

# 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 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*<sup>1</sup>, 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, DHS; Veronica Southard, PT; and Traci Norris, PT, DPT

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

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. <sup>2</sup>	<ul style="list-style-type: none"> <li>Will he be ready to backpack in 3 months?</li> <li>How long can he walk or how far without stopping?</li> <li>What was his normal walking distance before stopping?</li> </ul>
Previously the patient walked 3 miles, on 4 days of the week. Presently, can only remain walking 5 minutes.	<ul style="list-style-type: none"> <li>Physical therapy program to include activities that will enable return to walking programs.</li> <li>Assess ability to climb stairs.</li> </ul>
Patient will likely require an assistive device.	<ul style="list-style-type: none"> <li>He should agree with whatever device is recommended.</li> </ul>
Empower patient to be the driver of his mobility plan during hospitalization.	<ul style="list-style-type: none"> <li>Out of bed and walking outside of physical therapy sessions with assist as needed to prevent hospital acquired deconditioning</li> <li>Physical therapy for mobility, strength and aerobic capacity issues, education in energy conservation by PT or Nursing</li> <li>Teach the patient how to use the RPE scale.</li> </ul>

## 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.	<ul style="list-style-type: none"> <li>Ask questions not just about basic mobility but also exercise history.</li> <li>Do not assume this fall indicates a history of falls- ask patient questions about nature of fall and number of falls in past year.</li> <li>Exercise prescription strategies including overload with appropriate exercise modification based on perceived exertion and vital sign changes, a 6/10 initially.</li> </ul>
Assistive device: maybe this person wants crutches and not a wheeled walker.	<ul style="list-style-type: none"> <li>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.</li> <li>Assess for safety with patient preferred assistive device.</li> </ul>

**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.	<ul style="list-style-type: none"> <li>Use part of the 5Ms to determine mobility preferences.<sup>3</sup></li> <li>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.</li> </ul>
Use sound outcome measures to inform the treatment plan and goals. <sup>2,4</sup>	<ul style="list-style-type: none"> <li>Did the patient have outcome measures performed during previous hospital admission with COVID?</li> <li>Systems review</li> </ul>

**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.	<ul style="list-style-type: none"> <li>Physical Therapy Management of Older Adults With Hip Fracture (jospt.org)<sup>5</sup></li> <li>Physiotherapy management for COVID-19 in the acute hospital setting and beyond: an update to clinical practice recommendations.<sup>6</sup></li> </ul>
White paper on strength training	<ul style="list-style-type: none"> <li>White Paper Strength Training for the Older Adult<sup>7</sup></li> </ul>
Reassessment of objective measures	<ul style="list-style-type: none"> <li>Meaningful change and responsiveness in common physical performance measures in older adults<sup>8</sup></li> </ul>
Functional training	<ul style="list-style-type: none"> <li>Geriatric Rehabilitation Should Not Be an Oxymoron: A Path Forward<sup>9</sup></li> <li>High-Intensity Functional Training Shows Promise for Improving Physical Functioning and Activity in Community-Dwelling Older Adults<sup>6</sup></li> <li>Incorporating Specific Functional Strength Integration Techniques to Improve Functional Performance for Veterans After Total Hip Arthroplasty: Protocol for a Randomized Clinical Trial<sup>11</sup></li> </ul>
<b>Patient engagement</b>	<ul style="list-style-type: none"> <li>Enhanced Medical Rehabilitation increases therapy intensity and engagement and improves functional outcomes in post-acute rehabilitation of older adults: a randomized controlled trial.<sup>12</sup></li> </ul>
	<ul style="list-style-type: none"> <li>Self-help tool to help with recognizing ways to get muscles stronger.</li> <li>What the evidence shows about patient activation<sup>13</sup></li> <li>Suggestions upon discharge: Local library, Silver Sneakers™, join support groups on hikes, senior center</li> </ul>

**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. <sup>14</sup>	<ul style="list-style-type: none"> <li>As the patient improves it is anticipated that he will be able to do increasing levels of activity.</li> <li>Education on self-monitoring during exercise (use of Borg scale, etc.).<sup>15</sup></li> <li>Activities he does should be meaningful to enhance participation.</li> <li>At discharge, provide a plan for future physical activity that he is in agreement with and is easy to transition to.</li> </ul>
Possible alternatives after discharge to enforce engagement at pts. ability.	<ul style="list-style-type: none"> <li>Home walking program</li> <li>Hike with poles for a while on a paved trail rather than very uneven terrain</li> <li>Selecting portion of trail instead of entire distance</li> <li>For balance issues, the PT might discuss the possibility of continuing PT or joining an evidence-based group<sup>16</sup></li> </ul>

**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	<ul style="list-style-type: none"> <li>· Consider occupational therapy referral</li> </ul>
Resources for the patient	<ul style="list-style-type: none"> <li>· Social worker, Meals on Wheels</li> </ul>
Osteopenia	<ul style="list-style-type: none"> <li>· Bone health consult</li> </ul>
Case manager	<ul style="list-style-type: none"> <li>· Obtain home health referral if patient is unable to complete wound care or does not have a way to get to outpatient therapy.</li> </ul>
Feelings of being overwhelmed	<ul style="list-style-type: none"> <li>· Depression screens and communicating that information to the appropriate mental health professional</li> <li>· Coordinate caregivers to give patient respite to exercise.</li> </ul>

# 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

<ul style="list-style-type: none"> <li>• Prioritize Rachel's preferences, values, and goals to drive the care plan.</li> <li>• 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.</li> <li>• 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).<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Patient is adamant that walking on treadmill remains her goal and is very important to her.                             <ul style="list-style-type: none"> <li>— This is motivation for this person, do not discount this goal.</li> <li>— Why is walking on the treadmill so important to her?</li> </ul> </li> <li>• 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?)</li> <li>• Explore additional goals to guide treatment.                             <ul style="list-style-type: none"> <li>— Rachel does also state standing on one foot to put on her pants is difficult and this would also be a goal.</li> </ul> </li> </ul>
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## Principle 2: Strive for anti-ageist practice

### Considerations for the Principle

### Approaches to the Plan of Care

<ul style="list-style-type: none"> <li>• This ties in with person-centered goals: if we are anti-ageist, we work towards the patient's goals.</li> <li>• CHALLENGE THIS PATIENT - her self-perception is tied to being an active adult who exercises. Do not under-dose.                             <ul style="list-style-type: none"> <li>— Ask about content in the class she teaches and offer to introduce new exercises that she could share with her students.</li> </ul> </li> <li>• Do not reinforce stereotypes based solely on age: Daughter expresses concern about Rachel driving.</li> <li>• Consider linking goals to physical requirements for those goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Reinforce ability, do not assume inability.</li> <li>• 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.</li> <li>• Consider linking goals to physical requirements for those goals.                             <ul style="list-style-type: none"> <li>— 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).</li> </ul> </li> <li>• Suggest activities she has not done before (e.g., adding some impact like jumping).</li> <li>• Share normative values for people her age to reinforce her self-perception and improvements gained.<sup>17</sup></li> <li>• 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.                             <ul style="list-style-type: none"> <li>— Ask patient how she feels her driving is and how she will know when she is unsafe to drive.</li> <li>— Suggest local programs that assess driving ability (e.g., some insurances, local OT driving assessments, local DMV rules).</li> </ul> </li> </ul>
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**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**

<ul style="list-style-type: none"> <li>• Design an examination that aligns with her goals and that also addresses common deficits seen in older adults.</li> <li>• Consider implications of osteoporosis with all examination and treatment techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Frailty should be screened for in older adults.</li> <li>• Gait speed is easy to assess and offers a wealth of information.</li> <li>• 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).</li> <li>• Careful questioning about falls                         <ul style="list-style-type: none"> <li>— Details regarding situation, medication changes, etc.</li> <li>— Why not add walking outside? Rachel reveals she feels a little unsteady outside (consider evaluating for vestibular hypofunction which is common in older adults).<sup>18</sup></li> <li>— Consider a possible relationship between urinary incontinence and falls.</li> </ul> </li> <li>• Getting up off the floor is an important skill, but especially in presence of falls.                         <ul style="list-style-type: none"> <li>— Suggested reference for timed stand from floor for individuals greater than 65 years old<sup>19</sup></li> </ul> </li> <li>• Do not forget to screen all systems including integumentary system.</li> </ul>
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**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**

<ul style="list-style-type: none"> <li>• Use of best available evidence</li> <li>• Aim interventions at 5Ms (mobility, mind, multi-complexity, meds, matters most)</li> </ul>	<p>Balance should be a focus of treatment:</p> <ul style="list-style-type: none"> <li>• Perturbation-based balance training for falls reduction among older adults<sup>20</sup></li> <li>• Protective Stepping for Lateral Balance Recovery in Older Adults<sup>21</sup></li> <li>• Effect of a Balance Training Program, Including Calf Muscle Strengthening<sup>22</sup></li> <li>• Exercise to prevent falls in older adults: An updated systematic review and meta-analysis<sup>23</sup></li> </ul> <p>Be cognizant of osteoporosis diagnosis:</p> <ul style="list-style-type: none"> <li>• Too fit to fracture<sup>24</sup></li> </ul>
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**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**

<ul style="list-style-type: none"> <li>• This patient already places a strong emphasis on physical activity, therefore, the principle of physical activity can focus more on refining and making suggestions.</li> </ul>	<ul style="list-style-type: none"> <li>• “Rolling off the back of the treadmill” is concerning.                         <ul style="list-style-type: none"> <li>— Telling the patient to stop this activity will completely disenfranchise her.</li> <li>— 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).</li> </ul> </li> <li>• The class she teaches is primarily seated exercise.                         <ul style="list-style-type: none"> <li>— 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.</li> </ul> </li> <li>• 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.</li> </ul>
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## Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers

### Considerations for the Principle

- Consider co-morbidities that require regular follow-up for management.
- Consider 5Ms to enhance collaboration (mobility, mind, multi-complexity, meds, matters most).<sup>2</sup>

### Approaches to the Plan of Care

- 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*. 2<sup>nd</sup> ed. New York, NY; McGraw-Hill. 2021.]

## 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<sub>2</sub> 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.<sup>25</sup>

## Home Health

At evaluation, the patient was sitting up in bed, has a surgical mask, and is on 2L O<sub>2</sub> 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<sub>2</sub> 94% on 2L O<sub>2</sub>. No c/o chest pain. After walking 20 feet with a wheeled walker: 126/80, 90, RR 28, SpO<sub>2</sub> 92% on 2L O<sub>2</sub> 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.	<ul style="list-style-type: none"> <li>· Refused admission to a subacute facility for rehab</li> <li>· Arrangements were made by the discharge team to assure patient safety.</li> <li>· Goals should be functionally oriented based on the patient's priorities.</li> <li>· Assess her long-range plans for her own wellness and respond appropriately.</li> </ul>
Consider needs and available resources. Physical therapy will address her mobility needs. Friends and family will prepare food.	<ul style="list-style-type: none"> <li>· Church friends/family to prepare meals until she can prepare her own meals</li> <li>· Some church members will visit.</li> </ul>
Patient reports her exercise was in her garden in the fall, spring, and summer about ½ hour in early mornings.	<ul style="list-style-type: none"> <li>· PT program to include activities that will enable her to return to the garden.</li> <li>· Patient is willing to try if that will get her back "up to speed."</li> </ul>
Assess home environment, address needs to move safely through the home.	<ul style="list-style-type: none"> <li>· Assistive device choice: The patient expresses a desire to, "lose the walker"</li> <li>· PT for mobility, strength and aerobic capacity issues, education in energy conservation</li> <li>· Teach patient how to use the RPE scale.<sup>25</sup></li> </ul>

**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.	<ul style="list-style-type: none"> <li>· Progress assistive device per patient wishes and as appropriate</li> <li>· Trial gait without assistive device during plan of care</li> </ul>
Consider desired activities and home/ community environments. This could necessitate a cane instead of a walker.	<ul style="list-style-type: none"> <li>· Exercise prescription strategies including overload with appropriate exercise modification based on perceived exertion and vital sign changes, at 6/10 initially<sup>25</sup></li> </ul>

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. <sup>26</sup>	<ul style="list-style-type: none"> <li>· What types of transfers does she need to be able to do in the home?</li> <li>· 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.</li> <li>· She mentioned that she could walk a block or two so this might be an activity to begin with.</li> </ul>
Use the 5 M's: Multicomplexity, Mind, Mobility, Medications, What Matters Most <sup>2</sup>	<ul style="list-style-type: none"> <li>· Apply the 5M's as appropriate for this patient's goals and mobility needs.</li> </ul>
Use sound functionally oriented outcome measures to inform the treatment plan and goals.	<ul style="list-style-type: none"> <li>· Frailty should be screened for in older adults.<sup>26</sup></li> <li>· Gait speed is easy to assess and offers a wealth of information.</li> <li>· Assessing cardiorespiratory systems would be important.</li> </ul>

**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	<ul style="list-style-type: none"> <li>· Frailty in Elderly People CPG<sup>27</sup></li> </ul>
White paper on strength training	<ul style="list-style-type: none"> <li>· White paper<sup>7</sup></li> </ul>
Re-assessment of objective measures	<ul style="list-style-type: none"> <li>· Meaningful change and responsiveness in common physical performance measures in older adults<sup>8</sup></li> </ul>
Functional Training	<ul style="list-style-type: none"> <li>· High-Intensity Functional Training Shows Promise for Improving Physical Functioning and Activity in Community-Dwelling Older Adults: A Pilot Study<sup>10</sup></li> <li>· Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial<sup>28</sup></li> <li>· Progressive resistance strength training for improving physical function in older adults<sup>29</sup></li> </ul>
Patient engagement	<ul style="list-style-type: none"> <li>· Enhanced Medical Rehabilitation increases therapy intensity and engagement and improves functional outcomes in post-acute rehabilitation of older adults.<sup>12</sup></li> <li>· What the Evidence Shows about Patient Activation<sup>13</sup></li> <li>· Self-help tool to help with recognizing ways to get muscles stronger</li> <li>· Local library, veterans clubs</li> <li>· Join church groups on hikes, senior center</li> </ul>

**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. <sup>30</sup>	<ul style="list-style-type: none"> <li>· As the patient improves it is anticipated that she will be able to do increasing levels of activity every day.</li> <li>· Activities she does should be meaningful to enhance participation.</li> <li>· At discharge, provide a plan for future physical activity that she agrees with and is easy to transition to.</li> </ul>
Initially, the focus will be on function and safety in the home while engaging in mobility. <sup>14</sup>  Educate the patient about frailty.	<ul style="list-style-type: none"> <li>· Any problems identified in the home as hazards will be addressed.</li> <li>· PT will assist the patient, to ambulate outside the home to her garden to assess the environment and make recommendations or modifications.</li> <li>· The patient should be taught to get up from the floor since getting up and down is a frequent requirement when gardening.</li> <li>· For balance issues, the PT might consider a maintenance therapy program or discuss the benefits of joining an evidence-based exercise group.<sup>16</sup></li> </ul>

**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	<ul style="list-style-type: none"> <li>· Occupational therapy</li> </ul>
Resources for the patient and her husband	<ul style="list-style-type: none"> <li>· Social worker, Meals on Wheels</li> </ul>
Osteoarthritis	<ul style="list-style-type: none"> <li>· Physical therapy; orthopedic evaluation if necessary</li> </ul>
Frailty, loss of weight	<ul style="list-style-type: none"> <li>· Nutrition, registered dietician</li> </ul>
Feelings of being overwhelmed  Assist the patient/family to coordinate ongoing support	<ul style="list-style-type: none"> <li>· Social worker to help with home situation and management of husband's care</li> <li>· Coordinate caregivers, formal and informal, to give patient respite to exercise</li> <li>· Re-assess support network (short and long-term planning)</li> </ul>

# 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.]

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 painless 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**

<p><b>Prioritize Diana's preferences, values, and goals to drive the care plan.</b></p> <p>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.</p>	<ul style="list-style-type: none"> <li>· Diana's goal: return to her prior level of activity including gardening, driving, yoga, attending church and grocery shopping alone.</li> <li>· 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.</li> <li>· Asking about her long-term goals for her ageing process and wellness will help key into what is important to her, long term.</li> </ul>
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**Principle 2: Strive for anti-ageist practice**

**Considerations for the Principle**

**Approaches to the Plan of Care**

<p><b>The therapist should review Diana's goals without any ageist judgment that the goal is not appropriate based on Diana's age.</b></p> <p>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.</p>	<ul style="list-style-type: none"> <li>· 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.</li> <li>· 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.).</li> </ul>
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**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**

<p>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.</p> <p>Besides looking at assessing strength, aerobic capacity, fall risk and balance, Diana's mental health, role in society and environmental factors should be addressed.</p>	<ul style="list-style-type: none"> <li>· 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.</li> <li>· An assessment that addresses returning to this functional activity is a key part of being holistic. (6MWT, gait speed, stair climbing, floor rising, STS).</li> <li>· Diana's husband is currently involved in Diana's care and a holistic assessment would incorporate her husband's ability to assist Diana.</li> </ul>
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**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**

<p>Use of best available evidence</p>	<ul style="list-style-type: none"> <li>· Systematic Review Proposed Rehabilitation Guidelines Following Anatomic and Reverse Shoulder arthroplasty<sup>31</sup></li> <li>· Intact subscapularis may provide improved shoulder internal rotation ROM. Protect healing tissues.</li> <li>· Post-surgery, phases of recovery<sup>31</sup> <ul style="list-style-type: none"> <li>— Initial joint protection followed by gradual tissue loading. Sling for 3-4 weeks. Deltoid and Scapular Isometrics gradual restoration of passive ROM</li> <li>— Once PROM is restored, move onto AAROM then AROM</li> <li>— Pain is the main criterion to advance exercise</li> </ul> </li> </ul>
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**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**

<p>Diana was physically active prior to her surgery by attending yoga classes in addition to gardening.</p> <p>Incorporate Diana's prior activities of daily living to promote physical activity and enhance movement.</p>	<ul style="list-style-type: none"> <li>· 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).</li> <li>· 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.</li> <li>· Go with husband when he walks the dogs and begin to assist with laundry as healing progresses.</li> </ul>
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**Principle 6: Champion interprofessional collaborative practice that is inclusive of patients and their caregivers**

**Considerations for the Principle**

**Approaches to the Plan of Care**

<ul style="list-style-type: none"> <li>· Supports for spouse/caregiver</li> <li>· Activities of daily living and energy conservation</li> <li>· Resources for the patient and her husband</li> </ul>	<ul style="list-style-type: none"> <li>· Provide resources (caregiver education)/referrals to assist caregiver</li> <li>· Occupational therapy</li> <li>· Social worker</li> </ul>
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*Dale Avers is a Professor Emeritus in the Program of Physical Therapy Education at Upstate Medical University and a Fellow of the American Physical Therapy Association. She earned degrees from the University of Kentucky, Indiana University, and Rocky Mountain University of Health Professions. She has written, edited, and authored recent editions of 2 textbooks, Guccione's Geriatric Physical*

*Therapy and Hislop and Montgomery's Muscle Testing and is the author of the "most-downloaded" paper in the Journal of Geriatric Physical Therapy. Dr. Avers is a recognized leader in geriatric physical therapy, having served 2 terms as the President of the Section on Geriatrics (now Academy of Geriatric Physical Therapy), Dr. Avers now works in the wellness environment focusing on providing community exercise classes and education to older adults in the Syracuse NY area.*



*Traci Norris, PT, DPT is a physical therapist and Rehabilitation Clinical Specialist at Barnes-Jewish Hospital in Saint Louis, Missouri. She serves as the co-director for the Barnes-Jewish Hospital Geriatric Physical Therapy Residency Program and is a board-certified geriatric clinical specialist.*



*Veronica Southard received a BS in PT from Hunter College, a MS in Physical Therapy from LIU, and a DHSc, from the University of St. Augustine. Dr. Southard is a certified specialist by the American Board of Physical Therapy Specialties in geriatrics and is an adjunct professor at NYIT. She practices in home health.*



*Michelle (Missy) Criss, PT, DPT, PhD is Assistant Professor in the Physical Therapy Program at Chatham University, Pittsburgh, PA, where she teaches across the curriculum in problem-based learning, clinical sciences, and movement science. She is a board certified geriatric clinical specialist. Her clinical interests involve complex older adults in the skilled nursing setting, and her research interests encompass ageism and attitudes about aging, quality of life in an assisted living intergenerational living arrangement, and the use of tests and measures with older adults including work with APTA Geriatrics GeriEDGE group.*

*research interests encompass ageism and attitudes about aging, quality of life in an assisted living intergenerational living arrangement, and the use of tests and measures with older adults including work with APTA Geriatrics GeriEDGE group.*



*William "Bill" Staples is an Associate Professor at the Krannert School of Physical Therapy at the University of Indianapolis. He earned a Certificate in Physical Therapy and MS from Columbia University. He earned his Doctor of Health Science and Doctor of Physical Therapy from the University of Indianapolis. Bill was named as a Catherine Worthingham Fellow in*

*2021. He has been a geriatric certified specialist (GCS) since 1995. He is past President of the Academy of Geriatric Physical Therapy, served on both the Geriatric Specialty Council and on American Board of Physical Therapy Specialties for 4 years each. He served as chair of the test bank of the national licensing committee (FSBPT) for six years. authored a textbook entitled Geriatric Physical Therapy A Case Study Approach, first published in 2016, 2nd edition in 2021. Bill maintains his clinical skills by working part-time at a rehab hospital.*



*Dr. Carole B. Lewis is a well-known leader and innovator in rehabilitation and optimal ageing. Dr. Lewis received two master's degrees, Health Care Management and Gerontology, from the University of Southern California and a PhD in Health Education from the University of Maryland. She currently serves on the Medical Faculty at George Washington University as an adjunct professor in*

*the Department of Geriatrics. She has served as the Editor-in-Chief of an award-winning international journal for over 30 years and has received top honors from the American Physical Therapy Association and The Gerontological Society. She started a private practice in Washington, D.C. and continues to work as a clinician.*



*Ellen R. Strunk has worked in various roles and settings as both clinician and manager/director. Ellen is an expert at helping customers understand the CMS prospective payment systems in the skilled nursing facility and home health setting, as well as outpatient therapy billing for all provider types. She has years of experience in utilizing medical record reviews and*

*data systems to help both inpatient and outpatient therapy providers meet regulatory guidelines as well as improve clinical outcomes. For the past ten years, Ellen has worked with dozens of clients as principal consultant and founder of Rehab Resources and Consulting, Inc. Her experience in both the home and community aspects of the post-acute care continuum gives her a unique perspective in finding solutions while ensuring a patient-centered approach is not lost in translation.*



*Kenneth L Miller, PT, DPT is a board-certified geriatric clinical specialist, who is an assistant professor at the University of North Texas Health Science Center with dual appointments in the Department of Physical Therapy in the School of Health Professions and in the Department of Internal Medicine and Geriatrics in the Texas College of Osteopathic Medicine. His clinical focus is on best practices*

*for use with the older adult population. He serves as director of practice for the Academy of Geriatric Physical Therapy. Most recently, he has served as co-editor of the Ciccone's Pharmacology in Rehabilitation 5th edition textbook update.*