day. · Activities she does should be meaningful to enhance participation. · At discharge, provide a plan for future physical activity that she agrees with and is easy to transition to.
Initially, the focus will be on function and safety in the home while engaging in mobility.[14] Educate the patient about frailty.	· Any problems identified in the home as hazards will be addressed. · PT will assist the patient, to ambulate outside the home to her garden to assess the environment and make recommendations or modifications. · The patient should be taught to get up from the floor since getting up and down is a frequent requirement when gardening. · For balance issues, the PT might consider a maintenance therapy program or discuss the benefits of joining an evidence-based exercise group.[16]

Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers

Considerations for the Principle	Approaches to the Plan of Care
Activities of daily living and energy conservation	· Occupational therapy
Resources for the patient and her husband	· Social worker, Meals on Wheels
Osteoarthritis	· Physical therapy; orthopedic evaluation if necessary
Frailty, loss of weight	· Nutrition, registered dietician
Feelings of being overwhelmed Assist the patient/family to coordinate ongoing support	· Social worker to help with home situation and management of husband's care · Coordinate caregivers, formal and informal, to give patient respite to exercise · Re-assess support network (short and long-term planning)

Case 4: Outpatient

by Kenneth Miller, PT, DPT and William Staples, PT, DPT, DHSc

[Adapted from: Staples WH, ed. Geriatric Physical Therapy: A Case Study Approach.2nd ed. New York, NY; McGraw-Hill. 2021.1]

Diana is a 75-year-old female (retired nurse) who is 2 weeks post shoulder total reverse arthroplasty (RTSA) of the right UE due to severe osteoarthritis and insufficient rotator cuff. Diana wears an abduction splint during most of the day but is weaning out of the splint while at home. Outpatient physical therapy examination reveals mild redness and swelling in the right shoulder with healing incision without exudate. Passive right shoulder range of motion showed limitations in all directions, most markedly in flexion, abduction, and external rotation. All directions displayed an empty end feel, limited by pain. Elbow, wrist, and hand range of motion was full and pain-less bilaterally. Left shoulder motion is full, strong, and painless. She had moderate soreness and limited ability to reach overhead at the time of the fall, but this has since resolved on its own. She has been performing pendulum and assisted range of motion exercises with the right upper extremity at home. She wears the splint as ordered, is not lifting anything heavier than a coffee mug, and is icing the right shoulder 2-3 times per day as she was instructed in the hospital. She is able to perform shoulder isometrics in a neutral position into abduction, adduction, flexion, extension, internal and external rotation with only minimal increase in pain. She could also sustain scapular isometrics into elevation, depression, upward and downward rotation in sitting position.

Medications

She has been taking 1 tablet of 5/325 mg Norco as needed for pain 4 times per day and metformin (Glucophage) 500 mg orally twice a day for Type 2 diabetes mellitus.

Fall history

Diana had a single fall event, 6 months prior to RTSA, occurred on her driveway when she was watering her flower bed. She stepped backwards, tripped on the hose, and attempted to break the fall with her hands. She immediately felt pain in her shoulders from landing on outstretched arms. X-rays were negative and she was diagnosed with osteoarthritis in her shoulders. Her pain was much worse in the right shoulder than left. She was treated with pain medications; pain decreased minimally for 4 months and has continued to worsen. Diana has not had any other falls and denied dizziness, vertigo, or lightheadedness.

Psychosocial history

Prior to surgery, Diana and her husband shared cooking, cleaning, laundry, and shopping responsibilities. Diana likes to garden and volunteered in her church. Diana was actively participating in a yoga class held twice a week at her church. Now, Diana is experiencing difficulties in upper body dressing (especially bra fastening), bathing (i.e., washing hair) and with grooming. Her husband is doing the cleaning and cooking around the house and has been driving her to all appointments as well. Diana can go to the grocery store with her husband but is not using right arm due to recent surgery. She is able to attend church but requires her husband to provide supervision for climbing stairs or walking on uneven surfaces. Her husband is currently walking the dog and completing the laundry and shopping duties.

Physical activity history

Prior to surgery, Diana was independent with all her ADLs and IADLs. She drove to and from her own appointments without difficulty. Diana did not need to use any assistive devices. She gardened in her extensive rose garden with little help and was an active walker in her community. She would take 3 30-minute walks a day with her 40-pound dog with ease. She did not exercise for the sake of exercising alone and did not engage in any strengthening exercise but did participate in yoga class twice a week with friends at church.

Principle 1: Utilize person centered care to elicit and prioritize the individual's preferences, values, and goals to drive the plan of care

Considerations for the Principle	Approaches to the Plan of Care
Prioritize Diana's preferences, values, and goals to drive the care plan. Diana was functioning at a high level prior to her surgery and the therapist should understand that these goals are the primary motivation for participation and should be the primary focus of intervention.	· Diana's goal: return to her prior level of activity including gardening, driving, yoga, attending church and grocery shopping alone. · Addressing the benefits and risks of these goals/activities needs to be part of a mutual conversation so that Diana is involved in the decision-making process to drive interventions towards achieving achievable goals while mitigating risk of harm. · Asking about her long-term goals for her ageing process and wellness will help key into what is important to her, long term.

Principle 2: Strive for anti-ageist practice

Considerations for the Principle	Approaches to the Plan of Care
The therapist should review Diana's goals without any ageist judgment that the goal is not appropriate based on Diana's age. Ageism artificially limits someone's capabilities based on a bias and judgment and therapists should strive to be anti-ageist in order to overcome this type of bias and help each individual maximize their abilities.	· Anti-ageist practice would include asking Diana about how she feels about returning to gardening, driving, shopping, and incorporating challenging activities, when appropriate being respectful of the healing timeline for her surgery. · Anti-ageist practice includes having the highest realistic expectation for the patient's recovery and achieving her prior level of function while encouraging her to be proactive in her ageing process (engage in high intensity strengthening exercises, etc.).

Principle 3: Conduct a holistic assessment and evaluation utilizing sound outcome measures that help inform the treatment plan and relate to the patient's stated goals

Considerations for the Principle	Approaches to the Plan of Care
Being aware and intentional to address Diana's goals, the therapist needs to perform a comprehensive functional assessment to identify movement deficits and potential risks that impact Diana's ability to achieve her goals. Besides looking at assessing strength, aerobic capacity, fall risk and balance, Diana's mental health, role in society and environmental factors should be addressed.	· Diana was active in her church prior to her surgery and this role is important to her. Assessing participation restrictions is a key to helping Diana. · An assessment that addresses returning to this functional activity is a key part of being holistic. (6MWT, gait speed, stair climbing, floor rising, STS). · Diana's husband is currently involved in Diana's care and a holistic assessment would incorporate her husband's ability to assist Diana.

Principle 4: Provide positive outcomes of physical therapy care by completing intervention(s) that are based on the best available evidence

Considerations for the Principle	Approaches to the Plan of Care
Use of best available evidence	· Systematic Review Proposed Rehabilitation Guidelines Following Anatomic and Reverse Shoulder arthroplasty[31] · Intact subscapularis may provide improved shoulder internal rotation ROM. Protect healing tissues. · Post-surgery, phases of recovery[31] — Initial joint protection followed by gradual tissue loading. Sling for 3-4 weeks. Deltoid and Scapular Isometrics gradual restoration of passive ROM — Once PROM is restored, move onto AAROM then AROM — Pain is the main criterion to advance exercise

Principle 5: Prioritize physical activity to promote health, well-being, chronic disease management, and enhance mobility

Considerations for the Principle	Approaches to the Plan of Care
Diana was physically active prior to her surgery by attending yoga classes in addition to gardening. Incorporate Diana's prior activities of daily living to promote physical activity and enhance movement.	· Taking an inventory of Diana's exercise routine prior to her surgery, could help the therapist devise a program tailored to the activities that Diana already likes to do and be able to help tailor the exercises towards Diana's goals. (Encourage strength training). · Encourage Diana to continue going to the grocery store with her husband and to attend church with her husband to provide encouragement/supervision for practice of climbing stairs and walking on uneven surfaces. · Go with husband when he walks the dogs and begin to assist with laundry as healing progresses.

Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers

Considerations for the Principle	Approaches to the Plan of Care
· Supports for spouse/caregiver · Activities of daily living and energy conservation · Resources for the patient and her husband	· Provide resources (caregiver education)/referrals to assist caregiver · Occupational therapy · Social worker

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Integrating Lifestyle Medicine into Physical Therapy for the Ageing Adult

by Michael L Puthoff, PT. PhD and Nola Peacock, PT, DSc

Physical therapists who work with ageing adults see the effects daily of heart disease, diabetes, cancer, respiratory disease, and neurological conditions. These conditions, commonly referred to as noncommunicable diseases (NCD), develop over a lifetime and are primarily caused by behaviors such as inappropriate eating patterns, inactivity, excessive body weight, and smoking.[1] Data in the Health, United States 2019 Report[2] shows that for those over the age of 65, 77% have hypertension, 35% of men and 24.5% of women have heart disease, almost 20% report a history of cancer and close to 30% have physician diagnosed diabetes or undiagnosed diabetes. The impact of NCD leaves many physical therapists frustrated, seeking ways to change the current trajectory in our healthcare system. The integration of Lifestyle Medicine into physical therapy practice provides a path to improve health and wellness in our society and to coach our clients to make meaningful and lasting changes in their health.

Lifestyle medicine is the evidence-based practice of helping individuals and families adopt and sustain healthy behaviors that affect health and quality of life.[3] Lifestyle Medicine promotes the use of a whole food, plant-predominant dietary lifestyle, regular physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connection as a primary therapeutic modality for treatment and reversal of chronic disease. Lifestyle Medicine complements traditional medicine practice and should not be viewed as a standalone practice or as a form of alternative medicine. The evidence around the benefits of a healthy lifestyle is indisputable. A study in 1990 showed that a one-year low fat vegetarian diet, smoking cessation, stress management, and physical activity led to a regression of coronary atherosclerosis disease.[4] A 2002 randomized control trial of over 3000 persons with prediabetes showed the lifestyle medicine principles reduced the incidence of developing diabetes and showed better results than the medication Metformin.[5] A 2008 study showed a 12 week lifestyle behavior program reduced angina, improved exercise capacity, and depression symptoms in those with coronary artery disease.[6] Based on these studies and numerous others, national and international medical organizations are shifting their focus to supporting healthy lifestyle decisions and advocating for a community and society that makes these choices easier.[7,8]

The Lifestyle Medicine model aligns well with physical therapists' focus on health and wellness[9] and fulfills calls to action for physical therapists to be leaders in the prevention and management of NCD.[10,11] As physical therapists work with ageing adults, they need to embrace the idea that NCD are not automatically a natural consequence of ageing and should not be accepted as normal. This article will introduce the 6 pillars of Lifestyle Medicine, provide a short example of how the pillar can be brought into physical therapy practice, briefly discuss the coaching approach for promoting Lifestyle Medicine, and provide next steps for those individuals who are ready to bring Lifestyle Medicine into their practice with ageing adults.

The Six Pillars of Lifestyle Medicine

Lifestyle Medicine has 6 pillars that healthcare professionals should address with their clients. Table 1 lists the pillars and how they can be addressed in physical therapy practice. Not one pillar is considered more important than the other; the 6 pillars are interrelated. For example, poor sleep and stress management can lead to the craving of unhealthy food, can interfere with exercise, and lead to neglecting social connections. On the positive side, an improvement in eating patterns and avoiding nicotine can make physical activity more enjoyable, improve sleep quality, and create the opportunity for better social connections.

It is important for readers to understand their professional and personal scope of practice across each pillar. Each pillar relates to overall health and reasons clients may seek care from a physical therapist. Across the pillars, therapists should provide advice that matches evidence-based guidelines and recommendations shared to the general population. Therapists also need to know their limits and when a referral is needed. Some issues will be beyond their scope of practice and clients will benefit from interactions with another professional.

Physical Activity

Physical activity provides benefits across every body system, improves health, movement, quality of life, and life expectancy.[12] Physical therapists are very familiar with activity and it is their primary intervention. Therapists need to go beyond prescribing therapeutic exercise, neuromuscular training, and therapeutic activities and think about prescribing general activity programs. They need to ask about previous activities, positive and negative experiences with physical activity, and clients' plans to

Table 1 – Definitions of the Six Pillars and Integration into Practice

Pillars	Description	Integration into Physical Therapy practice
Exercise & Physical Activity	Regular and consistent physical activity, meeting the Physical Activity Guidelines. For adults this is at least 150 minutes of moderate or 75 minutes of vigorous activity weekly plus two days of muscle strengthening activities.	Use the Physical Activity Vital Sign[13] to determine current activity level. Educate on the benefits of even small amounts of physical activity on overall health. Stress the importance of balance and muscle strengthening activities in addition to general aerobic activity. Help the client set up a physical activity plan that they can follow once physical therapy is concluded.
Nutrition	A focus on predominantly whole, plant-based foods that are fiber-filled, nutrient dense, health-promoting and disease-fighting. Examples of eating patterns that meet this criterion are Mediterranean, Nordic, Flexitarian, and Vegetarian diets.	Use tools such as the Starting the Conversation Tool[17] to assess overall eating patterns. Educate on the relationship between eating and reasons client is in therapy. Encourage small positive changes in eating patterns and elimination of proinflammatory and processed foods and beverages.
Sleep	Adults attaining 7-9 hours of sleep a day.	Use tools such as the Global Sleep Assessment Questionnaire[43] and ask questions about sleep quantity and quality. Inquire about sleep hygiene habits. Educate on the importance of sleep. Encourage changes in sleep environment, routine, eating patterns and stress management to improve sleep.
Social Connection	Encouraging healthy relationships with others for emotional resiliency and overall health.	Use the UCLA 3 Item Loneliness Scale[44] of the Social Frailty Scale[45] Encourage socialization through exercise programs, volunteer activities, community groups and religious organizations.
Stress Management	Identifying both positive and negative stress responses and teaching coping mechanisms to reduce harmful stress.	Use standardized screens for stress, depression and anxiety. Incorporate short sessions and education on mindfulness, positivity, gratitude and healthy coping skills like exercise and meditation.
Substance Use	Avoiding addictive substances that increase risk for many cancers and heart disease. Primarily focused on nicotine, excessive alcohol and other drugs.	Use the 5 A's and 5 R's for nicotine and the Alcohol Screening and Brief Intervention to screen for and discuss substance use. Nicotine replacement tools can be helpful during smoking cessation. Encourage a reduction in alcohol if it may be negatively affecting health.

adopt a more active lifestyle. Clients need to see physical activity as a preventive medicine and a wellness tool. The Physical Activity Guidelines for Americans layout specific recommendations for physical activity, describe the benefits of physical activity, and address implementation of the guidelines.[12]

Physical Activity Vital Signs can be a great tool to get an assessment of baseline activity.[13] This screen can be used to determine if the physical activity recommendations are being met. Activity monitors and smart watches are great options to measure baseline activity and track progress. If a client already has one, asking to see their data, and using the device to encourage changes in activity is a great step.

Physical therapists should move clients towards meeting the Physical Activity Guidelines. APTA Geriatrics has also produced a nice handout summarizing best practices for exercise recommendations for ageing adults that can be found on their website. Major themes of the Physical Activity Guidelines are that some activity is better than none and that for individuals who cannot meet the recommended levels, they should do as much as they can. Routine movement, even if at a low intensity and in short bouts, is important for health. Promoting exercise snacks or small bouts of activity throughout the day,[14] gamifying activity, and discouraging screen time are possible techniques to address inactivity. Referrals to community-based exercise programs such as SilverSneakers™, Tai Chi, Fit for Life™ and CrossFit™ are examples of possible ways to continue activity after discharge from therapy. It

is vital that therapists have a strong knowledge of referral sources in their community.

Nutrition

Specific nutrition recommendations associated with Lifestyle Medicine are listed in Table 1. Lifestyle Medicine views food as medicine and provides a roadmap to treating and reversing lifestyle related chronic disease.[15] In a typical physical therapy practice, therapists should be concerned with and address nutritional intake, eating patterns of clients, and promote how nutrition can directly affect recovery and function.[16] Physical therapists should be asking about eating patterns and accessibility to healthy foods. Conditions like heart disease, hypertension, diabetes, wound healing, and chronic pain all have links to eating patterns that can influence recovery. Therapists can use a simple screening form such as the Starting the Conversation Tool,[17] a food diary, or just ask about intake of certain foods. From these screenings, therapists can identify deficits in vegetable, fruit, and fiber intake, or see that the client is consuming large amounts of processed foods. As for interventions: recommendations should be limited to following evidence-based guidelines from places such as the Dietary Guidelines, American College of Lifestyle Medicine, Harvard University, or the Mayo Clinic. Physical therapists should avoid recommending eating patterns that are majorly different from these sources and limit guidance around supplementation unless they have additional training and licensure beyond entry level physical therapy education. The APTA recommends therapists refer when the required education is beyond general information that can be found in the public domain or involves information that is outside of dietary guidelines or related guidelines by such entities as the Academy of Nutrition and Dietetics, American Institute for Cancer Research, and the American Hospital Association.[18]

Sleep

Sleep is a natural periodic state of rest for the mind and body in which the eyes are closed and there is a decrease in bodily movement and responsiveness to external stimuli.[3] During sleep, the brain undergoes a characteristic cycle of brain wave activity that includes intervals of dreaming; the body goes through restoration and a repair process. A human body requires sleep; it is important to allow the body and brain to recuperate and heal and is critical for every system in the body. Appropriate sleep is critical for tissue healing, musculoskeletal recovery and growth, pain modulation, cognitive function, learning, memory, and cardiovascular health.[19] Sleeping patterns change through the ageing process; 50-60% of ageing adults report poor sleep quality.[20] Some of this is related to comorbidities such as cardiovascular disease, pulmonary disease, gastroesophageal reflux, musculoskeletal issues, and multiple medications. The average adult needs approximately 7-9 hours of sleep per night. A consistent lack of sleep can lead to increased insulin resistance, hypertension, inefficient immune system function, increased sensitivity to pain, and changes in appetite.[3,19]

Asking about sleep patterns falls under the purview of physical therapists. Given the relationship of sleep to so many health conditions, it makes sense that we inquire about sleep.[19] Physical therapists should be looking for indicators of poor sleep patterns and asking about sleep quality and quantity. If a client reports they are not sleeping well, then asking about how they prioritize sleep, eating patterns around bedtime, light and sounds in the bedroom, medications that may affect sleep. and use of electronics before bedtime is appropriate. If the client wears a smart watch or other wearables, they may have data on sleep patterns that could be reviewed. Physical therapists can give some guidance on improving sleep. This might be promoting a routine around bedtime, altering the environment to encourage sleep, focusing on calming and relaxing activities at night, and thinking about food and drink intake in the evening. At the same time, we need to be ready to refer a client to a different provider based on what we find. If the person has signs and symptoms of conditions like insomnia, restless leg disorder, sleep apnea, or narcolepsy a referral to their physician would be appropriate.

Social Connection

Social connections and relationships affect our physical, mental, and emotional health. Health-related measures like blood pressure and heart rate improve even with short positive social interactions. We need people in our lives who can provide friendship and emotional support.[3] Insufficient social connections, whether it is because of poor quality or infrequent contact, can lead to physiologic dysregulation and, over time, poorer health. Social isolation and loneliness are associated with a greater incidence of major psychological, cognitive and physical morbidities with the strongest evidence for risk of premature death.[21,22] Socially isolated patients experience increased hospitalization and higher medical costs.[23] Research demonstrates social activity and interpersonal support among older adults were related to better cognitive health.[24] Socializing later in life may protect against dementia.[9]

Based on the American College of Lifestyle Medicine, social connection should be frequent, high-quality, positive social interactions. This will vary based on the needs of the individual and their individual preferences. Through the ageing process, individuals tend to lose family members and friends making isolation and loneliness more common. Therapists should be asking clients about the quality and quantity of their connections. Barriers to social connections can include overdependence on technology and social media for interactions, lack of self-confidence and interpersonal skills, a reluctance to interact with others, and a lack of opportunities for social

connections.[25] Therapists can promote and recommend steps to promote social interactions. Some of this might be to volunteer, increase involvement in a religious organization, participate in a club or community group, or take a class around a new skill.[3] Physical therapists might refer a client when there is a concern of depression, health declines, and/or suicidal tendencies.

Stress Management

Stress is a state of mental or emotional strain or tension due to the perception of pressure and the body's response to it.[3] Stress affects everyone and is a part of daily life. In the short term, stress can be a good physiological response. It becomes an issue when our stress response is always on because of constant stressors and/or our inability to process the response. This leads to disrupted sleep, hyperglycemia, increased pain response, depression of the immune system, and increased abdominal fat. Being in a constant stressful state can lead to behavioral changes such as poor sleep, less exercise, poor eating habits, and non-adherence to medical treatments. In society, there might be a perception that older adults have less stress than younger individuals; this is not always the case. Common sources of stress include changes in lifestyle after retirement, caring for sick family members, death of family and friends, deterioration of physical and mental abilities, chronic illness, and worries about loss of freedoms/independence.[26,27]

During rehabilitation sessions, clients may openly share statements about stress and how it is affecting them. As therapists, we need to be able to separate out what is long term, harmful stress from stress that is manageable. We can use tools such as the Patient Health Questionnaire[28], Perceived Stress Scale,[29] and Generalized Anxiety Disorder 7[30] to screen for more serious conditions. In an ideal world, we could remove or change the stressor; this is typically not possible. Additionally, the issue may not even be the stressor, rather it is the response to the stressor. The individual may not have the tools to manage the stressor, or they need assistance outside of themselves to address the stimulus that causes them to feel stress.

In therapy sessions we can recommend and teach techniques that would be useful to address stress. This might be mindfulness activities, promoting positivity and gratitude, meditation, prayer, and exercise. There are multiple free and available resources to guide clients through learning how to meditate and practice mindfulness. It is also common that community organizations offer free and reduced cost educational programs around the area of stress management. It may be appropriate to refer the client for more support if the client presents with depression, anxiety, or anger issues. Community health resources such as hotlines and crisis centers may also be appropriate referrals.

Avoiding Risky Substances

As listed in Table 1, risky substances include any tobacco and nicotine products, alcohol, illegal drugs and drugs being used in inappropriate manners. This article will focus on nicotine and alcohol. Smoking remains the leading cause of preventable disease, disability, and death in the United States.[31]

Although the percentage of American adults who smoke is at an all-time low, 34 million adults still smoke and therefore continue to be at risk of developing smoking-related diseases.[32] New forms of nicotine deliver such as vaping or e-cigarettes continue to grow in popularity.[33] All clients should be advised to avoid all tobacco and nicotine products. The advice on alcohol consumption has evolved in recent times. The Dietary Guidelines for Americans, 2020-2025 include acceptance for moderate alcohol use meaning 2 drinks or less a day for men and one drink or less a day for women.[34] The guidelines do not recommend starting to drink for health benefits. A recent report by the World Heart Federation has stated that no level of alcohol consumption is safe for health.[35] While there is continued debate on the risks and benefits of moderate consumption, the risk are clear for higher rates of consumption.[36]

Physical therapists should be asking about nicotine and alcohol usage. This is typically done through intake forms and questionnaires. From this information, conversations about the relationship of these substances to health may be appropriate. There are evidence-based models that can be used to address nicotine and alcohol. Physical therapists can use the 5 A's (ask, advise, assess, assist, and arrange) for nicotine use and if the person is resistant to quitting, the 5 R's (relevance, risk, rewards, roadblocks, and repetition) can be used.[37] If a therapist is unable to commit the time to go through all the steps, they can still ask and advise, but then refer or connect the client to another healthcare provider.[38]

The Alcohol Screening and Brief Intervention (SBI) can be used to identify individuals who are drinking more than the recommended amounts. The Alcohol SBI involves asking screening questions on alcohol usage, a conversation about drinking more than the recommended amounts and a referral as appropriate.[39] From here the therapists can discuss why alcohol is being consumed and relate overconsumption to poor health outcomes. A referral may be necessary if the client is exhibiting alcohol dependence or alcohol is being used to self-medicate an emotional or physical issue.

Coaching Skills at the Foundation of Lifestyle Medicine

All these health behaviors are commonly known by the general population, but adherence is low to these principles. Lecturing and shaming a client into a behavioral change will not work. At the foundation of implementing Lifestyle Medicine are coaching skills and using behavioral interventions such as motivational interviewing. Coaching is a process of partnering with clients, seeking

to enhance their well-being through self-directed, lasting changes that are aligned with their values and strengths.[40] During the coaching process the client is in charge and makes the decisions about setting the care plan and goals. Motivational interviewing is a dynamic, client centered directive counseling approach meant to help client work through ambivalence, conflict, and resistance.[41]

Following these principles, as Lifestyle Medicine is introduced to clients, it is important to build rapport, ask open ended questions, use active listening, act in a nonjudgmental manner, and meet each person where they are at. This means asking people about what they know about each pillar, determining if they know the relationship of the pillars to their overall health, reasons they are seeking physical therapy, and determining their willingness to change. We do not lecture or try to force a behavior change, instead we ask permission to share information, and then ask their thoughts on this information. We help clients set their own goals that are important to them and celebrate small changes. In some cases, the best approach will be to choose with the client 1 or 2 pillars to focus on. In other situations, the person might be best served by addressing multiple areas at the same time. This approach is driven by the client.

Therapists need to keep in mind factors that influence behavior beyond the individual. The Ecological Model of Health provides a nice model to apply to Lifestyle Medicine.[42] This model emphasizes the interaction between, and interdependence of, factors within and across all levels of a health problem. It accounts for how individual behaviors are influenced by family, friends, institutions, the community, and public policy. These issues cannot be ignored when promoting lifestyle changes.

Next Steps

This article has introduced Lifestyle Medicine. Some of this material can be implemented very easily into clinical practice. This can be through conversations, educational materials, and being direct with clients about the importance of lifestyle in managing their health. Other areas will require physical therapists to continue their journey in learning more about Lifestyle Medicine through continuing education, mentoring, and practicing their skills. The Academy of Geriatrics Health Promotion & Wellness Special Interest Group can be a great first step. The American College of Lifestyle Medicine is another resource that provides quality education and certification to healthcare professionals committed to improving the health of their clients.

Many of us are familiar with the fable of 2 individuals saving drowning people floating down a river. One finally jumps out of the water and begins running upstream, the other asks why. The runner replies that they are going to figure why people keep falling in the river. Lifestyle Medicine is our opportunity to address noncommunicable diseases in clients by addressing the cause of the conditions instead of only the negative outcomes. Hopefully, you are inspired to walk (or run) upriver and share the benefits of Lifestyle Medicine with your ageing adult clients!

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The Role of Physical Therapists in the Evaluation and Discharge Planning of Individuals with Dizziness in the Emergency Department and Acute Care

by Jacob Raecker, PT, DPT

Over 5.5 million people per year in the United States visit a medical clinic with a primary complaint of dizziness.[1] Dizziness has been reported in greater than 30% of individuals 65 and older,[2] its presence is a risk factor for falls[3,4], and it can lead to restricted community participation and limited autonomy.[5] The most common cause of dizziness in older adults is benign paroxysmal positional vertigo (BPPV), with 17% to 42% of patients who present with dizziness are diagnosed with BPPV.[1] Other peripheral vestibular impairments like vestibular migraine, vestibular hypofunction, and presyncope in instances of orthostatic hypotension all challenge an individual's stability in the world around them. Medical history or multimorbidity can provide clues about dizziness risk. Depression, diabetes, previous myocardial infarction, and the use of at least 3 medications have all been associated with increased incidence of dizziness.[6] Determining the primary cause of dizziness is an interdisciplinary challenge. Neurologists, otorhinolaryngologists (ENTs), and physical therapists (PTs) utilize unique skills, evaluations, and interventions in attempts to stabilize the patient's world. Patients experiencing dizziness can initially present to emergency rooms with the debilitating and fear-inducing effects of a spinning environment. If the cause of dizziness is unclear, and further work up and investigation is warranted, these individuals may be admitted to acute care services –often classified as observation patients.

A purpose of PT in the emergency room (ED) and acute care settings is assisting with discharge decision making.[7] A person's functional abilities, previous living environment and responsibilities, and support available to them are all important considerations when making a safe discharge recommendation. PT discharge recommendations are highly valued and followed 83% of the time.[7] When discharge recommendations aren't followed, patients are 2.9 times more likely to return to the acute care environment within 30 days of discharge.[7]

The purposes of this case study are: 1) to explore the role physical therapists play on the interdisciplinary care team in identifying potential causes of dizziness and 2) to demonstrate the impact of patient specific factors and participation roles on discharge management.

CASE DESCRIPTION

Emily is an 86-year-old female who presented to the ED with a primary complaint of dizziness and nausea. She has a past medical history of atrial fibrillation currently managed with Eliquis, asthma, hypertension, type 2 diabetes mellitus, thrombocytopenia, aortic valve replacement in 2006 and repeated in 2016, and underlying chronic heart failure with unspecified ejection fraction. She also had a left internal acoustic canal meningioma identified in 2015.

Emily stated, during the ED PT evaluation, that she resides with her husband in a single level home without steps to enter. She anticipates that her out of state daughter could continue to stay with her for less than a week. Her baseline is reported as a combination of independence/modified independence with intermittent wheeled walker (FWW) use and "furniture surfing" short distances in her home. No additional details related to her desired activities or participation roles were discussed or identified during the initial evaluation.

History of Current Complaint

Eleven days prior to presentation to the ED, Emily was admitted to another hospital while experiencing persistent and disabling dizziness that prevented her from leaving bed due to fear of falling. She was evaluated for concern of stroke. Initial imaging revealed the following: 1) punctate acute infarct in the right frontal lobe; 2) remote lacunar type infarct in R thalamus; 3) atherosclerotic carotid arteries with focal narrowing both L and R; 4) R ICA aneurysm. The left internal acoustic canal meningioma, previously identified in 2015, was not noted in documentation. She was started on 81 mg aspirin, 20 mg atorvastatin, continued with 5 mg Eliquis, along with meclizine and Medrol Dosepak, and was discharged home for further evaluation at an outpatient neurology appointment scheduled in 6 weeks.

Emily continued to experience episodic dizziness lasting 30-40 minutes without triggering factors post discharge. She states dizziness worsened with supine to standing, but changing head positions, or supine to sitting had no effect on her symptoms. There is no evidence of photo or phonophobia. She felt time was the only reliev-

ing factor. Left hearing loss and hoarseness that had also occurred since initial dizziness onset persisted. ED admission was prompted by 2 episodes of dizziness and vomiting.

PT Physical Exam & Other Measures –in the Emergency Department

- **Tests of coordination** were used to screen for potential cerebellar involvement. Patient performed without impairment or dysmetria during finger-nose-finger and finger opposition bilaterally. Left heel to shin was normal, and right heel to shin was impaired, however the patient stated hip pain with this movement. Impaired right heel-shin attributed to this pain rather than with true coordination deficit.
- **Cervical spine integrity** was assessed with only mild extension range of motion deficits noted.
- **Upper and lower extremity strength** was determined to be within functional limits bilaterally and without appreciable differences between sides.
- **Light-touch sensation** was found to be "hypersensitive" throughout the right leg.
- While attempting to track objects with ocular motion only during **smooth pursuits**, patient demonstrated slight saccadic interruptions near midline while tracking in both directions
- Testing of **saccades** via rapidly changing point of focus between two objects was done without impairment.
- The **HINTS Exam** was partially completed. Patient did not present with any resting nystagmus and had a negative test of skew. Head impulse test was not completed by physical therapy but was completed by neurology the same day without corrective saccade during head thrust.
- With **ocular range of motion/visual field** assessment, the patient had no impairment with either eye moving in any direction and did not experience dizziness at any point.
- **Dix-Hallpike Maneuver** was completed with head in partial Trendelenburg position to compensate for the cervical extension impairment, and was negative for symptom provocation or nystagmus bilaterally
- **Horizontal Canal** was also negative for symptom provocation and nystagmus bilaterally.
- While utilizing infrared goggles, in long sitting patient exhibited right beating nystagmus with right head turn, left beating nystagmus with left head turn, slight right beating nystagmus with upward gaze, and ageotropic

Table 1: Neuro and Functional Screen Items Completed and Results

	Normal	Abnormal
Coordination Tests	Finger-nose-finger and finger opposition; left heel to shin	Right heel to shin (report of hip pain)
Cervical spine range of motion		Mild extension deficits
Upper and lower extremity strength	Within function limits, no appreciable differences side to side	
Light touch		Hypersensitivity right lower extremity
Smooth Pursuits & Saccades	Normal saccades with rapid tracking	Saccadic interruptions near midline, both directions during smooth pursuit
HINTS exam	No resting nystagmus, negative test of skew, no corrective head impulse	
Ocular range of motion	Full range of motion in all directions and negative for symptoms provocation	
Dix-Hallpike	Negative	
Horizontal Canal	Negative	
Goggle Analysis		Right nystagmus with right head turn and upward gaze; left nystagmus left head turn; ageotropic nystagmus with left and right rolling
Balance	Normal sitting balance	Posterior loss of balance in standing with eyes open and closed
Transfers	Bed mobility and transfers with supervision	
Ambulation	Guarded head turns tolerated without loss of balance	With front wheeled walker
AMPAC	23/24	

nystagmus with left and right rolling. All identified nystagmus was without a torsional component.

Functional Items and Outcome Measures

- There was no impairment with **sitting balance**. During static standing balance the patient required consistent upper extremity support to prevent posterior loss of balance both with eyes closed and open.
- **Bed mobility and functional transfers** were completed with supervision with upper extremity support/assistance utilized by patient; no dizziness occurred with positional changes.
- She was able to ambulate 45 meters with FWW and supervision. While head movements during ambulation appeared guarded, she tolerated head turns without loss of balance or change in gait speed or deviation in path. No dizziness occurred during ambulation. AMPAC Mobility Score: 23/24

PT Evaluation, Education, and Discharge Recommendations

- Dizziness likely not caused by BPPV. Results of neuro-screen and other visual tests are inconclusive for attributing dizziness to central or peripheral cause.
- Topics of education discussed with patient and daughter were home safety education including use of FWW, gait belt use during periods of dizziness, toileting overnight with focus on appropriate lighting, and importance of follow-up with outpatient vestibular therapy.
- Recommendation was for discharge home with outpatient physical therapy and with 24-hour direct supervision.

Emily was admitted to acute care services for further work up.

Acute Care PT Physical Exam & Other Measures

Functional Items and Outcome Measures

- All mobility completed with supervision i.e., without required physical assistance of secondary individuals. There was no presence or onset of dizziness with any movement.
- Ambulation completed with FWW and supervision; gait speed of 0.44 m/s.
- Berg Balance Score: 26/56; required intermittent physical assistance for balance maintenance during some portions of test
- AMPAC mobility: 22/24

Participation Information, Evaluation, and Discharge Recommendations

Based on the patient's gait speed, requirement of assistive device for standing and dynamic balance safety, and Berg balance score indicating high fall risk, it was evident that Emily requires constant supervision with mobility. While it is generally preferred to discharge to a home environment, several factors contribute to the possibility that this would not be safe. Expanded social history reveals that Emily is the primary caregiver/assistant for her husband who has Parkinson's disease. There are 3 adult daughters as possible support. The daughter present at the time of both ED and acute evaluation lives out of state and is only able to stay for 2 more days. Another out of state daughter is planning to come to stay with the patient, but for brief period. While Emily was in the hospital, her spouse was being cared for by the third daughter who is not willing/able to have both her mother and father live with her simultaneously or for an extended time. Emily also states that she would feel unsafe providing care and assistance for her husband with Parkinson's. With all these factors considered, the discharge recommendation was altered to a skilled nursing facility for additional therapy and time for extended discharge planning for the family. The family was also educated that home discharge from acute care would be appropriate if they could identify a support system allowing both the patient and her husband to receive 24/7 supervision. With both discharge options available, the patient and her family eventually opted for discharge to a skilled nursing facility.

Information Identified by Other Disciplines: Neurology

On repeat imaging during time in ED and acute care, her original diagnosis of stroke from previous hospitalization was likely incorrect: "...small infarct previously identified is likely an artifact. On repeat MRI there were no acute infarcts or subacute infarcts involving brain stem or frontal lobe as previously demonstrated during her previous hospitalization" With this updated imaging, it was determined to be "less likely that dizziness was due to central etiology and less likely she failed Eliquis therapy." Also, the left internal acoustic canal meningioma identified by Mayo in 2015 is "grossly unchanged in size." Finally, imaging revealed a "remote appearing lacunar infarct in the right thalamus."

Information Identified by Other Disciplines: ENT

Their exam revealed left ear conduction was "softer" than in the right ear. ENT ruled that dizziness is attributed to "possible onset Meniere's disease vs. effects of meningioma."

DISCUSSION

Physical Therapists in the Hospital and Dizziness

With up to 117 million emergency room visits annually in the United States[8] and total visits increasing 1% each year,[9] swift diagnosis, intervention, triage, and discharge are priorities to address emergency room overcrowding and improve patient satisfaction. PTs are not consulted on all ED patients; our expertise may be utilized in patients who present after a fall (with or without fracture), low back pain, or dizziness.[10] In these instances our discharge recommendations are particularly useful for effective long-term management of the patient's chief

complaint or injury. The variety of causes of dizziness require well developed diagnostic skills and integration of multiple tests and measures spanning multiple systems.

Most tests physical therapists integrate in the emergency setting for dizziness differentiate between a central or peripheral origin of dizziness. If a central cause is suspected, these tests can allow therapists to make an educated guess about the location of a potential infarct, and diagnostic imaging can be ordered after evaluation by neurologic specialties would be required for a definitive diagnosis. If a peripheral cause is believed to be the culprit, the skill set of physical therapists can be used for specific diagnosis and treatment. This is especially true with BPPV, which can potentially be detected with subjective history alone.[11]

The case presented demonstrates the usefulness of physical therapists to provide supportive information for ruling out specific causes of dizziness, rather than confidently diagnosing its cause, prompting additional consultation of other disciplines. Subjective reporting of the patient's condition, specifically dizziness frequency, duration, modifying factors, and lack of evoked nystagmus or dizziness with positional testing allowed the therapist to say with a high degree of confidence that BPPV was not this patient's issue. Direction changing nystagmus that was present with gaze in different directions was concerning for a central sign, but patient's normal performance during coordination tasks, lack of resting nystagmus, and negative test of skew made this an inconclusive finding. These findings were relayed to the ED physician; PT signed off the patient's care team. It was recommended that the patient return home and would benefit from balance training in an outpatient setting. As neurology and PT physical exams were inconclusive, ENT was consulted for further evaluation.

Participation Restrictions and Discharge Considerations

A significant role of PTs in the emergency department, like in acute care, is synthesizing a patient's ability to complete basic mobility and activities of daily living in the context of their environmental situation to make safe discharge recommendations. Although there were functional impairments and activity limitations identified during evaluation of this patient in the emergency room, none of them were robust enough to prevent this patient from returning home with the assistance of her daughter(s) or spouse. With that reasoning, discharge recommendations were for continuation of physical therapy in the outpatient setting for vestibular and balance rehabilitation. Findings by Plummer et al show that this a common discharge plan when patients present to the emergency room with dizziness.[10] In their study, 90% of dizzy patients were able to be discharged home from the emergency department, and 50% of all dizzy patients were recommended for outpatient therapy. None of the patients in their study required further post-acute rehabilitation in a skilled nursing facility (SNF) or inpatient rehabilitation facility (IRF). The initial recommendation of home discharge also aligns with the patient's emergency room AMPAC score of 23/24 (and 22/24 while inpatient). Patients with scores of 18 or better need only minimal help with activities, and individuals who scored over 18 on initial administration are more likely to discharge home.[12,13] What the Plummer study, the AMPAC, and the emergency room management of this patient failed to capture however, was participation restrictions and environmental factors that made home discharge unsafe or unmanageable for a patient with dizziness.

An important factor in healthy ageing is the ability of a person to participate in roles and responsibilities that add value to their lives or to the lives of their loved ones. In the International Classification of Functioning framework developed by the World Health Organization, participation is defined as involvement in life situations such as community and civic life, as well as the ability to engage with interpersonal interactions and relationships.[14] Participation in these situations may become restricted when an individual cannot fulfill their desired roles due to their health condition. Environmental factors are also important considerations contributing to healthy ageing, and are described as the physical, social, and attitudinal barriers or facilitators that create the environment in which people live and conduct their lives.[14] As seen in Figure 1, during ED management of this patient, only facilitating or positive environmental factors were applied to this patient. The assumption that multiple capable family members would be able to assist for an extended duration with the care of the patient made discharge home a safe and viable option. Upon further investigation of the patient's social situation, participation requirements, and environmental factors during time in acute care revealed that the patient had more barriers to safe home discharge than initially considered.

A study by Mueller et al identified dizziness as independently contributing to restrictions in both participation and autonomy in older adults.[5] They found that dizziness is significantly associated with participation restrictions in the domains of autonomy indoors, autonomy outdoors, work and education, and of particular relevance to this case, significantly associated with participation restrictions in family roles.[5] Providing intermittent assistance with physical tasks and IADL's for her husband with

Table 2: Orthostatic Blood Pressure Testing Results

Supine	123/63	Patient was without dizziness, lightheadedness, blurred vision during transition between any position or during ambulation
Standing	94/47	
Return to Sitting	116/66	
Standing	99/61	
Ambulating	Not Tested	
Standing after ambulation	107/61	

Parkinson's disease is a role this patient assumes at her baseline, and one that would be severely restricted by her dizziness, functional impairments, and activity limitations. Although there was the potential for their daughters to provide supervision and assistance to the patient and her spouse, it was unlikely that the patient's balance and other physical limitations would have been resolved prior to the departure of her out of-state daughter(s), and the scenario of the patient and husband living alone had potential safety, hospital readmission, and quality of life implications. Considering the participation restrictions of the patient and possible caregiving limitations of other family members, discharge recommendations for this patient were altered to a SNF for additional therapies and more time for discharge planning.

Areas for further research would be hospital readmission rates of community dwelling order adults who discharge home and serve as primary caregivers with a physical component for spouses or other family members.

CONCLUSION

Dizziness can result from disturbances in many body systems; it is a symptom that may be reported to any health care provider in any setting. Disturbances in the vestibular system in cases of BPPV or vestibular neuritis can be conservatively well managed after identification, and once treated appropriately, can leave the patient without impairment, feeling once again steady on solid ground. Cardiovascular causes of dizziness such as orthostatic or exertional hypotension may make patients fearful of mobility until it is successfully managed by the cardiology team. If dizziness is the first sign associated with a stroke, emergent and life-saving action can be swiftly taken by the emergency medicine or neurology team. The interdisciplinary nature of dizziness symptoms requires an interdisciplinary approach to treatment of these patients. The vast skill set of PTs allows participation as integral interdisciplinary team members for evaluating and diagnosing dizziness when presenting to the emergency department.

On the surface, PTs are experts at evaluating movement. Identifying assistance needed, how somebody

Figure 1. ICF Components Applied to Case

Medical Diagnosis: Acute onset vertigo
Physical Therapy Diagnosis: Dizziness & Impaired balance
Information specific to second physical therapy interaction indicated in RED

Health Condition and Co-morbidities
-diabetes mellitus type 2, atrial fibrillation, hypertensive heart disease and chronic diastolic heart failure, mitral valve regurgitation, stenotic aortic valve s/p aortic valve replacement in 2006 and repeated in 2016, left internal acoustic canal meningioma identified in 2015.

Body Structure and Function	**Activity**		**Participation**
	Function	**Outcome Measures**	
Impairments: - Balance - Reactive/corrective balance strategies - Strength - Aerobic Capacity	Limitations: - Ambulation - Static and dynamic standing balance - Functional transfers	AMPAC Mobility: - 23/24, *22/24* Berg Balance Scale: - *26/56* (high fall risk) Gait Speed: - *0.44 m/s* (limited community ambulator, more likely to be hospitalized, requires fall risk reduction interventions)	Restrictions: - Providing caregiving assistance for her husband with Parkinson's disease

Personal & Environmental Factors			
Internal (Personal Factors)		**External (Support & Environment)**	
+	-	+	-
- History with assistive device usage (although unclear about frequency of current use)		- Multiple daughters involved in care and decision making	- *Husband requires mobility and IADL assistance* - Temporary nature of daughter assistance

effectively transitions through various positions, what devices are required to walk, or how different daily movement tasks are tolerated. Ability to evaluate the skills, mobility, and abilities of patients, however, is only one piece of the puzzle. If PTs do not evaluate these movements in the context of the patient's environment, roles, and responsibilities, physical therapists are missing opportunities to promote patient safety and function.

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I'm on the Floor and Can't Get Up!

by Jennifer Bruursema, PT, DPT

Editor's Note: This clinical case commentary was part of content for the May 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.

Case study presentation based on the research article from Journal of Geriatric Physical Therapy: Ardali G, States RA, Brody LT, Godwin E. Characteristics of older adults who are unable to perform a floor transfer: Considerations for clinical decision-making. J Geriatr Phys Ther 2020;43(2):62-7

Objective

Mr. Band is an 86-year-old male treated at a skilled nursing facility due to complications following a planned reverse right total shoulder arthroplasty (R RTSA) resulting in a right sided CVA. Mr. Band meets the eligibility requirements for Medicare Part A services. His stated goal is to improve his ability to get down to and up from the floor to return to eating his meals at their floor-level dining room table. This is a culturally meaningful task to return to eating with his wife and family at floor level. Mr. Band lives in a one-story home, entry with 4 steps and bilateral handrails, with his wife who performs all the household IADLs. She has recently had to increase helping him with some ADLs. Mr. Band reports that he has fallen twice in the past year without incurring injury. However, since the falls and recent hospitalization, he is unable to get on and off the floor without dependent physical assistance. Mr. Band and his wife would like to return to meals on the floor without concern for needing to call 911 assistance.

Examination

PMH: R Kidney absent: congenitally acquired with renal insufficiency and bladder dysfunction, HOH with hearing aids, HTN, L TKA, Cataracts, R TSA post 2 months, L3-4 Herniated Discs with L radiculopathy and L drop foot

Medications: Amlodipine 5mg, Atenolol 25mg, Calcium-Vit D 500mg-5mg, Claritin 10mg, Ecotrin 81mg, Gabapentin 300mg, hydrochlorothiazide 25mg, Lisinopril 20mg, Lovenox 40mg, Multivitamin, Plavix 75mg, Potassium Chloride 20mEq, Terazosin 10mg, Zocor 40mg

Resting Vitals: Radial pulse 74 bpm; BP 130/80 mmHg seated, 122/80 standing; SpO2 97%; RR 15 breaths/min

Cognitive Screen: He reports forgetfulness and is A+O x3. Allen Cognitive Level (ACL): 5.4/5.8, indicating mild cognitive impairment. An individual with this ACL will often make mistakes if rushed, can be impulsive, can have difficulty with safety awareness and self-monitoring as well as decreased insight to condition and ability to compensate. Mr. Band's Activities-specific Balance Confidence (ABC) Scale was 43% indicating a low level of physical functioning. Patient Health Questionnaire (PHQ-2) was positive for depression; he did not present with suicidal ideations. Mr. Band's presentation included underestimating his safety and mobility limitations; his safety awareness is impaired especially during dual tasks.

Pain: Patient reports 4-6/10 pain in B shoulders: R due to surgery and L due to overuse/compensation following surgery.

Sensation: Diminished along entire L LE; he describes feeling heavy and numb.

Transfers: Partial A for supine-to-sit. Partial A all sit-stand transfers. Touch to Partial A for bed to/from chair: due to decreased insight and safety awareness, reduced R UE use and poor L foot clearance.

Ambulation: Partial A ambulation in room distances up to 20 feet with stroke walker (standard walker with a central handle). Gait deviations include L ankle inversion and decreased L step length. Forward flexed posture with constant need to watch his feet to ensure L toe clearance is demonstrated. Trunk flexion and L hip flexion worsen with fatigue. Substantial assistance is required when attempting 1 step with B handrails; he reported fear of catching toes if he does not look at his feet when completing a step to pattern.

Range of Motion (ROM): PROM bilateral upper and lower extremities is grossly within functional limits (WFL) No contractures or empty end feel. AROM limited in R shoulder flexion, abduction to <100 degrees due to post-surgical limitations. AROM limited in L hip flexion and ankle dorsiflexion/plantarflexion due to strength limitations.

Strength: B UEs grossly 3+ to 4-/5 (R limited post-surgery, L limited by new pain changes due to overuse). 3/5 L hip flexors and 2+/5 L ankle dorsiflexion. 4/5 grossly on R LE hip, knee, ankle.

Patient Goals

1. Return to eating meals with his wife/family at the floor dining table
2. Reduce the need to call 911 to get up off the floor: whether in the event of a fall or after a meal
3. Reduce fear of falling

Assessment

Mr. Band presents with increased L lower body weakness leading to decreased AROM as well as weakness and pain in B upper extremities on top of sensory loss in his L lower extremity. His functional outcome measures, recent history of falls (3 in the past year), decreased sensation in L LE, and limited insight into safety hazards with dual tasking place him at a high risk of falls with increased dependency on a caregiver.

Floor Transfer Training

Mr. Band indicated that he used to get off the floor at home by sliding up his steps backwards with use of a triceps dip motion. Therefore, to initiate floor transfer training he was guided through an eccentric triceps dip from mat to 6-inch box to the floor. However, to repeat the movement from floor to box to mat in a simulated stair set-up his right shoulder strength and AROM did not allow him to complete his previously utilized method. Mr. Band was on the floor and was willing to engage in therapeutic training to get off the floor without the use of a mechanical lift or dependent assistance.

Step-by-step training was engaged to get up off the floor utilizing a side sitting to quadruped, tall kneeling, half kneeling to stand method. Below: each movement is broken down into areas of muscle weakness, ROM limitations or sequencing/postural control that were further treated or modifications made to successfully achieve a floor transfer.

1. Long sitting to side sitting going towards his right, non-hemiparetic side; he needed help due to weakness in his L hip flexors to bring his hips into flexion to prepare for side-sitting to quadruped movement
2. Side sitting to quadruped: needed help due to weakness in his core (obliques, rectus abdominus, latissimus dorsi, and more), decreased hip abduction power/strength as well as right shoulder weakness and reduced power in weight bearing to propel his body forward and up into quadruped.
3. Crawling in quadruped to edge of mat table: He demonstrated no limitations with crawling
4. Quadruped to Tall kneeling: he demonstrated trunk/hip extensor weakness, reducing his ability to lift his body upright, instead he relied solely on walking his body up with his hands
5. Tall kneeling to half kneeling: he needed help to achieve right hip flexion due to weakness as well as reduced AROM. Therefore, a modification was introduced. He was able to crawl/lift his left knee onto a higher surface/Foam pad (Pillow or cushion at home) and this increased height changed the hip angle and allowed the right hip to achieve the desired position/half kneeling
6. Half kneeling to standing up: once in half kneeling his hip extension power was limited and he needed significant reliance on his UEs to push up into standing as well as partial assistance to stand, turn around and sit safely on the mat.

Interventions

Physical therapy plan of care included:

1. Gait training initially with stroke walker while NWB on R UE, then progressing to FWW with new WBAT orders. Gait training occurred on level ground with and without use of Lite Gait/Body Weight Supported System (BWSS) to allow for balance training.
2. Balance and core training with BWSS to allow for safe loss of balance at limits of stability. Reaction and stepping strategies with gradually less UE support and Video Gaming with trunk rotation and arm swing movements.
3. LE strengthening with 10RM utilizing leg press and resistance equipment.
4. Transfer training including getting down and up from the floor using chair support, with utilization of backward chaining to improve each individual aspect of the floor to chair transfer
5. Engaged Mr. Band and his spouse in education about ways to call for help, and caregiver instruction in how to assist or keep him comfortable until help arrives in the event of fall versus elective floor transfer.

Status After Two Weeks of Physical Therapy

Transfers: Independent supine to/from sit. Independent sit-stand. Supervision/Touch for bed to/from chair: due to decreased insight and safety awareness with

Outcome Measures

	BEFORE	AFTER	MDC
POMA	12/28 (Feb 3rd)	17/28 (Feb 8th)	5 points
Berg Balance Score	31/56 (Feb 8th)	37/56 (Feb 21st)	5 points*
Self-Selected Walking Speed	0.25m/s (Feb 14th)	0.54m/s (Feb 21st)	0.1m/s*
ABC Score	43% (Feb 4th)	50% (Feb 21st)	14%*

*MDC varies based on the score range for the BBS (the number shown is an average), SSWS and ABC MDC listed are correlated to neurologic diagnoses

Not all outcome measures indicate a successful minimal detectable change; but all showed significant gains toward the reduction of falls and improved confidence with functional mobility.

reduced L toe clearance or forgetting to pick up and move L foot during turning

Ambulation: Supervision to touch A in home and limited facility distances with FWW up to 300 ft with improved step length, swing, and head/trunk upright posture. Touch A on 4 stairs with bilateral handrails. Supervision with modifications for floor to chair transfer.

Floor Transfers: Upon discharge Mr. Band and his spouse decided that they were not ready to return to eating meals at their floor dining room table but were hopeful that continued practice and strengthening with home physical therapy would enable him to reach his personal goals.

Discussion

Ardali et al[1] provides supportive reasoning to train older adults in floor transfers as this functional ability correlates not only to the potential need for assistance with activities of daily living (ADLs), homebound status, need for caregiver support or reliance on double upper extremity (UE) support assistive devices. However, research from Ardali et al[1] provided little assistance with clinical decision making regarding the above case study or most of my patients. Less than 5% of my patients can complete floor transfers independently (without use of UE support, solid surfaces, or person assistance[1]); therefore, it would be more beneficial to have research that discusses modified or assisted (use of UE support or solid surface1) floor transfers. Ardali et al[1] seems to be limited by a ceiling effect regarding individuals requiring the use of UEs, solid surfaces, or person assisted levels of floor transfers.

Research that provides relationships between older adult frailty, risk of falling, medical complexities, and increased levels of caregiver assistance is valuable for supporting the need to complete floor transfer training. However, sometimes getting down to and up from the floor is not always about falling or the recommended level of caregiver assistance. Instead, it is about a meaningful return to functional mobility that enhances an older adult's life. Sometimes the assessment of a floor transfers may be an important outcome measure not only as a predictor of health-related factors (level of assistance with ADLs, homebound status, need for caregiver support, or reliance on an assistive device[1]) but as a person-centered approach to rehabilitation.

Mr. Band did not want to practice and learn how to complete floor transfers because it meant he would be less at risk of falling; it was so that he could eat meals with his wife. Of course, this person-centered approach in reducing his risk of falling and improving his confidence with functional mobility was a positive side effect of his physical therapy.

Despite Mr. Band continuing to remain dependent with floor transfers upon discharge from the Skilled Nursing Facility (SNF) his awareness of his physical limitations improved. He made measurable and significant gains towards reducing his risk of falls, improved safety with household ambulation and increased his confidence in his functional mobility. Both Mr. Band and his wife learned meaningful modifications to safely complete floor transfers. They demonstrated excellent understanding and accuracy with home exercises to perform that will help Mr. Band eventually return to assisted versus dependent floor transfers.

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The APTA Geriatrics Journal Club is a free, facilitated webinar-based discussion about a Journal article where you interact directly with the author and a clinician with a relevant case study that demonstrates how that information could be used. It's a fun way to move yourself in the direction of life learning and beef up your evidence- based practice.

The next APTA Geriatrics Journal Club will be held **May 17, 2022** at 8 pm ET.

We will discuss **Characteristics of older adults who are unable to perform a floor transfer: Considerations for clinical decision-making.** *J Geriatr Phys Ther* 2020;43(2):62-7

Case Study: **I'm On the Floor and Can't Get Up** by Jennifer Bruursema, PT, DPT

Registration is FREE but required:
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Research Versus the Reality

by Carole Lewis PT, DPT, PhD, FAPTA and Linda McAllister PT, DPT

Recently the Great Seminars and Books faculty had a unique opportunity to hang out together while we were all attending the APTA Centennial Gala in Washington, D.C. As in most therapist gatherings, the conversation quickly turned to the topic of physical therapy. A core theme of our discussion was the issue of the disconnect between the findings of much of the abundant research regarding interventions in the geriatric population and the reality of giving care in an environment that does not foster the true use of research. Here are some of the main points that were made:

1. Older adults need extra time to show improvements to interventions, but our time has been significantly pared down.
2. 50 hours of therapeutic intervention has been demonstrated to be a key exercise dose in preventing falls for older adults.[1,2] Programs that have demonstrated effective mitigation of weakness and frailty also require extended time – typically 12-24 weeks or longer.[3] What is happening is typically nowhere close to that dose.
3. Some observations specific to home health: While every agency is handling the transition to PDGM differently, physical therapists (PT) generally report pressure (in varying degrees) to limited or a prescribed number of therapy visits. Therapists have been advised to get in, get patients safe with devices and a basic home program, and get out. This trend shifts the "meat" of robust, progressive interventions to outpatient. This is all in the setting of a therapy benefit that has not changed, per CMS;[4] it appears significantly changed via lowered visit numbers. Agencies do need to consider how to survive fiscally in the new payment model.
4. One person noted that managers have told patients who ask for more therapy that "those days are over" and they should "call their senators to complain " about Medicare reimbursement for therapy. Caregivers may be the ones who will need to do the interventions.
5. There seems to be a perception that PTs should not be seeing patients to administer interventions, that this is "unskilled." PTs should focus on teaching patients and caregivers a program, and then discharge.
6. Our care is to be value-based. But what is the measure being used? If by the Oasis questions: these scales miss important progress levels.
7. A recent patient who stayed in a skilled nursing facility (SNF) lamented after arriving home: "The therapy I got was good, I just got SO very little of it."
8. Colleagues who work in SNF tell me that most therapy sessions are only 30-45 minutes long.

Do any of these ring true to you? If so, read on. We would like to tackle each one.

Our responses to these points . . .

1. Has allotted physical therapy time really been pared down or has our contract company/administrator/supervisor guided us to provide less since that is easier and a more secure approach for assured payment? The newer payment policies encourage lesser care but don't mandate it. Several companies go to the limits of payment *if* their patients are showing that they need skilled care. However, if you take this route, you must have meticulous documentation and be willing to justify your care. The more familiar that we are with solid outcome measures and literature-based protocols the easier it will be to advocate for intervention that is truly skilled and justified.
2. *It is true that longer interventions get better results.* If you feel you cannot provide 50 hours, then what about the following:
   a. Design a sustainable program where you see the person at spaced intervals for months and work with them (and/or their caregiver) to get to 50 hours
   b. Provide community service lists of good exercise classes or videos or groups where they can get the 50 hours
   c. Provide private pay services to reach the 50 hours
3. If the financial constraints are too great to see patients for 50 hours under Medicare Part A, a logical progression would be to convert the service to one provided under Part B. The reality is that *many homebound patients will not find attending outpatient a feasible option.* Converting care to a home-based outpatient service would be ideal in this scenario and is a great way to continue progressive care. However, in- home Part B is unavailable in many areas. It seems that if therapy eligibility and coverage have not changed, "without restriction or limitation on frequency or duration of visits" (per CMS)[4] that *therapists should be able to provide truly homebound patients with appropriate care under Medicare Part A*. Sometimes longer durations will be needed to progress robust therapeutic interventions, based on individualized assessment. Again, as in response 1 above, confidence in ourselves as knowledge brokers of physical therapy measures and interventions will help us advocate for needed care.
4. To answer this, let us refer to a combination of 2a and 3 above, and affirm, as well, that caregiver involve-

ment for some patients is crucial. The patient must be given first right of refusal to be the captain of their program. The other part of this is something we may want to consider. The Fox versus Bowen 1987[5] case paved an increased access road to physical therapy. In this case the senior citizens of Connecticut sued the federal government for non-payment of physical therapy services, *and they won***.** This led to increased funding for a while. It never hurts to have older adults pick up the flag for PT.

5. Therapists may feel pressured to provide the bare bones of skilled care, leading to a mindset for some that we cannot perform interventions with patients. This gives away so much that we could be potentially providing that can make a world of difference for on older adult. Of course, home programs and teaching are a vital part of physical therapy. So is the skill needed to correctly dose exercises and safely progress interventions that will ultimately make a difference to combat frailty, improve independence, decrease hospitalizations, improve quality of life, and improve community-level ambulation. The initial exercise intervention a patient can perform at your first exam should hopefully not be the one they are discharged with. It is *skilled* to add and progress intensity level, resistance, challenge. There may be some things we can give up that are not skilled, but designing, delivering, progressing, monitoring, and re-evaluating programs is something we do every visit.
6. We must insist on better measures to show improvement. Not only is the Oasis too gross of a measure, so is "6 Clicks™."[6] There are better tools. For example, a robust measurement like self-selected gait speed is all over the literature for its proven value; there are many others.
7. This is so sad. *We complain about where we are, yet if we are giving less than we are capable and not offering something from our profession, our care will diminish.* In some situations, it may be appropriate to limit physical therapy care intensity and duration, but determining and addressing *when it is not*, is a skill that PTs need to exercise constantly.
8. There appears to be a new and unfortunate "one size fits all" mentality. During the RUG era, ultra-high payment sessions may have been too long and too automatic. Our skill comes in determining the most effective amount of time PTs can give patients; therapists need to be the ones determining it.

At the heart of many of these issues are recent changes to reimbursement for physical therapy. Even if we advocate going to the limits of that reimbursement, the fact remains: there is less money and tightening restrictions. The most finely tuned, efficient agencies are still dealing with a smaller sum of money that simply does not cover more intensive frequencies and durations of therapy well. This is in a setting of older adults who are referred with increasingly acute medical and rehab needs. Therapists are told to make the most of each session, which is important, but can only go so far. Advocacy on a macro level is essential to allow for research -based care. While *researchers* demonstrate efficacy, they too must make strong statements in their published works to plead for increased funding. *Each clinician* can convey compelling messages to patients, payers, and legislators to expand reimbursement.

We hope some of these suggestions and ideas will be food for thought. To accomplish them will take intense input into APTA and their legislative agenda, education of our peers and superiors, and courage to try new ways of working with patients. We can turn research into reality, but it will take a lot of work, commitment, and caring from each of us.

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