GeriNotes

November 2022 • Vol. 29 No. 5

Special Continuing Education Module Issue

Changing Attitudes: Enhancing Engagement (in Ageing)

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

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Also in This Issue

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From the President

Cathy Ciolek
President,
APTA Geriatrics

Cognitive changes, chronic conditions, addressing various living situations, and looking at acute rehabilitation beyond ADL's- these issues are the heart of what makes our role as physical therapists and physical therapist assistants unique. Another piece that ties all these together is how attitudes about ageing impact quality of life. We know from our work that people who have their own goals and purpose, generally do better in PT. Similarly, I believe PT's and PTA's who have positive views on ageing will go that extra mile to find those goals and purpose for our patients. We want to make the practice of geriatric PT better since we hope we will be on the receiving end of best practices as we age too. This special annual FOCUS issue of GeriNotes hones in on this.

Segue to a new book that I want to highlight as something to add to your reading list. Becca Levy has authored *Breaking the Age Code: How your beliefs about aging determine how long and well you live*. Even as someone who feels up to date on ageism research, she was able to tie together new data on longevity and even offer examples of how better age beliefs were associated with better functional health. Ideas and beliefs are not fixed. Improving someone's beliefs about age can lead to health improvements and physical mobility. Older adults are an untapped resource. The author related how, in Zimbabwe, a psychiatrist recruited a group of grandmothers, provided some minimal training, and created a place for them to interact with young adults called a Friendship Bench; it was a place for support and conversations about life. These older adults used their listening skills and knowledge of area resources. The group grew from a cadre of 14 older women to over 800 who call themselves grandmothers to their village. What if we offered a Friendship Bench to help fellow PT's with the issues challenging them, like burnout and looking for that fabled work life balance? We may just have to give it a try at CSM this year . . .

Knowing that things can be better and making them better are 2 different things. As healthcare professionals, we need to do what it takes to help our clients meet their goals. Dr. Levy offers some tips for bolstering positive age beliefs. She uses the A, B, C's. AWARENESS- look for where negative and positive images of ageing are found in society. Call them out (Ashton Applewhite's https://oldschool.info/ has great examples of how to do this well) or celebrate the positives when you see them. Put the *blame* where it belongs; many health and memory problems may be at least partially related to age beliefs we get from society. *Challenge* negative age beliefs when you see them. It takes practice and some preparation, but she has several handy facts and strategies to make it easier.

If nothing else, stop and think when you form an assumption about a person's potential based on your expectations due to their age. Where did that come from, is it accurate? Or maybe it was based on another healthcare professional who denied care or didn't think they needed PT "because of their age." Societal changes start at the individual level. Be a part of moving the needle to create a better world for our future selves. Don't express surprise at the achievements during the National Senior Games; celebrate their efforts. Resetting your own expectations for what later life years can be is a great place to start.

That leads me to another great book, but I'll leave that for a future message . . .

From the Editor

Michele Stanley
Editor,
GeriNotes

I am so excited for CSM! I'm not presenting, not taking an anticipated pre-con class (but check them out –AGPT has some stellar and fun offerings!), and I don't need the CEUs before renewing my license this year.

COVID is certainly NOT gone, as I am reminded when I pull a shift in acute care or watch the new case report ticker across my morning newsfeed. I've had all the shots and boosters, been pretty "careful" because I have 2 immunocompromised individuals in my close circle of friends and family, and still think that I am extremely lucky that I haven't gotten sick. Did you get sick?

The previous 2 years have really been a scramble getting the November Focus edition of *GeriNotes* into production because various authors *did* get sick and, especially in 2020, some were very ill. That experience made this year's issue come together like a dream and ahead of the publishing deadlines. It feels good to (at least feel like) the worst of this experience with the "novel" SARS virus is behind us.

So, come to San Diego! Be warm (caveat: warmer than you"ll be in February in Boston, Chicago, or most of the country) and, irrespective of the meteorological conditions be warm in the renewal of relationships with cross-country peers and the excitement of new idea exchange! Celebrate all things physical therapy!

"**. . . Your job is to do better, to change the ageing process, not only for your clients, parents, and neighbors, but ultimately, for yourself. Please advocate that everyone can 'be all that they can be' at every age."**

When is it that "we" decide, collectively as a society, that someone is "ageing" vs "growing?" Why don't we refer to the process as getting more seasoned, wiser, experienced? This issue is about growing older and facing the often-hidden ideations that we all have about it — or, at least, about what those other folks that we live and work with or see in the grocery store are doing progressively. The challenge is to recognize your own biases about what behaviors, ideas, and activities are appropriate and functional for yourself and your clients as you/they attain age mile markers: 50, 60, 70, and beyond. The challenge is also to recognize how our institutions, economy, and prejudices may unjustly limit the experience of growing older. Once you recognize that, your job is to do better, to change the ageing process, not only for your clients, parents, and neighbors, but ultimately, for yourself. Please advocate that everyone can "be all that they can be" at every age. Ultimately helping people do/be all that they can be/do is the essence of every physical therapy treatment plan. Happy Birthday. See you in San Diego

GeriNotes

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Published in
January
March
May
August
November

Copy Deadlines
February 1
April 1
July 1
September 1
November 1

GeriNotes is the official magazine of the Academy of Geriatric Physical Therapy. It is not, however, a peer-reviewed publication. Opinions expressed by the authors are their own and do not necessarily reflect the views of the APTA Geriatrics. The Editor reserves the right to edit manuscripts as necessary for publication.

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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.

Changing Attitudes: Enhancing Engagement (in Ageing)

A Continuing Education Module for APTA Geriatrics

Module Chapters

1. Introduction to the Focus Issue
2. It Begins with Us
3. Engaging those with Cognitive Impairments
4. Taking the Fall? Enhancing Quality of Life in Long-term Care
5. Everyone Ages: Autism in Older Adults
6. Advocating for Access across all Living Situations
7. From Sickness to Fitness
8. The Pillars of Intentional Ageing
9. Special Perspective: What I Wish I had known

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A very special thank you to William Staples PT, DPT, DHSc, FAPTA for editing and vetting all the questions and answers

Reference List

References can be found at the end of each chapter in the module.

Objectives

1. Discuss the ways in which physical therapists and physical therapist assistants can impact rehabilitation outcomes by recognizing their own ageist beliefs
2. Understand and demonstrate exercise science principles when working with people with cognitive and related disorders
3. Address and discuss preventive measures to avoid professional burnout when working with older adults
4. Explain disparities of the health care system and learn ways to advocate for equitable access
5. Understand the complexity of focus on falls as an outcome measure
6. Discuss the premise of Pillars of Ageing

Target Audience

Physical Therapists and Physical Therapist Assistants

Contact Hours/Continuing Education Units

Completion of this CE Module is equivalent to 4 contact hours (0.4 CEU units).

Continuing Education Certificate of Completion

A Continuing Education certificate will be provided to each participant after successful completion of the course requirements (post-test and module evaluation) and payment of a processing fee. APTA Geriatrics is a recognized component of the American Physical Therapy Association. The Academy has not applied to any state licensure agency for prior approval of this course. The module has all the components (content, objectives, qualified instructors, reference lists, and post-test) that will allow participants to submit the certificate of completion to meet CE requirements in some states. Participants are urged to check with their state licensure board to see if this course counts towards continuing education credit.

How to Obtain CEUs

To obtain CEUs for this unit, participants must complete the ONLINE post-test AND the ONLINE evaluation form. Go to aptageriatrics.org/exams.

A processing fee of $40 for Academy of Geriatric Physical Therapy members and $80 for non-members is required for all physical therapist and non-member Physical Therapist Assistants. *The processing fee is WAIVED for all Physical Therapist Assistant Academy Members* – Congratulations on 50+ years and many thanks for all that you do for older adults and the profession!

Test and evaluations forms must be completed online no later than December 31, 2025. Upon submission of materials and a passing score of 80% or higher on the post-test, the Academy will email you a continuing education certificate for 0.4 CEUs. Those with incomplete submissions will be notified via email and given the opportunity to re-take the exam.

There is only ONE correct answer for each question. The exam may be retaken for a total of 3 attempts; 210 minutes (with pausing allowed) is allotted for each attempt. NOTE: This is to be performed *online only.*

Complete the exam at aptageriatrics.org/exams

Changing Attitudes: Enhancing Engagement in Ageing

Incorporating Mental Health Self-Care into Daily Practice

by Lise McCarthy, PT, DPT

More than ever, we are privileged to live and work in a country where our tax dollars support mental health research and public education. The National Institute of Mental Health (NIMH) is a federal agency; its mission is to lead and support research on mental health disorders. The NIMH has free educational information for the public that you can read for yourself and share with others. For more information about the NIMH agency go here if you are a visual word/text learner: www.NIMH.nih.gov; if you are a visual picture/movie learner try this link: https://www.youtube.com/watch?v=Nin4V1MeFds.

Two worthwhile publications, featured on the NIMH website as of August 2022, are the pdf handouts entitled "Mental Health: Do I Need Help?" and "Tips for Talking with a Health Care Provider About Your Mental Health." These brochures are designed to be used as educational self-care guides to teach people how to help themselves by assessing their own mental health needs and learning how to start a conversation about mental health with their health care provider. You can read about the NIMH's work at www.NIMH.nih.gov.

In this issue of *GeriNotes*, Drs. Heitzman and Snell combine their physical therapy and nursing perspectives in: It begins with Us: Taking Care of Our Patients Begins with Taking Care of Ourselves." As you read their words, I would encourage you to consider what the words "taking" and "care" mean to you. "Taking" has different connotations with varying emotional impacts. Consider what it may really mean for you to be "taking" something for yourself. Are there negative feelings you have unconsciously associated with this word? Can you intentionally shift your perspective to associate positive feelings with "taking" something, like time, for yourself?

As a healthcare worker, if you are having difficulty taking care of your own needs first by practicing what you preach to your ageing clients, then the article by Drs. David Taylor and William Staples may be for you. They discuss "Advocating for a Decade of Healthy Ageing" by highlighting the 4 action areas being promoted by the United Nations through the Add Life to Years Initiative, launched in 2020. Are you ever too young or too old to start making a lifestyle change? The global message Taylor and Staples bring to this issue is that mental, physical, functional, and financial shifts in thinking are needed for healthy ageing to occur. They write "the first action area challenges us to change how we think, feel, and act towards age and ageing." Another perspective toward ageing and its challenges is presented by "The Pillars of Intentional Aging" which invites us to look beyond an individual's chief complaint and reason for referral and aims to address the many factors that could potentially cause another destabilizing event.

Drs. Alex Germano, Julie Brauer, Samantha Chamberlain, and Jeff Musgrave present a case example rich in details about the importance of mental health and message consistency. These authors remind us what it means and what it takes to be resilient. Encouraging patients to mentally engage in their therapeutic journey to improve their self-care skills, health, and function also rebuilds their resilience.

The article by Drs. Jennifer Gindoff and Heidi Moyer entitled "Taking the Fall?" provides details for optimizing resident mobility in long-term care settings. These authors describe 3 domains in which barriers limit/prevent increased physical activity (i.e. resident, environment, and organization). They offer evidence-based recommendations for minimizing the impact of these common barriers while Dr Childers provides numerous suggestions for removing barriers and engaging people living with impaired cognition.

Dr. Kimberlyn Thomas' article, "What I Wish I Had Known Working with Older Adults: Reflection on Essential Clinical Skills for the Early Career Professional" is for the pioneers in all of us. She, and Dr. Childers, remind us that the older we get, the more unique we become. Being with people older than yourself can be a worthwhile adventure, especially if you take care to focus on the creative process of building a relationship with someone who may think differently than you.

Read Dr Sahhar's message to look beyond an individual's chief complaint t oinclude factors that potentiallyl could cause another destabilizing event. As an example, our esteemed PT colleague, Debra Barrett, has written an article about "Autism in the Older Adult Population." She writes "The view of neurodiversity as a corollary to biodiversity acknowledges that while autism can be disabling, it is not inherently pathological, and demands acceptance of autistic and other neurodivergent individuals." Being aware and mindful of the needs of others requires thinking outside the neurotypical cognitive mental health box. You can find more information about autism spectrum disorder at https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd

It Begins With Us

Taking Care of our Patients Begins with Taking Care of Ourselves

by Jill Heitzman PT, DPT, PhD; and Mariea Snell DNP, MSN, FNP-C, FAANP

The APTA vision statement states that the profession will transform society by optimizing movement to improve the human experience. The mission statement focuses on building a community that advances the profession of physical therapy to improve the health of society.[1] APTA Geriatrics is committed to building a community that advances the profession of physical therapy to optimize the experience of aging.[2] A common theme to both is the focus of the overall health of patients; however, the building of the community discussed by both APTA and APTA Geriatrics includes more than the patient. During the Carole Lewis Lecture at CSM 2022, Dr. Bill Staples discussed the need to return the ageing adult to their previous level of function where they work, play, and live. He went on to discuss the psychological factors that impact pain including depression, anxiety, fear, and confidence. The mental health of the person can be a factor in the outcomes of therapy interventions. He discussed issues of sleep, nutrition, and work as factors of stress that lead to mental health issues. The end of his presentation, Dr. Staples switched to the health care provider's own health as a factor impacting patient outcomes. What does this mean? This article will focus on the aspect of taking care of each of us individually and as a collective community to improve both patient outcomes and our own health.

Overview

Culture impacts not only our patients, but our own health choices, behaviors, values about health care, support, and what health means to us. Social determinants of health have been known to impact the overall health of the individual. Previous Focus issues of GeriNotes have discussed the impact of social determinants of health on choices people make, health disparities, and on how the pandemic was impacted by these social determinants of health.[3] Factors related to social determinants of health include culture, family, social, psychological, and biological. Chart 1 presents factors that negatively impact health as well as factors that can be protective.[4] These factors can impact the health choices made, behaviors, values about healthcare, support, and what health means to us as individuals and as a community.

The pandemic has brought to light how a healthcare provider's own health can impact the patient interaction. Workers in healthcare (especially hospitals) can suffer from occupational stress due to high workloads and low job and/or personal resources. This can lead to work-related stress, exhaustion, health problems, and low quality of care.[5] Exhaustion as a result of sleep deprivation/disruptions has been shown to be associated with lower quality of life and negative health outcomes.[6] In a study by Bal et al, 70% of nurses surveyed believed they prioritized their patients' care over their own, while 77% found themselves to be at a "significant level of risk" for stress in the workplace.[7]

Sleep issues

Optimal physical health is well known to be related to eating a healthy diet, exercising regularly, and partnering

Chart 1. Mental Health Factors

	Impact negatively	Protective Factors
Culture	selective expression of symptoms; mistrust of heatlhcare	spiritual/religious, sense of identity/belonging
Familial	substance abuse in family, stressful life related to partnerships, work, moving; Poor communication-especially between partners or parent/child	consistent home/family routine, open communication
Social	poverty, poor peer relationships, stigma	strong support system, engagement outside of home/work, economic stability
Psychological	learning disorders, academic/work difficulties, abuse/trauma	high self-esteem, ability to control/regulate emotions, having/using coping strategies
Biological	chronic medical issues, family/personal history of mental illness	good nutrition, healthy development, regular exercise

Adapted from information from The National Council for Behavioral Health, Mental Health First Aid Course [4]

with their primary care provider for any symptoms that may occur to prevent progression toward a more serious condition. More recently poor sleep patterns have been shown to have a connection to overall mental and physical health. Poor sleep has been found to be associated with lower quality of life and negative health outcomes.[6] In 2018, Morris et al, discussed the impact of sleep insufficiency in relation to older adults.[8] Much of what Morris presented can also be applied to everyone. These include:

1. Proper sleep is essential for maintaining healthy body and mind.
2. The brain is quite active in sleep and this activity can be altered by precipitating factors (events in life) and perpetuating factors (diet, alcohol, physical activity, environment, and psychological factors.

Inadequate sleep can increase the risk for CVP mortality, chronic disease, diabetes, HTN, obesity, injury, and accident because of impaired mental performance.[8]

With busy schedules, long hours, productivity standards, and trauma patients for whom to advocate and provide interventions, healthcare workers neglect for self-care can impact quality of care leading to exhaustion that results in forgetfulness, mental mistakes, and lack of focus.[7]

Mental health

While many discuss optimal physical health, what is optimal mental health? How does a therapist's mental health relate to their optimal physical health and thus relate to their patient outcomes?

According to the National Council for Mental Wellbeing, mental health impacts more than 42% of adults in the United States.[9] This impacts personal relationships, work issues, and decline in mental and physical wellbeing. Mental health is a state of well-being in which an individual realizes their own abilities, can cope with normal stresses of life, can work productively, and contribute to their individual community whether at home, work, or the wider society. Mental wellbeing is thriving regardless of a mental health or substance use challenge and is represented by a person's resilience, strength, and recovery.[10] A major change in a person's thinking, feelings, or acting that interferes with the ability to live their life is considered a mental challenge. People have this interference at various times in their day/life but when this interference does not go away quickly or lasts longer than typical emotions/reactions would be expected or if chronic building of these interference does not allow time to recover, the mental health challenge can become more stressful leading to a mental disorder. Cumulative mental health challenges that do not allow time for rest/recovery can result in an impact on the person's thinking, emotional state, and behavior that disrupts the ability to work, carry out daily activities, and engage in satisfying relationships. Early recognition of these signs is important and working towards developing protective/preventative strategies can help move toward a mental wellbeing.[4]

Self-care

The first way to support patients and colleagues is to promote self-care. Self-care is the practice of taking action to preserve or improve one's own physical and mental health. Self-care is a personal process of regaining physical, spiritual, mental, and emotional balance.[11] Mental health includes areas of environmental, emotional, intellectual, occupational, spiritual, financial, and community self-care and support. Mental self-care isn't only for those who struggle with mental illness. We need to take the time to do things for our own well-being to refresh and recharge so that we can feel and be at our best.

Impact on healthcare workers

Why does this matter? According to Bal et al, self-care must become a high priority to lessen the impact on patients.[7] Self-care helps develop a buffering process that aids in our individual recovery from mental health challenges and allows us to develop our own coping strategies which increases our ability to help others cope. This greater priority on our own self-care can help us respond to patients, become more effective in our healthcare interventions, and includes becoming a stronger support for our patients, colleagues, family, and friends.

Bernburg et al, in 2020, studied mental health self-care for nurses starting to work in various hospital departments.[5] They found that teaching nurses about self-care resulted in a decrease in perceived job stress and emotional exhaustion as well as improvements with enhanced emotion regulation skills. This study is one of the first indications that training of mental health self-care skills for junior nurses could be a supportive approach for nurses starting work.[5] Velana et al, found that using individualized techniques including stress management, relaxation and self-care technologies/techniques, improved nurse's coping skills to reduce job related stress and self-well-being.[12] Bakker et al, also found that improving mental health of students significantly reduced dropout rate.[13] Learning skills to support self-care early in their career provides a support system for success in managing the demands of an ever changing and evolving profession.

The pressure, expectations, and demands of healthcare providers has always been great. The pandemic has only increased those. The label of hero, that nurses and other medical providers were given during this time, can increase the feeling that the healthcare provider must push forward and work at superhuman levels to support patients and meet the demands. A cultural shift towards the notion of self-care being not just needed but expected will help to combat this pressure.

Self-care improves our lives in different areas and in different ways, all of which are important to our overall health. Practicing self-care can have remarkable effects on our self-esteem. By taking care of ourselves and our needs, we are affirming our self-worth; we're telling

ourselves, "I deserve this." Our self-awareness is greatly enhanced. While we may have activities we regularly enjoy, regular self-care can also provide opportunities to try new things, possibly leading to new passions and goals. Self-care encourages self-improvement in multiple areas. By promoting rest and relaxation, our overall physical health benefits which promotes healthy relationships and positively effects our overall mindset. This, in turn, enables us to care for our friends, loved ones and patients in a way that we might not have previously been able to do.

Most of us are very conscious of the need for self-care for physical health, but mental health self-care is just as important. Mental health includes emotional, psychological, and social well-being affecting how we think, feel, act, make choices, and relate to others. Mental health is more than just the absence of a mental illness. Awareness of mental health is essential to your overall health and quality of life. Self-care can play a role in maintaining your mental health and help support your treatment and recovery if you have a mental illness.[4]

Impact on burnout

Self-care from a mental health perspective may also be important to prevent burnout. Amanda Randal, LCSW, PhD was quoted in APTA magazine[14] as stating "emotional health begins with recognition that something isn't working the way it should and that the causes of burn out may be multifactorial". She goes on to discuss the multiple stressors that impact performance and developing personal boundaries. In this same article, Bynia Reed discusses strategies that require self-reflection, self-acceptance, and developing habits of good boundaries.[14] Developing daily habits that can separate work from home can help build resilience. These may also include taking those vacation days, leaving work behind at the end of the workday, taking those weekends without access to work calls/emails, or as Dr. Gail Jensen stated "it's essential to take care of yourself."[14]

The lack of energy or time are 2 of the most common reasons why we don't practice self-care as much as we need to, but our financial situation or feelings of selfishness or guilt are also contributing factors.[15] Many of us are of the opinion that practicing self-care makes us appear selfish when, in reality, that is far from the truth. The importance of making time for yourself and developing your boundaries is as important as learning the newest technique to manage your patient outcomes.[16] How do we do this?

What is Self-Care?

Self-care means taking the time to do things that help you live well and improve both your physical health and mental health.[15] Mental self-care can help you manage stress, lower your risk of illness, and increase your energy.[17] Even small acts of self-care in your daily life can have a big impact. Self-care looks different for everyone; each person needs to find what they need and enjoy. Through trial and error, you can discover what works best for you. By understanding what causes or triggers your feelings of mental fatigue, and what coping techniques work, you can help manage your mental health.[17]

Monica Jain, PT discusses good self-care as the same as having good eating habits, exercise routines, and sleep.[15] When you take care of yourself regularly, these good habits will help you through the stresses of life. Jain uses self-care practice of ABC — awareness, breath, and choice. Be *Aware* of surroundings and your mental focus. *Breathe*, then make a *Choice* to take the action needed.[15]

Let's get started

How do we begin? The first step in self-care is asking yourself the following questions[11]:

1. Do you think self-care is beneficial?
2. When was the last time you did something to take care of yourself?
3. What are you doing to take care of yourself?
4. How might self-care help maintain balance in your life?

Once you have determined that self-care is important to you, develop a self-care template. This can include activities you enjoy or want to learn, where you want to set your boundaries, and what wellness domains you want to focus upon. Develop daily habits and communities that can support your self-care goals.[11]

Resources/Ideas to get started

APTA has a great Fit for Practice Program on the APTA website.[16] This includes 4 areas: movement, resiliency, restoration and practice health. These are further divided:

1. Movement: exercise; strength and mobility
2. Resiliency: stress and mental health
3. Restoration: sleep and nutrition
4. Practice Health: professional development and management

Ideas for activities to implement in these areas of self-care can be found on the APTA website.[16]

The National Institute of Mental Health provides the following ideas to care for self-care.[18]

Get regular exercise. Just 30 minutes of walking every day can help boost your mood and improve your health. Small amounts of exercise add up, so don't be discouraged if you can't do 30 minutes at one time.

Eat healthy, regular meals and stay hydrated. A balanced diet and plenty of water can improve your energy and focus throughout the day. Also, limit caffeinated beverages such as soft drinks or coffee.

Make sleep a priority. Stick to a schedule, and make sure you're getting enough sleep. Blue light from devices and screens can make it harder to fall asleep, so reduce blue light exposure from your phone or computer before bedtime (at least 1 hr. prior to bed). Don't watch TV or read in bed. Cooler temperatures in the bedroom can also

help relaxation for better sleep. Avoid heavy eating or drinking caffeine or alcohol right before bed.

Try a relaxing activity. Explore relaxation or wellness programs or apps which may incorporate meditation, muscle relaxation, or breathing exercises. Schedule regular times for these and other healthy activities you enjoy such as journaling.

Set goals and priorities. Decide what must get done now and what can wait. Learn to say "no" to new tasks if you start to feel like you're taking on too much. Try to be mindful of what you have accomplished at the end of the day, not what you have been unable to do.

Practice gratitude. Remind yourself daily of things you are grateful for. Be specific. Write them down at night or replay them in your mind.

Focus on positivity. Identify and challenge your negative and unhelpful thoughts.

Stay connected. Reach out to your friends or family members who can provide emotional support and practical help.

Other self-care ideas

In the article by Wojciechowski[15], Cheryl Pierson, PT identifies several self-care types. These include being intentionally focused on the present in all activities. She gives the example of when exercising (such as walking outside) be aware of surroundings. Practicing being grateful for things each day; may include thanking people more in our daily interactions. Making healthy choices in food, practicing good sleep hygiene and developing strong relationships with friends and support people.[15]

Taking these examples from Pierson to a more personal level, the author of this paper, Dr. Heitzman reports that "according to my grandson, we do not go "on walks" but on "adventures" as we explore our imaginations on what we find as animal shapes in trees/plants and so much more." This intentionally focusing attention on surroundings allows a freedom of exploration that relaxes and energizes at the same time.

Margie Nguyen, PTA discusses advanced meal preparation which helps in Pierson's discussion of good food choices.[15] Being able to plan meals for the week, including those we take to work, can help in budgeting, reduce the risk to "grab a quick bite" that often is not the best choice, and assist in time management by being more organized.

Self-care can focus of a variety of areas that impact physical, mental, social, spiritual, and personal self-care. A variety of easy and beneficial ideas to get started are shown in Chart 2.

Helping our colleagues and ourselves

Triggers that can impact the health of caregivers (and others) can become a problem when they get in the way of work performance, relationships, and usual activities.[17]

Chart 2: Areas of Self Care[8,9,10,11,15,16]

Physical	· walk, bike, healthy food/cooking, exercise, join a yoga/tai chi class, relaxation exercise · JUST BREATHE
Mental	· praise compliment yourself, self-kindness
	· emotional outlet such as drawing/ painting/coloring, music, writing (journaling), reading · practice gratitude · reframing thoughts and events to a more positive side
Social	· talk with coworkers about non-work issues · go out with a friend · join a community, even an online one has shown benefits · spend time with family or someone you enjoy
Spiritual	· meditate, volunteer, engage in your faith community
Personal	· try a new hobby/activity · create a skincare routine (longer showers, use of body lotion—close your eyes and relax)) · go on a drive just to explore (joy ride) · reward yourself after a task is completed
Playing with a pet has been shown to cross multiple areas of self-care	

Chart 3: Signs of need for Help[4,10,17]

Depression	sad or low mood persisting for greater than 2 weeks
Anxiety	feeling of worry caused by perceived threats in the environment
Bipolar disorders	extreme swings in mood, energy, activity level
Post-traumatic Stress Disorder	changes as result of a traumatic event or (as often in healthcare workers) a series of traumatic events that build upon each other, ie. several patients die of the same condition (most recently COVID)
Eating disorders	too little, too much, irregular, timing after events, or even more concern re: body image
Substance Use disorders	patterns of alcohol or other substances resulting in impairment of daily life activities or noticeable distress
Psychosis	loss of contact with reality, severe disturbances in thinking, emotions or behaviors. Occurs in episodes, not a constant or static conditions

Early signs that we (or our colleagues) need self-care may include changes in behaviors/interests, observable physical changes, feelings and emotions that easily surface in situations that did not previously evoke these, and changes in thought patterns.[4] Withdrawing from doing things with others, appearing unusually sad, becoming easily irritated/angry, misusing drugs/alcohol, having excessive fears/worry or mood swings, may also be signs of becoming overstressed and in need of self-care. When talking to someone else and their feelings or thoughts bring your own challenges to the surface, you may be neglecting your own self-care.[17] See Chart 3 for further information.

As colleagues, support of each other can help everyone, including patients. Taking time to get to know colleagues and talking about things, both work and nonwork related, can help individuals feel connected. Creating a supportive environment for ourselves and colleagues through things such as think-pair-share can be beneficial to workers to share the challenges of the day.[4,11]

Conclusion

Self-care is something that we can't and shouldn't compromise. We all have mental, physical, and emotional health needs. We must nurture our own health and well-being by practicing self-care, even if that means that we take an extra-long shower one night a week or order in take-out. Implementing self-care, individually and in communities, can prevent symptoms of mental, physical, and emotional health from becoming more serious and reduces risk of secondary effects of health issues. Being a care provider is rewarding and depleting, especially in the recent pandemic. Thus, self-care helps one remain able to help others as a health care provider. Never feel guilty for taking care of yourself. You deserve to care for yourself first.

References

1. APTA. Mission/Vision. Accessed October 9, 2022. https://www.apta.org/apta-and-you/leadership-and-governance/vision-mission-and-strategic-plan
2. APTA Geriatrics. Mission/Vision. Accessed October 9, 2022. https://aptageriatrics.org/about-academy-geriatrics-pt/
3. Heitzman J, Sangoseni O. "Impact of Social Determinants of Health and Social Distancing on Aging." Peer reviewed focus issue on Frailty and Aging for *GeriNotes*. 2020;27(5):12-16.
4. National Council for Behavioral Health, Mental Health First Aid Course. Accessed October 9, 2022. https://www.thenationalcouncil.org/our-work/mental-health-first-aid/
5. Bernburg M, Groneberg D, Mache S. Professional training in mental health self-care for nurses starting work in hospital departments. *Work.* 2020;67(3):583-590. doi: 10.3233/WOR-203311. PMID: 33185622.
6. Fulk G. Is sleep the next frontier in movement science? *JNP.,2022;* 46:03:187.
7. Bal D. Self Care for Nursing. Updated August 29,2022. Accessed October 9, 2022. https://nursejournal.org/resources/self-care-for-nurses/
8. Morris,D, Lein D. "Sleep Insufficiency and Older Adults", ***GeriNotes***.2018; 25(5):15-17.
9. National Council of Mental Health. General statistics. Accessed October 9, 2022. https://www.thenationalcouncil.org/news/more-than-4-in-10-us-adults-who-needed-substance-use-and-mental-health-care-did-not-get-treatment/
10. National Council of Mental Health. Mental Wellbeing. Accessed October 9, 2022. https://www.thenationalcouncil.org/about-us/vision-values/mental-wellbeing/
11. National Council for Behavioral Health. Accessed October 9, 2022. https://www.thenationalcouncil.org/resources/
12. Velana M, Rinkenauer G. Individual-Level Interventions for Decreasing Job-Related Stress and Enhancing Coping Strategies Among Nurses: A Systematic Review. *Front Psychol.* 2021; Jul 19;12:708696. doi: 10.3389/fpsyg.2021.708696. PMID: 34349711; PMCID: PMC8326445.
13. Bakker EJM, Kox JHAM, Boot CRL, Francke AL, van der Beek AJ, Roelofs PDDM. Improving mental health of student and novice nurses to prevent dropout: A systematic review. *J Adv Nurs.* 2020;76(10):2494-2509.
14. doi: 10.1111/jan.14453. PMID: 32538480; PMCID: PMC7540364.
15. Elliott T. "Understanding and Avoiding Burnout". *APTA Magazine.* 2020;12(12):20-31.
16. Wojciechowski M. Now more Than ever, Self-Care is Crucial. July 1, 2022. Accessed October 9, 2022. https://www.apta.org/apta-magazine/2022/07/01/self-care-is-crucial
17. APTA. Fit for Practice Initiative. Accessed October 9, 2022. https://www.apta.org/fit-for-practice
18. American Psychiatric Association. SMIAdvisor. A clinical Support system for serious Mental Illness. Accessed October 9, 2022. https://smiadviser.org/
19. National Institute of Mental Health, NIH. Caring for your Mental Health. Accessed October 9, 2022. https://www.nimh.nih.gov/health/topics/caring-for-your-mental-health)

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Engaging those with Cognitive Impairments

by Christine Childers PT, PhD

Ries and Join wrote an article for the American Physical Therapy Association (APTA) magazine on improving the lives of people with dementia.[1] In it, they cite Lisa McCarthy PT, the founder of the Cognitive and Mental Health Special Interest Group (CMHSIG) who coined the phrase therapeutic nihilism as the assumption by both Physical Therapists (PTs) and Physical Therapy Assistants (PTAs) that there is little that can be done to improve quality of life and decline in individuals with Alzheimer's disease and other dementias. McCarthy is further cited as stating that the primary challenge faced by those with dementia is discrimination based on ignorance. In 2019 Miles et al. in a survey that included 233 PTs working in the home care setting, determined that the therapists, in general, felt qualified to administer cognitive screens but that almost 50% of those surveyed were uncertain about their ability to manage individuals with dementia.[2] While almost all the participants felt that home care physical therapy was of benefit to those with dementia, one therapist was cited as stating: "Given that patients with dementia have limited ability to learn, I believe that treatment should be limited." The authors concluded that more training and education for those in the home health setting was critical despite a high number of their participants already demonstrating advanced certifications.[2] As the presence of older adults increases in the healthcare system, it should be argued that all PTs and PTAs should be comfortable managing people with dementia; patients with symptoms of dementia will present in many different clinical settings.

A public health road map was released in 2020 in response to the growing awareness of people with dementia in the United States. In this document Olivari et al. outline that by 2050 the number of Americans living with Alzheimer's disease and related dementias is anticipated to more than double from the current 5 million.[3] Alzheimer's disease is currently the sixth leading cause of death among Americans and when all related dementias are added, this number rises to the third leading cause of death among Americans of all ages.[3] While cost of healthcare provision to this segment of the population is of serious concern, the cost to the individual and their caregivers, often informal family members or friends, is enormous. The recommendations of the road map include education to the public to ensure reduction of risk and early diagnosis. The most important recommendation for healthcare providers is the need for workforce competence in dealing with those with dementia.[3]

Benefits of physical activity

There is mixed research regarding the benefits of physical activity in those with dementia. However, the second edition of the Physical Activity Guidelines for Americans, released in 2018, indicated that the changes from the first edition included benefits related to brain health. The guidelines also added a new emphasis that those older adults unable to do the recommended 150 minutes of moderate intensity aerobic activity per week, due to chronic conditions, should be as physically active as their abilities and condition allows. The key take away point of this current edition is to avoid sedentary activity.[4]

A recent systematic review indicated that the research is extremely varied but overall physical activity has a positive impact on function, mobility, and activities of daily living in those with dementia. The work was unable to support the conclusion that physical activity improves cognitive function.[5] Since PTs and PTAs are trying to improve quality of life, a focus on interventions that improve function and activities of daily living would seem highly appropriate. Benefits of a 26 week aerobic exercise intervention in maintaining functional independence in individuals in the early stages of Alzheimer's disease was demonstrated by Vidoni et al. (2019).[6] Another study similarly found that a 24 week exercise program improved cognitive function as well as muscle endurance, aerobic conditioning ,and balance in those with mild cognitive impairment.[7]

While the research is mixed, overall, there appears to be strong evidence to promote physical activity in those with Alzheimer's and other dementia. The challenge for each physical therapist is how to engage these individuals and provide appropriate skilled therapy.

FITT recommendations for those with dementia

The latest edition of the American College of Sports Medicine (ACSM) guidelines for exercise testing and prescription includes frequency, intensity, time, and type recommendations specifically for individuals who have a diagnosis of dementia. This includes aerobic activity 3 times per week, progressing to moderate intensity and building from less than 10 minutes up to 60 minutes. Resistance training is recommended 2-3 times per week initially at 40-50% of 1RM progressing to 60-70%, performing 8-10 repetitions and building to 10-15. Finally, flexibility training is recommended at 2-3 times per week with a full stretch being held for 10-30 seconds and 2-4 repetitions.[8] How can a physical therapy practitioner achieve these guidelines when the client struggles to follow directions? The ACSM recommends walking, swimming, or dancing for aerobic, and bands or body weight for the resistance with a focus on safety. These can be very challenging for the therapists which is why there must be outside the box thinking with this population.

In the Reis and Join article cited above, Nicole Dawson PT indicated that often dementia frightens people. She recommends an approach to evaluate the patient depending on where they are in the disease process, then work with them in the same way we work with any other progressive deteriorating condition.[1] Dawson emphasized the need for an approach that steps into their world and does not constantly try to pull them into the therapist's. This approach is well reflected in the work of the late occupational therapist Claudia Allen, who similarly to Dawson focused on working with and maximizing the strengths and existing skills of the individual.[9]

Starting in the late 1960s Claudia Allen MA, OTR, FAOTA observed and described 6 levels of ability that she referred to as the cognitive levels. Allen developed screens and tests that allow trained individuals to determine where a patient could be placed within the levels, with Level 6 representing the highest cognitive function and individuals at Level 1 requiring total cognitive assistance.[10,11] Of particular significance to PTs and PTAs is the fact that people classified with Level 5 skills, one below the highest, require hands on teaching techniques and those at Level 4.5 are unlikely to do well with a written home exercise program.[11] Structure and routine are critical to the success of individuals from Level 4.5 or lower; rote repetition quickly becomes the primary way of learning new activities.[11] Although it is beyond the scope of this paper to analyze all the Allen Cognitive levels, PTs and PTAs should work closely with their Occupational Therapy colleagues and understand the functional levels, potential, and abilities of their clients. The primary take away should be structure, repetition, and tapping into meaningful activities.

Can do, will do, may do

Allen emphasized and introduced the concept of functional cognition, considering it as encompassing all the cognitive processing abilities that allow an individual to function. The key to successful interventions is fitting the activity to the cognitive reality. Allen used the phrases "can do, will do, and may do" to help the practitioner and caregiver choose appropriate interventions. "Can do" is determining what is cognitively realistic for the individual, what are they able to do? "Will do" is what is psychologically relevant to the individual, what will they do for us as therapists. "May do" is ensuring it is safe and realistic.[9] Therapists, caregivers, and corporations are often the ones restricting the "may do" by limiting what the individual is allowed to do. Witness individuals in wheelchairs with tab alarms in memory care units who *can* walk, *will* walk but *may* not walk because of the restrictions.

A personal experience that highlights this three-pronged concept was working with a home bound client with severe dementia; it took 3 people using maximum assist to help him stand up from a chair. He could not understand the rationale for standing up (will do) even though he had the physical ability to do so (can do). After talking with his wife, we learned that this client had been a professional dancer and they had loved waltzing together. She asked him to waltz with her, held out her hand, and he jumped up with no assistance. The two of them waltzed around the room, giving her a new option for getting him into the bathroom, which had previously been a significant struggle. Tapping into "will do," relevance to the individual, gave him permission to dance "may do" with his wife. "Can do" was obvious. This is supported by Park and Cohen (2019) in their remark that it is necessary to understand a person to promote their participation in physical activity.[12]

How does this translate to PTs and PTAs who are trying to gain confidence working with the individual with cognitive impairments? "Can do" is relatively straight forward; examination and evaluation determine the physical ability of an individual. Decisions can be made regarding muscle strength, flexibility, and range of motion. Traditional testing may be challenging if the client is not following directions, and outside the box use of their body weight and other activities might need to be implemented. Sometimes doing the warmup activity, discussed below, under familiarize, will provide the necessary visual of their functional levels. "Will do" requires talking with the family or caregiver, if the client cannot answer for themselves, regarding what their hobbies were, and what they used to enjoy doing. If there is no one available, then start with music of an appropriate genre for their age to see what happens. "May do" is simply the normal PT and PTA skill of ensuring patient safety, suitability of the interventions, and giving them permission to participate.

Group exercise is preferred as it allows those with dementia to be more engaged and have a more positive mood compared to one-on-one activity.[12] This can be challenging for the PT or PTA, often in a one-on-one situation, but at the very least the therapist should perform all the activities with the client rather than demonstrate and then expect them to perform. In the home setting, involving the caregiver or family, particularly grandchildren, if available, can prove extremely positive. In a facility setting, group work where appropriate, or simply asking everyone in the therapy room to do something at the same time, can help with initial engagement of the individual with cognitive challenges. Music can be the uniting and triggering factor.

The power of music

The neurologist Oliver Sacks stated that music has great power, whether we seek it out or not. Music can calm, animate, comfort, or thrill, and is especially powerful for therapeutic potential in those with neurological conditions. Sacks summarizes that people respond powerfully to music.[13] Clark et al (2016) echo these remarks stating that it is more difficult to ignore music than interacting with it.[14] Both of these authors indicated that

the influences of music on movement are multifaceted and include cognitive, sensory motor, and psycho-emotional processes.[14] Music mimics rhythms within the body making it a resource that the brain can easily recognize and understand, and that music can be used to regulate physiological arousal to support physical activity.[14]

Familiarize, engage and focus

In this age of smart phones, Siri, and Alexa, PTs and PTAs have a readily available source of music that can be used to promote physical activity in those with cognitive challenges. The concept of familiarize, engage, and focus has previously been suggested by this author.[15] Using music to perform a warmup activity that simply engages major muscle groups is a great start (familiarize). The therapist must be willing to perform this in tandem with the client and it may take time for the client to join in. It should also not be assumed that the client will remember the therapist from one visit to the next. One critical element of working with those with cognitive challenges is that everything will take more time. Remember that rote repetition is often the only way for these clients to learn so doing the same activity at each session is often the most successful approach.[11] The therapist cannot expect the client to participate immediately but must be familiarized and engaged before more focused activities can be introduced.[15] Engaging the client can be through hand holding, throwing, or catching a ball or using an activity they previously enjoyed (will do) such as putting with a golf club or simulated golf using a pool noodle and large soft ball. Once engaged, music or familiar enjoyable activities can be used to focus interventions. Working on gait training can utilize strong rhythmic music such as Frankie Valli's Walk like a Man.[16] Balance can be done with a simulated surf board activity to The Beach Boys' "Surfin USA."[17] Any work by Frank Sinatra is quickly recognizable to most older adults,[18] and asking the client, family, or caregiver the individuals' favorite music can provide a wealth of materials to utilize.

Conclusion

Nobody is saying that working with those cognitively challenged is easy. However, it can be extremely rewarding, and research confirms that physical interventions can improve quality of life and activities of daily living. Skilled intervention is possible but needs to be creative, individualized, and will take time. As a doctoring profession this is all within scope of practice and it could be argued that therapeutic nihilism is patient abandonment. Think outside the box. Provide skilled appropriate interventions that help the client, the caregiver, and the family.

References

1. Ries E. Improving the lives of people with dementia. *American Physical Therapy Association*. Published Mar 1, 2018. Accessed September 11, 2022. https://www.apta.org/apta-magazine/2018/03/01/improving-the-lives-of-people-with-dementia
2. Miles JD, Staples WH, Lee DJ. Attitudes about cognitive screening: a survey of home care physical therapists. *J Geriatr Phys Ther.* 2019;42(4):294-303. doi:10.1519/jpt.0000000000000179
3. Olivari BS, French ME, McGuire LC. The public health road map to respond to the growing dementia crisis. *Innov Aging.* 2020;4(1):igz043. Accessed September 11, 2022. doi: 10.1093/geroni/igz043
4. U.S. Department of Health and Human Services. Physical activity guidelines for Americans, 2nd ed. Washington, DC:2018. Accessed September 11, 2022. Accessed September 11, 2022. https://health.gov/paguidelines/second-edition/pdf/Physical_Activity_Guidelines_2nd_edition.pdf
5. Liu L, Dong H, Jin X, Brooke-Wavell K. Tackling dementia: a systematic review of interventions based on physical activity. *J Geriatr Phys Ther*. 2021. Accessed September 11, 2022. doi:10.1519/jpt.0000000000000332
6. Vidoni ED, Perales J, Alshehri M, Giles A-M, Siengsukon CF, Burns JM. Aerobic exercise sustains performance of instrumental activities of daily living in early-stage alzheimer disease. *J Geriatr Phys Ther*. 2019;42(3):E129-E134. Accessed September 11, 2022. doi:10.1519/jpt.0000000000000172.
7. Langoni CdS, Resende TdL, Barcellos AB, et al. Effect of exercise on cognition, conditioning, muscle endurance, and balance in older adults with mild cognitive impairment: a randomized controlled trial. *J Geriatr Phys Ther.* 2019;42(2):E15-E22. Accessed September 11, 2022. doi:10.1519/jpt.0000000000000191.
8. Liguori G, ed. *ACSM's Guidelines for Exercise Testing and Prescription.* 11th ed. Wolters Kluwer; 2021.
9. Allen Cognitive Group. Core concepts. https://allencognitive.com/core-concepts/. Accessed September 11, 2022.
10. Earhart CA. Brief History of the Cognitive Disabilities Model and Assessments. 2009. Updated February 14, 2017 by Elgas, K. Accessed September 11, 2022. https://www.allen-cognitive-network.org/index.php/allen-cognitive-model
11. Katz N, ed. *Cognition and Occupation Across the Lifespan: Models for Intervention in Occupational Therapy.* American Occupational Therapy Association Inc; 2005.
12. Park J, Cohen I. Effects of exercise interventions in older adults with various types of dementia: systematic review. *Act Adapt Aging.* 2019;43(2):83-117.
13. Sacks O. *Musicophilia: Tales of music and the brain.* Vintage Canada; 2008.
14. Clark IN, Baker FA, Taylor NF. The modulating effects of music listening on health-related exercise and physical activity in adults: a systematic review and narrative synthesis. *Nord J Music Ther.* 2016;25(1):76-104.
15. Childers CM. D, DD, DDD, One Size Never Fits All: Evidence-Informed, Exciting Interventions for Cognitive Challenges. Talk presented at: American Physical Therapy Association Combined Sections Meeting 2020; February 14, 2020; Denver, CO.
16. Valli F. *Jersey Boys-Vocal Selections (Songbook): The Story of Frankie Valli & The Four Seasons Vocal Selections.* Hal Leonard Corporation; 2006.
17. Badman K. *The Beach Boys: The Definitive Diary of America's Greatest Band, on Stage and in the Studio.* Hal Leonard Corporation; 2004.
18. Kelley K. *His Way: An Unauthorized Biography of Frank Sinatra.* Bantam; 2010.

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Taking the Fall?

Enhancing the Quality of Life in Long term Care

by Jennifer Gindoff, PT, DPT, DHSc and Heidi Moyer, PT, DPT

In skilled nursing and long-term care facilities (SNFs/LTC - for this article we will use the term LTC), nursing staff fears that improving resident mobility and implementing mobility programs will lead to increased fall incidence. The incidence of falls in LTC is 3 times greater than in the community[1] and falls account for 26% of lawsuits in the LTC setting,[2] so the concern regarding resident falls is valid. Residents who are either entirely dependent or fully independent are at the lowest risk of falls, while individuals who can rise from a chair but are not stable enough to stand without assistance are at the greatest risk.[3] Despite the potential increased risk of falls with improved mobility, it is unethical to withhold therapy services and mobility programs from these residents.[3,4,5] Not falling does not equate to quality of life. We must alter our perception of fall prevention to enhance residents' ability to engage in mobility and meaningful activity. Aside from fall risk, there are other benefits of reducing sedentary activity, including improved management of chronic conditions such as cardiovascular disease and type 2 diabetes, as well as a decreased risk of respiratory infections, malnutrition, cognitive impairment, urinary incontinence, pressure ulcers, venous thromboembolism, and mortality.[3,6-8] The association between the amount of sedentary activity and adverse events is not related to physical activity levels; this illustrates the importance of mobility programs to reduce sedentary time.[9] Reducing a resident's mobility for fear of a fall may be more detrimental to their health than a potential fall and can lead to an increased risk of falls.[3,4,8,10] Mobility programs, also known as restorative programs, are intended to support residents' function and enhance their quality of life,[12,13] and may be the solution to mitigating the adverse health events associated with lack of activity frequently seen in LTC.

Barriers and recommendations

Research has found barriers to increasing physical activity in LTC in 3 domains: resident, environment, and organization.[14] Residents may be limited by fear, anxiety, and medical status; factors that can be addressed through staff support. The environment may not be optimized for activity due to space constraints, lighting, or surface type (i.e., carpet, thresholds, glare, lack of contrast, etc.). Suggested solutions are to modify the properties of the environment or provide activity in an alternate area of the facility that is more conducive to safe mobility. The organization may be limited by a lack of staffing, funding, and program development/support. Organizational barriers, such as staff experience, workload, and administrative buy-in and support are the most difficult to overcome. Literature regarding organizational interventions found 3 areas of potential intervention: environment, nursing staff capacity, and multifactorial, but no clear conclusion was found suggesting a need for further research in this area.[15]

Increasing the physical activity levels of LTC residents is a global concern. A task force was created in December 2015 by the International Association of Gerontology and Geriatrics (IAGG) Global Aging Research Network and the IAGG European Region Clinical Section to provide recommendations for physical activity and exercise for residents in LTC.[9] The task force determined that no one program or recommendation would meet the needs of all LTC residents due to the heterogeneity of the population. These actions were recommended:[9]

1. Reduce sedentary behavior and establish guidelines for exercise for defined groups of residents
2. Increase resident motivation and awareness of the importance of increasing activity participation
3. Raise awareness among staff, including floor staff, physicians, providers, family members, and administration
4. Implement plans to break up sedentary time
5. Avoid restraints, enhance the environment, use innovative solutions, and provide group activities that are motivating and enjoyable.

The World Health Organization surveyed experts and proposed a public health framework to reach a consensus on the minimum intervention standard for LTC.[16] Training staff to promote physical activity and decrease resident sedentary time was among the recommendations. There were multiple recommendations for various aspects of staff education including recognizing and managing a decline in function, pain management, and dementia care.[16] Interestingly, acceptability and feasibility scores were lower for high-income countries compared to low- and middle-income countries.[16]

Despite these recommendations, the LTC community still struggles with the provision of mobility programs. Per the Omnibus Budget Reconciliation Act of 1987, LTC facilities must provide residents with the care and services needed to attain or maintain an individual's highest physical, mental, and psychosocial wellbeing.[17]

Mobility programs appear to be the optimal way to facilitate this but there is a dearth of research. Limited evidence-based recommendations are available regarding how to establish these programs and change the behavior of LTC staff to promote the provision of these services. Individuals at the highest risk of decline, where mobility programs would enhance function, are the least likely to receive such services.[17] Many studies exclude the populations that would benefit most from mobility programs, including individuals with impaired cognition, high assistance levels, and those at high risk of falls, even though cognition is not always a barrier to participation, success, or retention.[12,18] LTC residents may have as little as one minute of physical activity over the course of a day, with many residents spending 75% of the day in sedentary activity.[8] At a minimum, LTC facilities need to provide residents with some level of activity throughout the day to reduce sedentary time to mitigate the profound detrimental effects of sedentarism.

It is unclear exactly when restorative programs were initiated in LTC. Historically, "restorative" has been used for various purposes. Restorative care has been defined as a program to maximize a resident's abilities, improve self-esteem, reduce the required level of care, and mitigate the need for demeaning aspects of care.[12] Yet, as currently and usually provided, restorative programs do not seem to fit this definition. A survey of US restorative programs found that the most common programs were walking, passive and active range of motion, and dressing/grooming; these are functional but do not support meaningful activity and quality of life.[12] What should a restorative program look like? To address this question, we must first discuss the importance of meaningful activity.

Meaningful activity

Autonomy, competence, and relatedness are 3 domains that need to be met for people to function optimally; these are often achieved through meaningful activity.[14] A lack of meaningful activity may negatively influence residents' cognitive, emotional, physical, social, and spiritual health.[14] The transition to LTC may induce a loss of independence, feelings of isolation and loneliness, and decreased self-confidence, leading to secondary adverse health outcomes.[14]

The 4Ms framework of age-friendly care can provide a system for LTC staff to assist in this transition to support optimal outcomes and quality of life. The 4Ms are what Matters, Medication, Mobility, and Mentation.[19] These elements provide a framework to determine preferred health outcomes and goals, create mobility plans, optimize the environment to support the mobility plan, and promote independence and dignity.[19] While lack of care may be an issue, the opposite is also detrimental. A common issue is over-assistance due to staff time constraints. For example, staff assists with donning a resident's shoes despite the resident being independent as it will take the staff member less than 1 minute to complete the task but require up to 5 minutes of supervision for the resident to complete it. Unfortunately, over-assistance leads to a loss of function; therefore, the goal should be to provide care *with* a person rather than *for* a person.[17] Allowing individuals to do what they can for themselves and only assisting when needed is vital to maintaining function and quality of life. Yet, promoting meaningful activity, increasing physical activity, and reducing sedentary behavior requires more than function-focused care.

There are programs that address the need for meaningful activity in LTC. These programs are sometimes run by professionals such as recreational therapists and allow for activities such as adaptive sports,[14] others are run by trained lay leaders and encourage mobility during activity.[20] Bingocize is one such program. Led by lay leaders, bingocize promotes movement while playing bingo and has been shown to improve endurance, strength, flexibility, and balance.[20] Adaptive sports, bingocize, and other such programs encourage movement, camaraderie, socialization, and self-esteem. While implementing these programs throughout facilities would optimize mobility, quality of life, and reduce fall risk, many LTC facilities lack the resources to do so. Activity programs run by physical therapists, nurses, and nursing aides have found success in reducing fall rates (50% of studies reviewed found positive results),[21] although there remains no standard for programs in LTC. Recommendations for programming to reduce falls include activity 2-3 days per week, focusing on consistent participation with a recommended duration varying from 20 to 45 minutes.[18,21]

Restorative programs

A study[7] examining a quality improvement project to enhance mobility in LTC residents had success with a resident walking program (residents were only eligible if they were at or above supervision level) but it was limited by high nursing aide turnover and administration constraints. No falls were experienced during the mobility program; this indicates that providing supervised walking does not increase the risk of falls in this population.[7] A retrospective analysis of falls in LTC facilities in Canada found that falls frequently occurred when residents were unsupervised and the staff was busy with other tasks, a further indication for supervised mobility programs.[22]

Research has been completed to determine the effectiveness of interventions to reduce the risk of falls in community-dwelling older adults; there is limited research regarding the benefits of such interventions in LTC.[23] Many studies focus on staff education with mixed results. One study reported improved staff confidence and knowledge with no reduction in the incidence of falls.[3] Another study found a reduction in fall rate for 90 days, but not at 180 days (the authors posit that continued staff training may have mitigated the waning effect).[23] Studies regarding the effectiveness of exercise programs in reducing

fall risk in LTC residents found mixed results, although improved mobility was noted even when there was no significant improvement in fall outcomes.[2,11,18]

Restorative care has been defined as a program to maximize a resident's abilities, improve self-esteem, reduce the required level of care, and mitigate the need for demeaning aspects of care.[12] Based on this definition and the various needs of people related to their medical status and physical mobility, a restorative program may look different for each resident. If it were possible to have ideal restorative programs, there would be dedicated trained staff to facilitate activity; facilities would have adaptive sports, friendly activity competitions, and physical activities that would promote socialization, camaraderie, and self-esteem. Unfortunately, due to current barriers of funding, staffing, and a consistent shortage of time, (and now COVID-19 concerns), this is not generally possible. What IS possible is the creation of individualized restorative programs that are feasible and can be carried out in a timely manner by existing facility staff (not just nursing aides but other staff such as individuals in the activity department). Incorporating movement into daily tasks is one way to promote meaningful daily activity. For example, allowing people to assist with dining set up (at their table/for their place setting) while seated or standing, folding towels, or passing out mail would all facilitate meaningful activity and movement. Walk-to-Dine programs or other walking clubs are also options for some residents.

Perception is another significant barrier to increasing someone's activity, both staff perception of a resident's abilities and the resident's self-perception. Resident reasons for avoiding activity may include fatigue, lack of interest, and lack of competence. However, staff can support seniors through this process and help them change their perceptions. Aside from the physical benefits, meaningful activity can help reduce loneliness, improve feelings of competence and autonomy, and improve social relatedness, further increasing participation in mobility programs. Increasing staff support of residents will require staff education. Although not sustained long-term, research has shown that nursing aide education led to increased provision of restorative programs, a change in attitude, improved job satisfaction[17], and reduced the risk of resident attrition.[12] Verbal prompts, champions, and modeling have all been found effective in promoting staff engagement.[8] Moreover, the opposite is also true. Lack of staff support reduces mobility;[5] staff must be trained to enhance, facilitate, and support each person's perception of their own abilities.

How to help as a physical therapy professional

Physical therapy professionals can be a fantastic resource for residents in many ways. First, communicate with nursing staff and ensure that all details are included when prescribing a restorative program, including proper activity dosage, particularly intensity. Techniques that promoted resident success in therapy to promote participation, autonomy, and self-esteem should be included in the program. These details will elevate the restorative program from walking with staff to an enjoyable, meaningful activity. Second, educating staff who will carry out the restorative program to be mindful of more than the person's physical abilities and to support the resident and their perception of competence. Third, think outside the box when prescribing restorative programs. Find something meaningful to the resident that can be done safely with staff support. Remember that any activity is better than none and meaningful activity supports more than just the physical body. Perhaps there are residents with similar mobility levels that could perform an activity together. Fourth, obtain administration buy-in. Without the administration's support, all restorative programs are doomed to fail. This applies to both nursing and therapy administration. Include other stakeholders. Have conversations with in-house physicians, nurse practitioners, physician assistants, podiatrists, optometrists, and other professionals on the interdisciplinary care team to promote mobility and meaningful activity as a part of the overall facility culture. When conversing about the importance of movement and reducing sedentary behavior, do not provide a one-liner such as "this is important." Even though everyone is short on time, there is enough time for an elevator pitch; plan what you want to say, state why it is important, cite literature, be emphatic. Fifth, remember that fifteen minutes a day, while better than nothing, is not enough to meet recommendations for physical activity or reduce sedentary time. Additionally, residents may not have the activity tolerance for a 15-minute mobility program. If fifteen minutes is all that is available, perhaps break it up to 7 ½ minutes twice a day; while increased activity duration is important, we must attempt to reduce sedentary activity. As mentioned earlier, the relationship between sedentarism and adverse events is independent of activity levels.[9]

Conclusion

Despite the limitations of current research regarding the implementation of physical activity and restorative programs, the literature is conclusive regarding the importance of physical activity, the hazard of sedentary activity, and the benefits of meaningful activity. There is evidence that mobility programs reduce fall risk, but results are mixed and limited due to the heterogeneous population in LTC. Despite this, the literature unequivocally supports mobility/restorative programs. Authors use strong language to describe the importance, for example: "mobility as part of individuals' activity has been considered a fundamental basic need as well as a human right… given the nature of mobility as a fundamental need, the crucial question remains why exercise and mobility are not supported by the nursing staff as everyday nursing

practice."[5] Perception of the nursing staff, therapy department, and administration are critical. We must change our attitudes toward mobility and fall prevention to enhance residents' ability to participate in meaningful activities and enhance their quality of life. There is potential for us to change the system if we try. Prepare your elevator pitch, speak with administration, floor staff, and collaborate with your interdisciplinary team, include members outside of the rehab team. If we work together, we can facilitate change and make a difference in the lives of older adults residing in long-term care facilities.

References

1. Cao PY, Zhao QH, Xiao MZ, Kong LN, Xiao L. The effectiveness of exercise for fall prevention in nursing home residents: A systematic review meta-analysis. *J Adv Nurs*. 2018;74(11):2511-2522.
2. Matthews CRP. The implementation of an evidence-based practice falls prevention program in long-term care. *J aging long-term care*. 2018;1(2):73-87.
3. Barker AL, Nitz JC, Low Choy NL, Haines TP. Mobility has a non-linear association with falls risk among people in residential aged care: an observational study. *J Physiother*. 2012;58(2):117-125.
4. Leverenz MD, Lape J. Education on Fall Prevention to Improve Self-Efficacy of Nursing Staff in Long Term Care: a Pilot Study. *Internet Journal of Allied Health Sciences and Practice*. 2018;16(3):6.
5. Narsakka N, Suhonen R, Stolt M. Environment in institutional care settings as a promoting factor for older individuals' mobility: A systematic review. *Scand J Caring Sci.* 2022;36(2):382-392.
6. Hall T, Kastner M, Woollard S, et al. Transcending Distance in Long-Term Care: Can Serious Games Increase Resident Resilience? *Proc Hum Fact Ergon Soc Annu Meet*. 2021;65(1):1362-1366.
7. Kazana I, Pencak Murphy M. Implementing a patient-centered walking program for residents in long-term care: A quality improvement project. *J Am Assoc Nurse Pract*. 2018;30(7):383-391.
8. McArthur. Enhancing opportunities for physical activity among long-term care residents: A narrative review. *J Clin Outcomes Manag*. Published online 2019. https://cdn.mdedge.com/files/s3fs-public/jcom02602090.PDF
9. de Souto Barreto P, Morley JE, Chodzko-Zajko W, et al. Recommendations on Physical Activity and Exercise for Older Adults Living in Long-Term Care Facilities: A Taskforce Report. *J Am Med Dir Assoc.* 2016;17(5):381-392.
10. Gulka HJ, Patel V, Arora T, McArthur C, Iaboni A. Efficacy and Generalizability of Falls Prevention Interventions in Nursing Homes: A Systematic Review and Meta-analysis. *J Am Med Dir Assoc*. 2020;21(8):1024-1035.e4.
11. Dhargave P, Sendhilkuma , James TT. Effect of a structured exercise program in reducing falls and improving balance and gait in the elderly population living in long-term care homes-a randomized controlled trial. *Aging Med Healthc.* Published online 2020. https://www.agingmedhealthc.com/wp-content/uploads/2020/06/v11i2_4_amh-2019-07-014.pdf
12. Wang YH, Liu LF, Chang LH, Yeh CH. The Implementation of Restorative Care and Factors Associated with Resident Outcomes in Long-Term Care Facilities in Taiwan. *Int J Environ Res Public Health*. 2019;16(20). doi:10.3390/ijerph16203860
13. Yoon. Fall prevention in nursing homes: comparison of local and international guidelines and policies: a systematic review. *Asian J Gerontol Geriatr*. 2018;13(2):53-62. doi:10.12809/ajgg-2017-270-ra
14. Bedini LA, Kelly LE, McKenzie K, Mitchell KL. Impact of a pilot adaptive sports intervention on residents at a skilled nursing facility. *Ther Recreation J*. 2019;53(4):340-367.
15. Rommerskirch-Manietta M, Braunwarth JI, Quasdorf T, et al. Organizational Capacity Building in Nursing Facilities to Promote Resident Mobility: A Systematic Review. *J Am Med Dir Assoc.* 2021;22(12):2408-2424.e12.
16. Perracini MR, Arias-Casais N, Thiyagarajan JA, et al. A Recommended Package of Long-Term Care Services to Promote Healthy Ageing Based on a WHO Global Expert Consensus Study. *J Am Med Dir Assoc.* 2022;23(2):297-303.e14.
17. Resnick B, Gruber-Baldini AL, Galik E, et al. Changing the philosophy of care in long-term care: testing of the restorative care intervention. *Gerontologist*. 2009;49(2):175-184.
18. McArthur, G. Improving strength and balance for long-term care residents at risk for falling: Suggestions for practice. *J Clin Outcomes Manag.* Published online 2018. https://www.mdedge.com/jcomjournal/article/155615/genetics/improving-strength-and-balance-long-term-care-residents-risk?platform=hootsuite
19. Edelman LS, Drost J, Moone RP, et al. Applying the Age-Friendly Health System Framework to Long Term Care Settings. *J Nutr Health Aging*. 2021;25(2):141-145.
20. Crandall KJ, Neils-Strunjas J. A game-based health program for improving functional health and social engagement in long-term care residents. *J aging long-term care*. 2019;2(3):91-95.
21. Yang Y, van Schooten KS, McKay HA, Sims-Gould J, Hoang RA, Robinovitch SN. Recreational Therapy to Promote Mobility in Long-Term Care: A Scoping Review. *J Aging Phys Act*. 2020;29(1):142-161.
22. McGibbon CA, Slayter JT, Yetman L, et al. An Analysis of Falls and Those who Fall in a Chronic Care Facility. *J Am Med Dir Assoc.* 2019;20(2):171-176.
23. Logan PA, Horne JC, Gladman JRF, et al. Multifactorial falls prevention programme compared with usual care in UK care homes for older people: multicentre cluster randomised controlled trial with economic evaluation. *BMJ*. 2021;375. doi:10.1136/bmj-2021-066991

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Autism in the Older Adult Population

by Debra Barrett, PT

Older adults may present to physical therapists with a wide variety of disabilities; autism is one that may be overlooked in past medical history or be undisclosed. Research on and discussion of autism have focused primarily on children; adults, and particularly older adults, are often left out of discussions of needs altogether. However, autism is a lifelong disability, and it is important for clinicians to understand the evolution of needs throughout the lifespan.

A note about language: in deference to the preferences of the autistic community,[1,2] identity-first language is used in this article and is present in some cited sources. There has been significant concern raised that the continued use of person-first language contributes to stigma and negative views of autism and other disabilities.[3] However, the editorial policy of this publication is person-first usage, and both forms have been included here.

What is autism?

Autism is described diagnostically as deficits in social communication and "restricted, repetitive patterns of behavior," often with sensory hyper- or hyposensitivity.[4] Most estimates state that about 1-2% of the population is autistic, although some estimates have been considerably higher.[4,5] A less clinical view sees autism as a difference in how information is received, processed, and answered. Autistic advocates often refer to it as a difference in "operating system." Imaging studies have shown that there are significant differences in the number of brain areas utilized for various cognitive functions, with some brain areas demonstrating increased interconnectivity and some demonstrating reduced interconnectivity.[6]

Autism has been pathologized in the last 100 years, becoming a medical diagnosis and viewed as a disorder that requires treatment or mitigation. Another view posits that autism and other neurocognitive differences are naturally occurring variations in human neurology, and that every type of neurology affords advantages and disadvantages and ultimately contributes to the success of humanity. The view of neurodiversity as a corollary to biodiversity acknowledges that while autism can be disabling, it is not inherently pathological, and demands acceptance of autistic and other neurodivergent individuals.[7]

The autistic population is a heterogeneous group, with a wide variety of presentations. Autism has been categorized as a spectrum condition for several decades. While many picture the spectrum as a gradient from less autistic to more autistic, the reality is more complex and nuanced. There are a wide variety of functions that may be enhanced or impaired, including memory, executive function, motor planning and control, speech production, social interaction, and sensory processing. Autistic individuals can have any combination of strengths or deficits in any of these areas, making it difficult to categorize one person as being "more" autistic than another. Use of terms such as "mildly" or "severely" autistic, or "high" or "low" functioning, oversimplify functional capacity by framing autism in terms of how it appears to an outside observer, rather than how it is experienced by the individual. These simplistic labels also imply a static nature to functional capability. According to Dr. Melanie Heyworth,[8] an autistic researcher, "Maybe think about the Autism spectrum like a sunset. If you watched every sunset, every day of your life, you would never see the same sunset twice." Although there are similarities which make up autism, there are no 2 people that have the same combination of traits. Some possible presentations of autism are shown in Table 1. This table provides a sampling of some of the issues encountered by autistic individuals; however it is not presented as an exhaustive list.

One important characteristic that is reported by nearly all autistic adults is sensory changes, as shown by MacLennan et al.[10] In this study, 93.9% of autistic respondents reported some sensory hypersensitivity, 28.6% reported sensory hyposensitivity, and 41.4% reported some sensory seeking behavior (when sensory input is sought to help regulate or self-soothe, often referred to as "stimming"). Nearly one-quarter of respondents reported all three. The authors note that sensory differences can be a barrier to engagement in certain spaces, and that "sensory experiences can be impacted by other people's understanding of sensory reactivity differences."[10] Although this study included reported ages of 20-55 years old, a sizable minority did not report age, and it can be extrapolated that these findings would apply to older people. Anecdotally, these experiences are supported by older adults. Rose** stated, "I was in my 60s before I realized not everyone was walking around trying to ignore the pain of all the noises. I thought that was just everyone's experience."

Traditionally, autism has been considered largely a "male" condition, with historically early diagnoses occurring almost exclusively in boys; this difference has fallen to current estimates of 3 males to 1 female.[4] An interesting paper[5] looked at the inherent biases in both recognition and diagnosis of autism, with estimation that the actual ratio of incidence is 3 males to 4 females.

Table 1. Possible Characteristics by Functional Area in Autism

Functional Area	Possible Issues / Presentation	Notes
Cognition	· May present with any level of cognitive skills · Likely to present with difficulty with at least some aspects of executive function · Memory may be exceptional, often with a skill for visual pattern recognition, or for some individuals may be poor, with particular issues with working memory · Thought processes may be almost entirely in images, or almost entirely in words · Often have specific learning difficulties or cognitive differences such as dyslexia, dysgraphia, dyscalculia, aphantasia, prosopagnosia, alexithymia · May require extra processing time for instructions and requests · Auditory processing impairments may be present	· Executive function includes skills like working memory, emotional regulation, impulse control, sustained attention, task initiation, task switching, organization, time management, and response inhibition.
Speech / Communication	· May present with excellent oral fluency, with some dysfluencies in oral speech, or with situational mutism (typically with stress, unfamiliar environments, unfamiliar people) · May present with lack of oral speech and rely on other communication methods such as sign language, alternative & augmentative communication (AAC) technology ("talkers" or text-to-speech options) · Verbal communication is often direct and blunt with less attention paid to social niceties and "small talk" · Often there is a tendency to take communication literally	· Production of oral speech or lack thereof does NOT indicate intelligence or comprehension. Many non-speakers have typical intelligence and comprehension · Speak directly to an autistic client, not to a family member or caregiver who might attend.
Sensory Perception / Processing	· May have either hyper- or hyposensitivity to any of the 8 senses · Likely to have hypersensitivity to some inputs and hyposensitivity to others · Sensory sensitivity and processing are context dependent and will vary with stress, predictability, voluntary choice10 · Hypersensitivity to stimuli often results in that stimulus being perceived as extremely unpleasant or even physically painful – eg loud noises, unpleasant textures, etc · Synesthesia may be present	· The 8 senses include visual, auditory, olfactory, gustatory, tactile, vestibular, proprioceptive, and interoceptive. · Autistic individuals commonly have decreased sensitivity to proprioceptive and interoceptive input which can affect health and function.
Motor Control / Planning	· May present with "clumsiness" · May present with dyspraxia/apraxia · May present with unusual motor patterns · May present with motor disinhibition · Might demonstrate gait differences such as decreased cadence or rhythmicity, decreased gait speed[9]	· Dyspraxia can be significant and result in difficulty with functional tasks. · Motor disinhibition may result in lack of control over motor activities, often described as "my body just does what it wants to."
Emotional Connection / Social Relationships	· May present with lack of cognitive empathy – the easy identification of other people's emotional states · Often show high levels of emotional empathy – sharing another person's emotional experience or responding to their distress. Frequently report high levels of distress when loved ones are experiencing negative situations. · May seek out or avoid social interaction · Often prefer 1:1 interaction versus group activities · May prefer "parallel" social activities (being together but doing different tasks) · Often show a preference for avoidance of eye contact, or may show no difficulty with eye contact.	· The continued presentation of autistic individuals as lacking empathy or lacking the ability to connect to others contributes to significant stigma and misunderstanding of this population. · Eye contact differences vary considerably by individual and are context dependent.

This study estimated that about 80% of autistic girls are missed, attributed in part to a stronger tendency for females to "mask" or camouflage their autistic traits. It is important to note that among autistic individuals, there is a much higher rate of gender dysphoria and atypical gender experience than is reported in the general population.[11,12] The reduction of autism to "male" and "female" versions ignores the complexity of gender experience for this population.

Autism in older adults

The current generation of older adults grew up in a time when the diagnostic definition of autism was significantly different than it is today. There are many adults receiving diagnoses in their 50s, 60s, 70s, and beyond due to changes in diagnostic criteria and differences in clinical understanding.[2,13] These adults are sometimes referred to as the "lost generation" because they grew up largely without supports or acknowledgement of difficulties, and only as adults have come to understand that their challenges stem from autism.[13] Says Rose, "I felt like an alien as a kid... Even when I was grown, I always had a hard time and couldn't understand why people did what they did. Then my grandson was diagnosed with autism, and my daughter came to me and said [that] she thought she was autistic and [that] I was too. And I did a lot of reading and it all made sense. I got my diagnosis and it felt so freeing." Because many older adults grew up associating autism with intellectual disability and stereotypical behavior, many autistic adults may not be identified as such and are likely to have informal labels among family or care providers such as "eccentric" or "demanding." Identified or not, autism will greatly affect health care access and long term physical and mental health.

Some autistic individuals may receive psychiatric diagnoses instead of being identified as autistic due to biases in identification of autism. Edelson and colleagues noted that misdiagnosis or missed diagnosis of clients "may be the result of healthcare systems in which providers are not sufficiently trained to recognize the communication, behavioral and sensory challenges as well as the medical needs and social/emotional needs faced by autistic adults."[2]

One study looking at the cognitive skills of older adults with autism[14] found that while children and young adults with autism show deficits in planning skills and cognitive flexibility, these deficits appeared to be less prominent or absent in the older adults. This may be related to a greater maintenance of cortical volume in ageing autistic adults compared to neurotypical adults. However, some executive and cognitive functions are similar in older autistic adults as in younger autistic individuals, such as deficits in sustained attention, fluency, and working memory. Interestingly, decreases in fluency with ageing appear to be more pronounced for older adults without autism than those with autism; visual memory declines were more pronounced among those with autism. Notably, imaging studies reported here show that for autistic individuals, larger and more diffuse brain areas are utilized for executive function tasks even earlier in life, so there may be less capacity for age-related adaptations of utilizing more or different areas of the brain to preserve function.[14]

Although research on older autistic adults is very limited, in recent years there has been more activity in this area. There is a need for additional research to provide the best care to this segment of the population.

Common co-occurring conditions

Autistic clients are more likely than neurotypical peers to have other conditions which may affect therapeutic treatment or outcomes. There is a higher incidence of seizures, allergies, and gastrointestinal issues, for example, as well as an increased rate of other neurodivergences such as attention deficit hyperactivity disorder (ADHD), dyslexia, dysgraphia, dyscalculia, and prosopagnosia. A recent study estimated intellectual disability (ID) at 10-40% of individuals with autism, with lower incidences among those who received an autism diagnosis later in childhood and higher incidences in those diagnosed as young children.[15] (A wide range of estimates of ID incidence among the autistic population is still present in the literature, largely because diagnostic criteria for autism have changed so substantially over time.) While a discussion of ID and IQ measurement is well beyond the scope of this article, it is worth noting that IQ tests have repeatedly been called into question as accurate measures in many subsets of the population, including those who are non-speaking or who have significant dyspraxia.

Of particular interest to physical therapists, autistic clients are more likely to present with joint hypermobility, orthostatic intolerance, and significant pain than neurotypical peers. One study found a prevalence of joint hypermobility of 28% among neurodivergent patients (autistic and/or ADHD) versus 12% of a comparison group.[16] This study also reported that musculoskeletal pain was significantly higher in neurodivergent individuals and correlated with increased Beighton scores (one measure of hypermobility). The neurodivergent group also reported nearly universal experiences of orthostatic intolerance. Clinical awareness of these susceptibilities is important to address potential issues.

Health care access

Accessing health care services can be particularly difficult for older adults with autism due to communication challenges, sensory issues, unmet support needs, and biases of health care providers themselves. Autistic individuals have decreased life expectancy, poorer physical and mental health, and increased morbidity and mortality compared to neurotypical peers, partly as

a result from difficulty accessing health care services.[17] Individuals reported difficulty attending appointments, specifically citing difficulty with telephone scheduling, not feeling understood by providers, difficulty communicating effectively with providers and reception staff, uncomfortable waiting areas or exam rooms, and stigma or biases of providers.[17] Autistic adults were also less likely to follow up on referrals and more likely to have untreated or under-treated health conditions. The barrier most associated with poor health outcomes was difficulty communicating with reception staff and providers. Of note this study was based in the United Kingdom and did not ask about financial barriers or insurance issues. In the United States, these barriers might be very prominent as many autistic individuals are unemployed, under-employed, or may lack health insurance or adequate coverage or financial resources to access care.

It is imperative that therapy providers make their services accessible to neurodivergent clients. Steps taken to ensure increased accessibility for autistic clients will improve access for others as well. Basic accessibility measures like flexibility in scheduling, clear and direct communication, electronic communication options, and awareness of sensory needs will help autistic clients access care, as well as improve the comfort of many non-autistic clients. Suggested steps for improving accessibility are shown in Table 2.

Health care providers "may underestimate the number of autistic patients under their care."[17] Many autistic clients do not disclose their autism to their providers, choosing instead to "mask," or appear as neurotypical as possible for their health care encounters.[17] Asked about disclosure to health care providers, Rose stated, "I told my doctor when I was first diagnosed. I was so excited to have a diagnosis, to have things make sense… First, he laughed. Then he told me I don't 'look' autistic. Then he told me that it didn't matter anyway since I was so 'high-functioning' so why would I need a diagnosis? It was so demeaning and dismissive… After that he started talking to me like I was a little slow and making little comments about it. I finally had to change doctors. I haven't told the new one and I guess I won't… They stop seeing you as a whole person."

As health care providers, biases about autism and other disabilities can decrease accessibility for clients with and without those issues. Checking our own ableism and assumptions can only increase our competence in providing good care to all clients. Rindahl, in a piece for OT Practice, states that therapists "must view clients as experts on themselves and actively listen to neurodivergent clients on their holistic needs while providing a safe space for their clients to… be their authentic, autistic selves in therapy settings."[18] It is extremely important that we provide safety for our patients to reveal all their concerns.

Table 2. Steps to improve accessibility for autistic clients[10,17]

Communication	**Sensory Needs**
· Utilize clear, direct, unambiguous language from appointment scheduling through service provision · Allow time to process questions and requests · Provide instructions in writing · Allow time for client to express their history and concerns fully · Remain task focused and avoid small talk · Listen to the words of the client without trying to infer additional meaning from tone or body language · Reflect back to client and request clarification to ensure understanding	· Modify bright, flashing, or flickering lighting · Minimize background conversations or noises during communication · Avoid loud, high-pitched, or inconsistent noises as much as possible · Avoid perfumes and scented products as much as possible, and offer air purification to reduce ambient odors · Have items on hand for comfort such as fidget objects, plush toys · Ask clients about their specific sensory sensitivities and accommodate personal needs
Accessibility	**Predictability**
· Offer electronic communication for questions and clarification · Offer virtual visits · Offer online appointment scheduling · Offer flexible appointment times to accommodate needs (first or last, etc) · Minimize waiting times	· Avoid last-minute schedule changes · Provide consistent, preferred clinician for all visits · Provide information about what to expect during sessions and over course of care · Warn client of all touch/ contact · Inform client about expected timing and duration of each appointment and overall care
General Items	
· Ensure adequate training of all staff · Consider longer appointment times · Audit sensory environment in facility	

Communicating effectively with autistic clients

An essential element in providing competent care is to value the communication of clients. Autistic individuals have traditionally been considered to have "deficits" in social interaction. Recent research and views have begun to see communication between people with and without autism as a style mismatch, rather than as a deficit only on the part of those with autism. The "double empathy problem," initially outlined by Milton,[19] states that autistic and non-autistic people experience the world and express their own emotions in markedly different ways, and that each can show a lack of understanding for the other's views or experiences. Additionally, what is most relevant to each person may be different. In a mismatch of which facts or elements of conversation are most salient, misunderstandings are more likely to occur.[20] Autistic clients tend to prefer direct and clear language without euphemisms or vague suggestions, task-focused communication, and do not utilize "small talk" as a means of connecting.

Simply understanding that clinicians and autistic clients come from different backgrounds can aid efforts toward effective communication. Like providing any other culturally competent care, starting from a place of humility and curiosity can help clinicians relate to autistic clients.

Conclusion

Autism is an often-overlooked disability in the older adult population, but with prevalence estimates of approximately 2% of the population, it will benefit physical therapists to recognize and support their autistic clients and provide care that is maximally accessible for all older adults.

***Rose is an anonymized composite of two autistic older adults, ages 74 and 70, interviewed by the author.*

References

1. Botha M, Hanlon J, Williams GL. Does language matter? Identity-first versus person-first language use in autism research: a response to Vivanti. *J Autism Dev Disord.* 2021;1-9. doi: 10.1007/s10803-020-04858-w
2. Edelson SM, Nicholas DB, Stoddart KP, et al. Strategies for research, practice, and policy for autism in later life: a report from a think tank on aging and autism. *J Autism Dev Disord.* 2021;51(1):382-390.
3. Gernsbacher MA. Editorial perspective: the use of person-first language in scholarly writing may accentuate stigma. *J Child Psychol Psychiatry.* 2017;58(7):859-861.
4. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Washington DC; 2013.
5. McCrossin R. Finding the true number of females with autistic spectrum disorder by estimating the biases in initial recognition and clinical diagnosis. *Children (Basel).* 2022; 9(2):272. doi: 10.3390/children9020272
6. Heyworth M. Introduction to autism part 1: what is autism? Reframing Autism. Published January 15, 2021. Accessed September 11, 2022. https://reframingautism.org.au/what-is-autism
7. Leadbitter K, Buckle KL, Ellis CE, Dekker M. Autistic self-advocacy and the neurodiversity movement: implications for autism early intervention research and practice. *Front Psychol.* 2021;12:635690. doi:10.3389/fpsyg.2021.635690
8. Heyworth M. Introduction to autism, part 4: the autism spectrum is not linear. *Reframing Autism.* Published May 24, 2021. Accessed September 11, 2022. https://reframingautism.org.au/introduction-to-autism-part-4-the-autism-spectrum-is-not-linear/
9. Cho AB, Otte K, Baskow I, et al. Motor signature of autism spectrum disorder in adults without intellectual impairment. *Sci Rep.* 2022;22:7670. doi: 10.1038/s41598-022-10760-5
10. MacLennan K, O'Brien S, Tavassoli T. In our own words: the complex sensory experiences of autistic adults. *J Autism Dev Disord.* 2021;52(7):3061-3075. doi: 10.1007/s10803-021-05186-3
11. Strang JF, van der Miesen AIR, Caplan R, daVanport S, Lai M-C. Both sex- and gender-related factors should be considered in autism research and clinical practice. *Autism.* 2020:24(3)539-543.
12. Dewinter J, De Graaf H, Begeer S. Sexual orientation, gender identity, and romantic relationships in adolescents and adults with autism spectrum disorder. *J Autism Dev Disord.* 2017;47:2927-2934.
13. McDonald TAM. Autism identity and the "lost generation": structural validation of the Autism Spectrum Identity Scale and comparison of diagnosed and self-diagnosed adults on the autism spectrum. *Autism Adulthood.* 2020;2(1):13-23.
14. Geurts HM, Vissers ME. Elderly with autism: executive functions and memory. *J Autism Dev Disord.* 2012;42(5):665-675.
15. Rødgaard E-M, Jensen K, Miskowiak KW, Mottron L. Autism comorbidities show elevated female-to-male odds ratios and are associated with age of first autism diagnosis. *Acta Psychiatr Scand.* 2021;144(5):475-486. doi: 10.1111/acps.13345
16. Csecs JLL, Iodice V, Rae CL, et al. Joint hypermobility links neurodivergence to dysautonomia and pain. *Front Psychiatry.* 2022;12:786916. doi: 10.3389/fpsyt.2021.786916
17. Doherty M, Neilson S, O'Sullivan J, et al. Barriers to healthcare and self-reported adverse outcomes for autistic adults: a cross-sectional study. *BMJ Open.* 2022;12:e056904. doi: 10.1136/bmjopen-2021-056904
18. Rindahl N. Unmasking autism by promoting neurodiversity. *OT Pract.* 2021;26(11):16-19.
19. Milton DEM. On the ontological status of autism: the 'double empathy problem'. *Disabil Soc.* 2012;27(6):883-887.
20. Williams GL, Wharton T, Jagoe C. Mutual (mis)understanding: reframing autistic pragmatic "impairments" using relevance theory. *Front Psychol.* 2021;12. doi: 10.3389/fpsyg.2021.616664

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Advocating for a Decade of Healthy Aging

by David W. M. Taylor, PT, DPT, and William H. Staples, PT, DPT, DHSc, FAPTA

The population is aging and will continue to influence all aspects of society through a demand for age-friendly services including healthcare, housing, transportation, and long-term care. The growth in both numbers of persons 65 years of age or older and lifespan has a global reach. There is little evidence that older persons are in better health today than in previous generations. Healthy ageing initiatives have been developed globally, nationally, and locally to foster the functional abilities of older persons, enabling them to be and do what they want and value. These initiatives will need to have an impact on multiple levels and sectors of society to prevent disease, promote health, maintain individual intrinsic capacity, and enable functional ability while minimizing foreseeable harm to other age groups. One of these initiatives is the UN Decade of Healthy Aging (Decade).[1] Launched in 2020, the initiative seeks to "Add Life to Years."[1]

The Decade initiative identifies 4 action areas that are interconnected and intended to promote and foster healthy ageing. These action areas seek to improve the well-being of older persons and their families while overcoming inequity. Successful implementation of the action areas requires engagement and participation within and beyond healthcare. It will require stakeholders from multiple sectors of society including government, education, labor, finance, transportation, communication, and technology. Physical therapists (PT) and physical therapist assistants (PTA) providing preventative, restorative, and maintenance care to older adults and the organizations they work for and are members of and, key stakeholders, especially when it comes to advocacy. The four action areas of the Decade are:

- Change how we think, feel and act towards age and ageing.
- Ensure that communities foster the abilities of older people.
- Deliver person-centered integrated care and primary health services responsive to older people.
- Provide access to long-term care for older people who need it.

The first action area challenges us to change how we think, feel, and act towards age and ageing. For some, this will require a shift in current thinking and directly addressing ageism. Ageism is how we think, feel, and act towards others and ourselves based on age. Ageism has many negative consequences, including the marginalization of older persons in their communities and society, reduced access to services, and limited application of this lifespan group's social capital. Advocacy from PTs and PTAs can include legislative initiatives, research, and media representation. Legislatively, advocating for the eradication of age-based discrimination and promotion of enforcement mechanisms through adopting, modifying, or repealing ageist legislation is needed. This can occur individually or organizationally at the local, state, or national level. Support for research, development and implementation of programs to eliminate ageism across sectors, within and beyond healthcare is also in the scope of the PT and PTA. Media representations of ageing can be unbalanced and focused on the negative versus positive aspects of growing older. Promoting a balanced view of ageing in the media and how we frame and discuss healthy ageing is an ongoing need. The World Health Organization website http://www.decadeofhealthyaging.org provides resources and toolkits to combat ageism across the lifecourse.

The second action area focuses on ensuring communities foster the abilities of older people. This should be an advocacy area championed by PTs and PTAs. It requires broadening perspectives and reflection on our roles and impacts beyond the walls of clinical practice and into the community. Supporting age-friendly cities and communities is a way to do this. The lived environment is a significant determinant of healthy ageing and the ageing experience. Age-friendly environments remove physical and social barriers using policies, systems, services, and technologies that promote health while building and maintaining capacity throughout the life course. Such changes enable older people to continue to do what they value, even when capacity is lost. Advocacy for age-friendly communities should address multiple housing options that are accessible, affordable, and modifiable, and support ageing in place. The most recent AARP Home and Community Preference Survey support that older adults want to stay in their home.[2] Of nearly 3,000 respondents, 77% wanted to remain in their current home and 34% recognize that physical change to the home will be needed to do so. The most common modifications include bathrooms with grab bars or no-step showers (79%), indoor and outdoor accessibility issues (71%), and an emergency response system (61%). An interesting finding was reported related to accessory dwelling units (ADU), small dwellings part of an existing home or property. Sixty percent of respondents indicated they would consider an ADU for aging in place, primarily to be close to a caregiver and save money.

Mobility-focused advocacy should consider structures and systems that include safe, affordable, and accessible buildings, pavements, roadways, and transportation systems. Advocacy for participation should support age-friendly leisure and social activities that are equitable, inclusive, and reduce social isolation and loneliness. Advocacy and involvement in disaster planning for weather-related and humanitarian emergencies should also be addressed and include age-friendly contingencies specific to mobility, healthcare, and caregiving needs unique to older persons. Finally, advocacy for age-friendly communities needs to promote safety: legal and social services that actively prevent and respond to elder abuse.

The scope of the Decade is global. Resources are available via the WHO Global Networks for Age-friendly Cities and Communities which includes 1,300 cities and communities in 44 countries, including the United States.[3] In the United States, AARP provides valuable resources for age-friendly communities that are widely available. The AARP Network of Age-friendly Communities website includes a livability index developed by the AARP Public Policy Institute.[4] The livability index (LI) provides information about age-friendly communities in the United States at a state and local level. The LI is scored from 0 to 100 and examines 7 areas: housing, neighborhoods, transportation, environment, health, engagement, and opportunity. Shared among all areas are concepts of accessibility, diversity, safety, convenience, cost, and multigenerational opportunity. In 2022, small towns (population: 5,00 to 24,999) have the highest LI with Aspen, CO recording an overall livability score of 72, closely followed by Los Alamos, NM, and Great Neck Plaza, NY at 71. Mid-sized cities (population: 100,000 to 499,999) including Alexandria, VA, Cambridge, MA, and Arlington, VA scored 67. San Francisco, CA scored 65 and had the highest LI for large cities (population: greater than 500,000). Look at the LI for your community and consider how you can use this data to advocate for healthy ageing.

Another community resource supporting age-friendly communities is the Lowe's Livable Home Initiative.[5] This initiative is a collaboration between AARP and Lowe's designed to help make living spaces accessible and support aging in place. The online and in-store initiative strives to help older adults, their families, and caregivers prepare a home for the next stage of life. Online resources include tips, articles, and videos specific to smart home technology, lighting, bathroom design, caregiving, fall prevention, and promoting independence. Lowe's associates receive training from AARP on how to better understand the impact of age-related changes in the home. Trained associates are identified by a special badge, to help customers know they can help with age-friendly home needs. This initiative adds to the community resources available to PTs and PTAs looking to help patients/clients age well. A multilingual HomeFit Guide that includes videos, worksheets, and an app developed by AARP is also available to the general public.[6]

The third action area identified is to deliver person-centered integrated care and primary health services responsive to older people. Advocacy from PTs, PTAs, students, professional organizations, and academic and healthcare entities is required to realize this action by 2030. Healthy ageing requires access to age-friendly, high-quality, essential health services across the continuum of care that don't cause financial hardships. These health services must be person-centered, include integrated primary care and oral health, and be linked to sustainable long-term care (LTC) options. Advocacy in this requires developing, training, and deploying a competent, age-friendly healthcare workforce prepared to manage chronic or complex health conditions, including dementia, now and in the future. Contemporary initiatives like the John A. Hartford Foundation and Institute for Healthcare Improvement (IHI) Age-Friendly Health Systems Initiative support this action area.[7] Age-Friendly Health Systems aim to follow an essential set of evidence-based practices; cause no harm; and align with What Matters to the older adult, their family, and caregivers. The framework of this initiative is the 4Ms: What Matters, Medication, Mobility, and Mentation. All of which are targeted by the Decade of Healthy Ageing. A 5th M, Multi-complexity, has also been reported, but not included in the IHI initiative. Furthermore, primary care services as part of an age-friendly continuum of care, including those offered by PT, need to be scaled up and expanded to meet demand whether health promotional, curative, rehabilitative, palliative, long-term, or end-of-life care. Advocacy efforts should address the needs of marginalized populations of older adults, including indigenous elders, those with disabilities, refugees, and migrants. Efforts to expand evidence-based resources for clinical management of age-related health conditions and strategies implemented to combat ageism in healthcare must also be pursued.

The final UN Decade of Healthy Ageing action area and advocacy opportunity is access to long-term care for people who need it. Access to high-quality long-term care is essential to older persons that require this care and support to maintain functional abilities, enjoy basic human rights, and live with dignity. Current U.S. LTC models are likely unsustainable, though some like the Program for All-inclusive Care of the Elderly and Community Aging in Place and Advancing Better Living for Elders program show benefits.[8] Advocacy in this action area will require developing, refining, and sharing sustainable long-term care models. These models must provide social care and support, meet daily living and personal care needs, support maintenance of relationships, promote ageing in place, be free from elder abuse, provide access to community services, and promote older person's participation in meaningful life activities. *Meeting these needs is a heavy societal lift, yet more is needed:*

- Increasing the capacity of the formal and informal caregiver workforce through investment in training,
- Development, and use of technology,
- Decreasing inequality in caregiving, specifically the burden on women.

Long-term care is dependent on qualified caregivers and support services in the community and institutional settings.

The success of the Decade of Healthy Ageing is dependent on those of us who value healthy ageing and strive to contribute to a healthy ageing experience for those we serve and ourselves. These authors want to participate in a society that values healthy ageing. The Decade requires partnerships and collaboration at multiple levels both nationally and internationally for success. It is championed by United Nations country-specific teams in partnership with UN agencies. Success requires a whole-of-government and whole-of-society response, including intergovernmental and nongovernmental organizations, academic and research institutions, and the private sector. Advocacy and actions of PTs and PTAs are needed for a change to occur by 2030. How will you contribute? What will you do over the next 8 years to support a society that embraces ageing, fosters the abilities of older people, provides person-centered health care, and accessible long-term care? Remember, good health adds life to years!

References

1. Decade of Healthy Aging 2020-230. World Health Organization. Accessed September 18, 2022. https://cdn.who.int/media/docs/default-source/decade-of-healthy-ageing/final-decade-proposal/decade-proposal-final-apr2020-en.pdf?sfvrsn=b4b75ebc_25&download=true.
2. Binette, J. 2021 Home and Community Preference Survey: A National Survey of Adults Age 18-Plus. Washington, DC: AARP Research, November 2021. https://doi.org/10.26419/res.00479.001
3. The Global Network for Age-friendly Cities and Communities: looking back over the last
4. decade, looking forward to the next. Geneva, Switzerland: World Health Organization; 2018 (WHO/FWC/ALC/18.4). License: CC BY-NC-SA 3.0 IGO.
5. AARP Livability Index. Accessed September 18, 2022. https://livability-index.aarp.org/?cmp=RDRCT-32043cc7-20200401.
6. Lowe's Livable Home. Accessed September 18, 2022. https://www.lowes.com/l/shop/accessible-home-resources-and-guides?cm_mmc=dl-_-c-_-prd-_-int-_-0-_-0-_-livablehomevanityurl-_-0-_-0-_-0.
7. AARP HomeFit Guide. Accessed September 18, 2022. https://www.aarp.org/livable-communities/housing/info-2020/homefit-guide.html.
8. Institute for Healthcare Improvement. Age-friendly Health Systems. Accessed September 2022 http://www.ihi.org/Engage/Initiatives/Age-Friendly-Health-Systems/Pages/default.aspx.
9. Mason D. *Long-term Care: Investing in Models That Work. JAMA Forum Archive.* Published online September 13, 2017. doi:10.1001/jamahealthforum.2017.0042.

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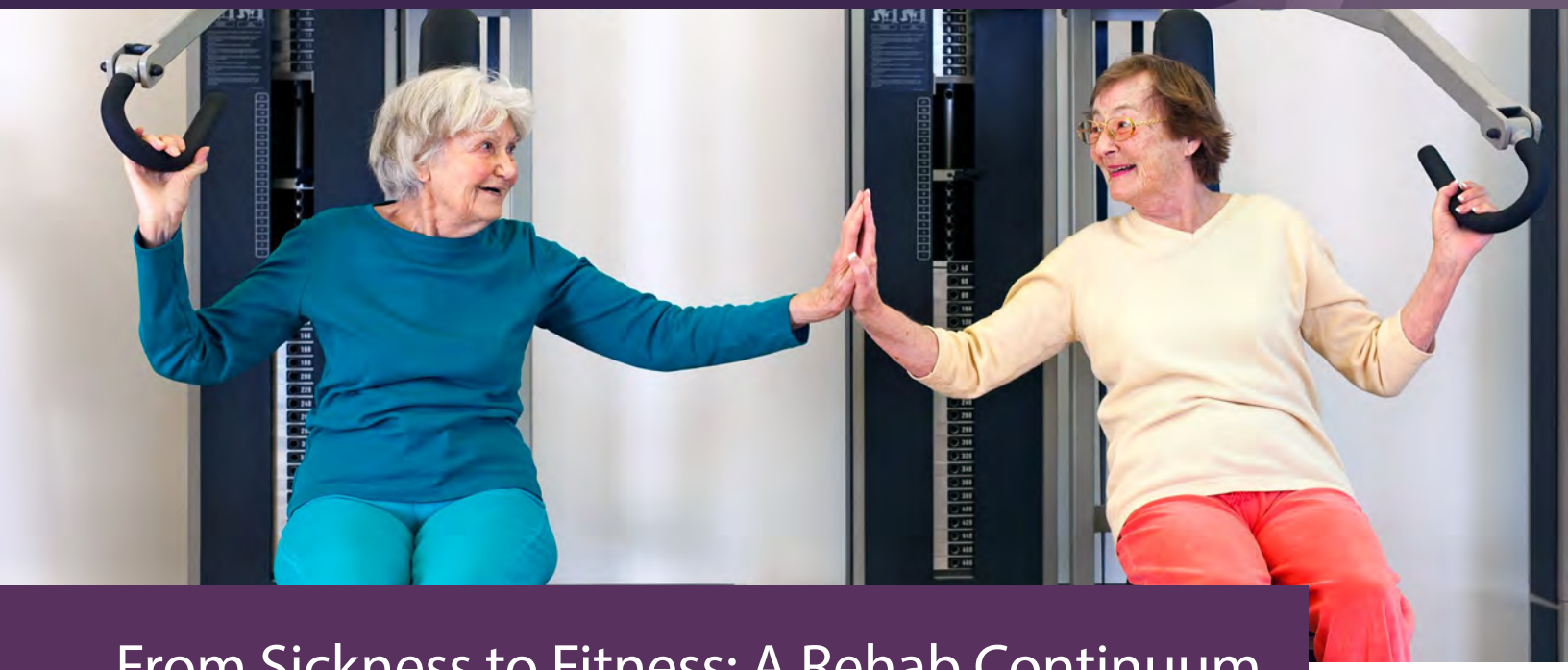


From Sickness to Fitness: A Rehab Continuum

by Alex Germano PT, DPT; Julie Brauer PT, DPT; Samantha Chamberlain PT, DPT; and Jeff Musgrave PT, DPT, Cert MDT

A common trajectory for older adults that occurs over many decades is loss of functional independence.[1] This decline can also be layered with steeper declines in function that could represent a hospitalization, a new medical diagnosis, or other events such as a fall. Many older adults lack reserve and resiliency and when they encounter a sharp decline in health status there is often a slow recovery to at or just below their previous functional baseline.[2] If the goal of rehabilitation clinicians is to return patients only back to prior baseline, this may often set them up to have continued decline. Frequent readmissions to hospitals, loss of functional independence, and high healthcare costs may result.[3,4] The missing piece to improve these outcomes is to increase physical and cognitive reserve and resiliency. Resilient people are more robust against decline and can rebound from stressors more completely.[5] Improving resiliency and functional reserve can be achieved by leading patients to fitness.[6] This is a goal that can be planted in acute care and continue throughout their therapeutic journey. Eventually, rehab would end with older adults joining community fitness programs to increase their baseline level of strength and function. Key to leading patients to the land of fitness are the continuous development of personal self-efficacy, communication between providers, and consistent messaging throughout plans of care. Imagine the following scenario to see how functional trajectory can be changed when the focus of physical therapy is shifted from just returning the patient to baseline to leading the person to a robust and resilient life.

Scenario: Dan is a 79-year-old male with a history of hypertension, asthma, and right knee osteoarthritis. He does not engage in an exercise program currently. He recently fell and was unable to get off the floor by himself. He was hospitalized with right leg pain and was found to have a urinary tract infection. Imaging was negative for any fractures.

Acute care

The first task of physical therapists in acute care is to change their perspective of their role in care delivery. Many clinicians in hospitals and inpatient rehabilitation facilities (IRF) fall to a systems prioritization approach: their primary focus is to decrease length of stay and expedite discharge. Clinicians may assume Dan, given his age, is someone who will need a skilled nursing facility or full-time care. Instead, it is crucial to reimagine and shift the acute care role to "how can I plant the seed of fitness in the setting of sickness to set Dan on an upward trajectory towards wellness and fitness?"

This starts with better goal setting. Hospitalized older adults report their goals of "independence and freedom" and "enjoying life" are not addressed during hospitalization.[7] To develop a meaningful, individualized plan of care that helps elders reach their goals, clinicians need to extend beyond the superficiality of "return to PLOF", "get stronger", or "be independent." A potential script that can be used to assist in better goal setting sounds like this: "Dan, if you felt like your strongest, healthiest, most

confident self, what is an activity you would be doing that brings you joy and purpose?" Dan explains that 3 months from now he wants to be able to climb the bleachers independently to watch his grandson's first baseball game.

Follow up questions can give insight into Dan's level of commitment and perceived barriers. "What do you think it is going to take for you to reach this goal? What do you imagine being easy about this process and what do you imagine being difficult?" Not only is Dan now engaged in his therapeutic journey, but critical information has been gathered that provides both Dan and his care team with realistic expectations; an individual assessment and plan of care is created. By establishing better goals and realistic expectations, the therapist discovers Dan is motivated by his grandson, his love of baseball, and has barriers including fear of falling and pain from knee arthritis. Understanding Dan's goals now extends beyond returning him to baseline, towards a focus of building reserve and resiliency so he can continue to attend his grandson's baseball games for years to come.

To motivate Dan to initiate incorporating exercise into his daily routine, use the "show don't tell" approach. Instead of extended education and suggested exercise, clinicians can design a workout that mimics demands of Dan's meaningful goal, takes into consideration objective testing results, pain, fear, and his being a novice to exercise. The workout is designed with his input, ensuring appropriate monitoring, dosage, and intensity. Intensity can be measured and easy implemented with valid and reliable tools such as the RPE scale or Talk Test.[8] Clinicians can feel comfortable putting Dan through exercise given he is medically stable and is without contraindications.[9] Further, high levels of exercise intensity even in the ICU and inpatient rehab with patients who are ventilated or post ventilation have been found to be safe.[10] Dan completes the workout in Table 1. The goal is to give Dan a dose of a *fitness forward provider's medicine* — movement — to show him what he is capable of and get buy-in to continue working with therapy.

The last step in ensuring Dan is set up for success is handing him off to the next provider. Complete and accurate communication among the entire care team is critical; information sharing failures are associated with rehospitalizations.[11] Involving Dan's entire care team and, most importantly, his caregiver/family in his discharge planning ensures complete and accurate information sharing. Further, he will be more likely to comply with exercise if a partner is involved.[12] A recommendation is made for Home Health PT only after ensuring that he is considered homebound per CMS and that he is agreeable to home health expectations. Dan and his caregiver are given a handout of the home exercise workout to be performed with 1 or 2 progressions. They are also given a written sheet to give to the next therapist that shows results from objective testing and his meaningful goal(s). Dan is passed to a specific company or therapist knowing the next clinician will be speaking the same language and practicing with the same philosophy.

Home health

As Dan transitions home, he will naturally increase his level of activity[13] but may continue to struggle with sedentary behavior because of his hospitalization. Home health clinicians serve a valuable role in mitigating the development of sustained sedentary behavior, educating about chronic disease management, and encouraging a return to an exercise program.

It is crucial to manage sedentary behavior at the start of care. Reducing sedentary behavior will have positive implications on Dan's physical function.[14] This can begin

Table 1. Acute Care to Community

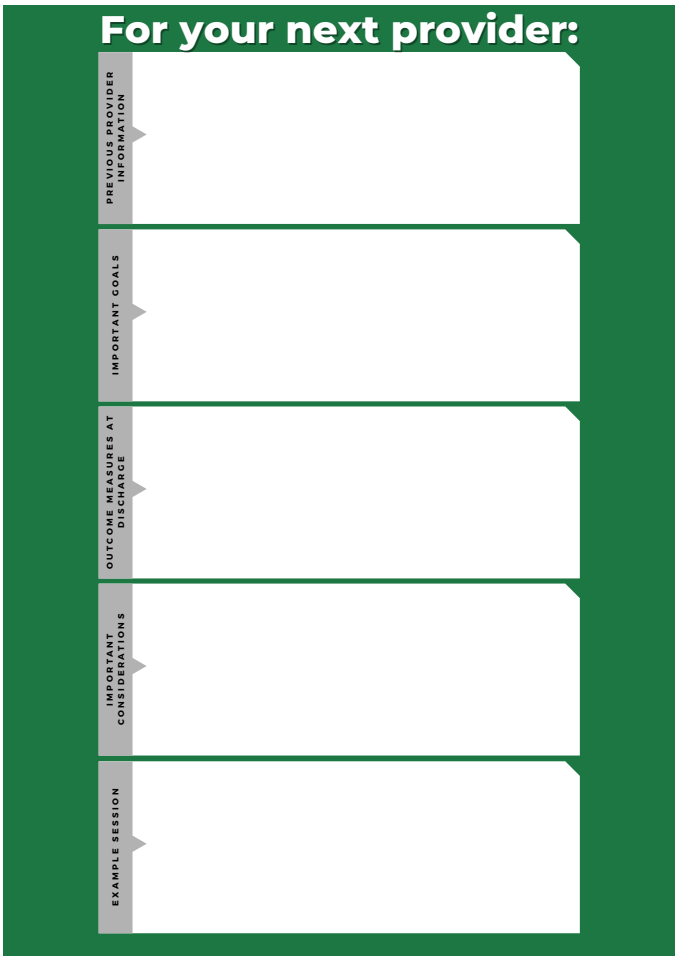
Acute Care	Home Health	Outpatient	Fitness
6 minutes of a continuous effort: 3 sit to stands 10 theraband resisted step down RPE 7/10	10 minutes of a continuous effort: 10 step ups on staircase with bilateral upper extremity support Walk around house 5 sit to stand from low couch RPE 6-7/10	Every Minute on the minute for 4 rounds: (16 minutes effort) Min 1: Step ups with single UE support Min 2: walking over uneven ground Min 3: low sit to stands with 5# Min 4: rest with deep breathing (utilize for patient education). Finisher: floor transfer training	5-15 min bouts of effort with breaks Dynamic Walking Warm Up & Practice All Movement Options Strength Super Set: 5 x 90 second intervals 10 Step Ups 5 Push Ups Box Workout: 12 min continuous effort: 6 Air Squats 12 Jumping Jacks 24 Marches Eyes closed

with the introduction of "movement snacks." Movement snacks can include performing 5 sit to stands each time the TV show changes, walking one extra lap before going to the bathroom, performing 10 push-ups as coffee brews in the morning. These types of activities help to break up long bouts of sitting time, but do not help the patient meet established ACSM exercise guidelines for strength and endurance training. Despite this, movement snacks can serve as an appropriate entry into a fitness forward lifestyle. Taking Dan's goal into consideration, the home health clinician can give him movement snacks involving taking the long way around the house to get to the kitchen or bathroom to increase his step count and improve his ability to navigate the baseball fields. It would also be valuable to encourage Dan's caregiver to include Dan in all daily activities. Instead of getting the mail for Dan, they can walk together to the mailbox and begin to build back Dan's capacity for movement. It is important to gain perspective into Dan's efficacy for exercise. The Self-Efficacy for Exercise Scale is a reliable tool for older adults to learn about factors that would impact a person's ability to exercise.[15]

Educating Dan about chronic disease management is necessary, alongside exercise, to reduce the risks of rehospitalization and encourage self-efficacy in his health behaviors. Home health therapists are in an ideal position to incorporate health and wellness promotion into their practice.[16] They are privy to social and environmental constructs that may impact implementation of health promotion behaviors and offer more effective and targeted solutions. Together with Dan and his caregiver, they can work on areas of nutrition, sleep, physical activity, and stress. Each area can impact Dan's health by improving pain related to osteoarthritis, risk of recurrent UTIs, and prevent further progression of his hypertension. The most critical factor to implementing education interventions is appropriate assessment and reassessment. Home health therapists can perform assessments to establish appropriate baselines, provide treatment interventions, and continually reassess to determine the efficacy of the educational interventions.

Dan will continue to need a fitness forward approach with his exercise interventions. Optimal dosage and intensity of activities is key for continuing his progression of strength and endurance to meet his goal of going to his grandson's baseball game. An appropriate progression of his program from acute care is shown in Table 1. Utilization of rate of perceived exertion can help to dial in intensity and ensure underdosage is not a problem.

The next hand off is crucial to continue to lead Dan to the land of fitness. Though Dan is no longer appropriate for home health therapy due to returning to an "acceptable" baseline, he could still benefit from outpatient therapy to maximize his improvements and far exceed the baseline that landed him in the hospital in the first place. The home health therapist can make meaningful connections with like-minded outpatient therapists to seamlessly transition Dan to their care. Much like the transition from acute care to home health, Dan should be given a paper to hand off to his new therapist listing his important goals, objective assessments at discharge, and a list of exercises he was performing during therapy. This will limit the "ramp up" time that the outpatient therapist may need and can more effectively dose exercises from the first visit.



Outpatient rehab

Dan's discharge from homebound status means he is ready for the community. He is fearful of falling and worried he won't be able to get up from seats without armrests. The outpatient (OP) therapist looks over his handoff paper and notes he has a goal with a set deadline approaching.

First step: tell the good news. "Dan, you walked into the clinic, to the evaluation room without a break! You stood from the chair without help. You've done 10 minutes of effort with your therapist at home. I look forward to guiding you through continued progress! Dan, you've got this!"

He is making significant progress in moving from sickness to fitness. The handoff paper suggests it is time to move to the Mini-BESTest which will identify Dan's

balance deficits.[17] Including another measure, gait speed reserve, or the 2-minute walk test is beneficial in assessing Dan's functional capacity. To gain insight into Dan's perspective the Patient Specific Functional Scale and Activities Balance Confidence Scale will be valuable.[18] By assessing Dan's fear with objective outcomes, it is possible to create more meaningful interventions.

The outpatient clinician can then progress Dan's workout that has followed him from acute care. The progressions are noted in Table 1. It is important to continually reassess Dan's strength outcome measures, including estimated one rep maximums, to ensure proper dosage of interventions. Strength training should be meaningful and fun to Dan and incorporate his important goals. Engaging Dan in activities, likely related to baseball, will have profound impacts on the perception of his fear of falling, reducing fall risk.[19] Improved confidence and a new found sense of ability achieved through "return to sport" can have a huge impact allowing Dan to have a greater life space mobility and be an active participant in his life.[20]

As Dan continues to improve and his limits are being tested with his strength, it is important for the outpatient therapist to consider his chronic knee pain. This appears to be an issue influenced by strength and range of motion factors, but also lifestyle factors. The outpatient therapist has an excellent opportunity to dig into lifestyle behaviors such as nutrition, sleep, and activity levels to further optimize Dan's function.

From day one of outpatient therapy, it should be clear that Dan will be moving. As credibility is gained the therapist will make a defined path to a fitness community. The therapist should be setting expectations throughout the plan of care to find an appropriate exercise program in the community for Dan.[20] This will look like continual conversations making the connection between an active lifestyle being a bridge to more meaningful participation in daily activities and beyond. It would be wise to have Dan trial a fitness class before being discharged from outpatient therapy to ensure an appropriate fit and to begin to establish self-efficacy for exercise on Dan's part.

Through outpatient therapy, Dan now believes he can maneuver the stadium bleachers and still have the capacity to return to his vehicle safely. He is starting to wonder what else he may be capable of doing. The clinician can send Dan off to his destination, the land of fitness.

Fitness

Dan is unbelievably nervous about even thinking of going to the gym; he's never been a "gym guy." It is now clear to him that if wants to take his future into his own hands he must find a safe place to exercise. His outpatient PT referred him to a gym that is safe, effective, and told him group fitness tends to stick better than going it alone.[21,22] He thought it was cool that the gym serves people like him and offers the first class for free, so he gives it a shot.

After a warm introduction by a coach and several members he begins to feel a little more comfortable. His coach explains today's workout plan, shows him multiple options for each movement, and he gets to choose. He is delighted to see that some of the options look familiar to him, but also sees some movements that he can't yet do. He feels confident that on his path to fitness he will be able to do them in the future. Dan notices there is cheering, celebration, and encouragement throughout the workout. After a challenging strength superset, rest break, and a second workout -- before he knows it class is finishing up with a cool down and stretching. Members are congratulating him on his first workout, asking if they will see him tomorrow. He feels like the end of outpatient therapy looked very similar to this fitness class.

Dan thinks to himself, "I think I can do this! I can take control of my health. Maybe this exercise thing isn't all bad."

References

1. Okoro CA, Hollis ND, Cyrus AC, Griffin-Blake S. Prevalence of Disabilities and Health Care Access by Disability Status and Type Among Adults — United States, 2016. *MMWR Morbidity and Mortality Weekly Report*. 2018;67(32):882-887. doi:10.15585/mmwr.mm6732a3
2. Kolk D, Melis RJF, MacNeil-Vroomen JL, Buurman BM, Hospital-ADL study group. Physical Resilience in Daily Functioning Among Acutely Ill Hospitalized Older Adults: The Hospital-ADL Study. *J Am Med Dir Assoc.* 2022;23(5):903.e1-e903.e12.
3. Cunha AIL, Veronese N, de Melo Borges S, Ricci NA. Frailty as a predictor of adverse outcomes in hospitalized older adults: A systematic review and meta-analysis. *Ageing Res Rev.* 2019;56:100960.
4. Dharmarajan K, Han L, Gahbauer EA, Leo-Summers LS, Gill TM. Disability and Recovery After Hospitalization for Medical Illness Among Community-Living Older Persons: A Prospective Cohort Study. *J Am Geriatr Soc.* 2020;68(3):486-495.
5. Anpalahan M, Gibson SJ. Geriatric syndromes as predictors of adverse outcomes of hospitalization. *Intern Med J.* 2008;38(1):16-23.
6. Silverman MN, Deuster PA. Biological mechanisms underlying the role of physical fitness in health and resilience. *Interface Focus.* 2014;4(5):20140040.
7. van Munster BC, Boot GG, Festen S, de Rooij SE. Goals and outcomes of hospitalised older people: does the current hospital care match the needs of older people? *Intern Med J.* 2022;52(5):770-775.
8. Reed JL, Pipe AL. The talk test: a useful tool for prescribing and monitoring exercise intensity. ***Curr Opin Cardiol***. 2014;29(5):475-480.
9. Fletcher GF, Ades PA, Kligfield P, et al. Exercise standards for testing and training: a scientific statement from the American Heart Association. *Circulation*. 2013;128(8):873-934.
10. Wernhart S, Hedderich J, Wunderlich S, et al. The Feasibility of High-Intensity Interval Training in Patients with Intensive Care Unit-Acquired Weakness Syndrome Following Long-Term Invasive Ventilation. *Sports Med Open.* 2021;7(1):11.
11. Liebzeit D, Rutkowski R, Arbaje AI, Fields B, Werner NE. A scoping review of interventions for older adults transitioning from hospital to home. *J Am Geriatr Soc.* 2021;69(10):2950-2962.
12. Naseri C, Haines TP, Morris ME, et al. Factors Affecting Engagement of Older Adults in Exercise Following Hospitalization. *J Geriatr Phys Ther.* July 2022. doi:10.1519/JPT.0000000000000355
13. Kirk AG, Behm KJ, Kimmel LA, Ekegren CL. Levels of Physical Activity and Sedentary Behavior During and After Hospitalization: A Systematic Review. *Arch Phys Med Rehabil*. 2021;102(7):1368-1378.
14. Sardinha LB, Santos DA, Silva AM, Baptista F, Owen N. Breaking-up sedentary time is associated with physical function in older adults. *J Gerontol A Biol Sci Med Sci.* 2015;70(1):119-124.
15. Resnick B, Jenkins LS. Testing the reliability and validity of the Self-Efficacy for Exercise scale. *Nurs Res.* 2000;49(3):154-159.

16. Bezner JR. Promoting Health and Wellness: Implications for Physical Therapist Practice. *Phys Ther.* 2015;95(10):1433-1444.
17. Yingyongyudha A, Saengsirisuwan V, Panichaporn W, Boonsinsukh R. The Mini-Balance Evaluation Systems Test (Mini-BESTest) Demonstrates Higher Accuracy in Identifying Older Adult Participants With History of Falls Than Do the BESTest, Berg Balance Scale, or Timed Up and Go Test. *J Geriatr Phys Ther.* 2016;39(2):64-70.
18. Mathis RA, Taylor JD, Odom BH, Lairamore C. Reliability and Validity of the Patient-Specific Functional Scale in Community-Dwelling Older Adults. *J Geriatr Phys Ther.* 2019;42(3):E67-E72.
19. Young WR, Mark Williams A. How fear of falling can increase fall-risk in older adults: applying psychological theory to practical observations. *Gait Posture.* 2015;41(1):7-12.
20. Khodadad Kashi S, Mirzazadeh ZS, Saatchian V. A Systematic Review and Meta-Analysis of Resistance Training on Quality of Life, Depression, Muscle Strength, and Functional Exercise Capacity in Older Adults Aged 60 Years or More. *Biol Res Nurs.* August 2022:10998004221120945.
21. Prevett C, Moncion K, Phillips SM, Richardson J, Tang A. Role of Resistance Training in Mitigating Risk for Mobility Disability in Community-Dwelling Older Adults: A Systematic Review and Meta-analysis. *Arch Phys Med Rehabil.* April 2022. doi:10.1016/j.apmr.2022.04.002
22. Beauchamp MR, Ruissen GR, Dunlop WL, et al. Group-based physical activity for older adults (GOAL) randomized controlled trial: Exercise adherence outcomes. *Health Psychol.* 2018;37(5):451-461.

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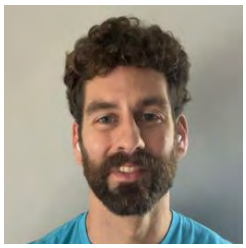

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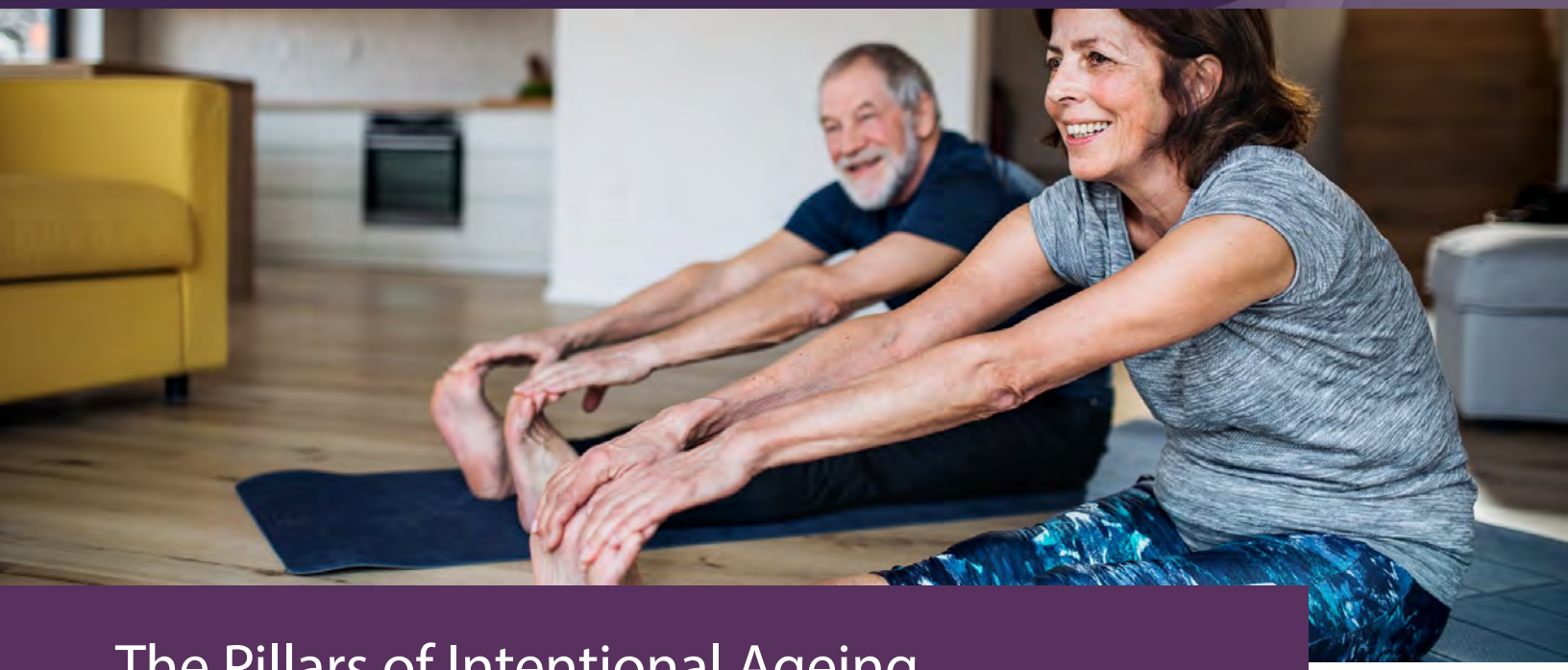


The Pillars of Intentional Ageing

by Matthew Sahhar PT, DPT, GCS

"There's a difference in living and living well."[1] This highlights that life is more than simply existing and expanding one's chronology. Much work can be done by physical therapists to both improve quality and chronology of the patient experience. These efforts lie significantly in the ability to manage and prevent disability and promote healthy behaviors. Currently, a dichotomy exists within the lens that disability is viewed. The medical model of disability is one in which the goal is to explain and treat structural impairment, system asynchrony, and ultimately provide resolution to patient complaints.[2] It further explains disability because of impairments: pain, weakness, fatigue, confusion, gait abnormality, are common impairment examples. This model is responsible for astounding technological advances in surgical, pharmacological, and rehabilitative intervention. However, it can be criticized that this "search and rescue" method view of disability leaves patients with the feeling that they are only ever one surgical procedure, pill, or lab result away from reaching their desired functional capacity. The medical model is juxtaposed with the social model of disability in which patient physical/cognitive/emotional impairments are not deemed responsible for disability, but rather society's lack of social acceptance and environmental barriers are what results in their disability.[3] It can be argued that the social model of disability provides a wider lens into an individual's function and the many environmental factors that surround patient presentation but that it too heavily places responsibility upon external factors which may or may not be changeable. A mainstream framework which addresses and values both perspectives is imperative. This framework should that not only support increased longevity of life but aim for a flourishing life well-lived. The Pillars of Intentional Ageing is a holistic framework which addresses and anticipates needs while removing barriers for patients in pursuit of optimal physical function, social prosperity, and personal-environmental autonomy.

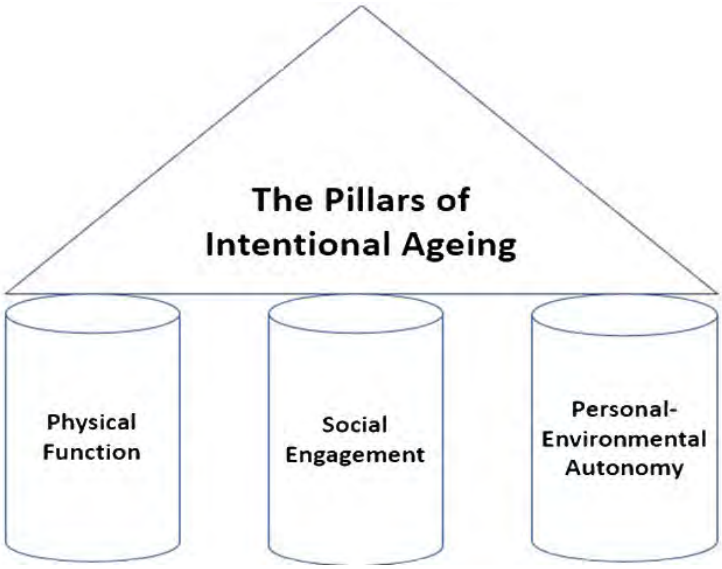
Intentional vs. successful ageing

Intentional ageing has many definitions, each of which may be understood or valued differently from person to person. To contrast intentional ageing from successful ageing, this framework proposes the definition of intentional ageing as "an individual's pursuit of carrying out desired life tasks despite physical, social, and environmental perturbations in the setting of acute, chronic, and progressive health challenges." This broad definition encapsulates the many facets and threats to patient quality of life and is unsurprisingly heavily represented in the Pillars of Intentional Aging framework. The notable difference between intentional and successful ageing lies in the emphasis on the journey versus the destination. It is impossible to create a criteria or benchmark that can capture whether an individual has reached success in ageing as the goalposts are constantly moving related to fluctuations in health status and many other factors. However, the ability to be deliberate in pursuit of a life well lived can be apparent to all.

It is critical that this framework be applied in a manner that looks beyond an individual's chief complaint and reason for referral to allow us to move away from a reactionary response historical physical therapy delivery. Opportunity for providing meaningful, insightful, and *billable* intervention is far beyond our current application. Furthermore, this framework is presented through the lens of geriatric care, but its application is by no means limited to this demographic. Similarly, it would be impossible to discuss the entirety of physical, psychological, intellectual, and emotional disabilities that are legitimate and deserving of our care; they are undoubtedly embraced by this framework.

Framework introduction

The pillars' relationship to intentional aging can be best understood as architectural columns that support that support a person's unique desires of fulfilling a life well-lived. This will obviously look quite different from patient to patient, the system benefits from its flexibility and responsiveness to unique personal desires. Since the product of intentional aging may look vastly different between people, it serves little value to provide an objective benchmark by which pillar robustness is graded. Simply put, the amount of chair rises in 30 seconds that an older adult performs could never capture the nuance to their personal quality of life. For this reason, I do not aim to provide objective cutoffs in which pillar resilience will be measured. Further, I aim for this framework to not necessarily change what *physical therapists* do, but *how we see*.



Motivational interviewing is a powerful tool to gain insight into both "what" is important to an individual and "how" they feel that they can get there. Promoting self-efficacy and shifting some creative burden onto each patient to best describe how to manage a barrier/challenge allows a more focused intervention strategy. With a wider lens into the entirety of patient presentation, physical therapists can become the champions of wellness and quality of life facilitators.

For discussion, these are the primary terms regarding pillar function. For this illustration, social engagement is a central pillar. However, this would not be the case for everyone as their goals, desires, and strengths vary.

Central Pillar — The subjectively reported most important and fundamental pillar to an individual's success and contributes most significantly to their quality of life.

Pillar Erosion — The gradual degradation in robustness and resilience of single or multiple pillars due to lack of active prevention, progressive decrease in overall activity, or new onset of a function limiting impairment.

Non-Load-Bearing Pillar — A minimally supportive component of an individual's overall success. This describes a facet of patient presentation in which the pillar provides minimal to no support to overall patient well-being.

Pillar Rejuvenation — Therapeutic, pharmacological, educational, surgical or any array of interventions aimed to improve the robustness of a pillar.

Physical Function Pillar

Identification and treatment of physical frailty is historically a strength of physical therapists. It appeals to our bias of "…optimizing movement to improve the human experience."[4] Fried et al identified and defined the criteria for the frailty phenotype. The traits of a frail individual are comprised of weakness, self-reported exhaustion, unintentional weight loss, slow walking speed, and low physical activity.[5] Although frequently discussed as synonymous with disability, it is a distinctly different and preventable phenomenon. These phenotypical features are independently predictive of fall recurrence, worsening mobility, decreasing ADL independence, rehospitalization, and decreased quality of life.[5] Combatting these factors with a typical ageing adult is challenging as these features can often present insidiously. Similarly, in the context of an older adult with concomitant disability, the challenge of combatting these features requires an even steadier hand and creative approach.

The cycle of frailty aims to explain the trajectory and reasons an individual may undergo a cascade of decreasing physical function[5]. Entry points at any area within the cycle can contribute to downstream impairments. The role of therapists in combatting physical frailty lies in understanding the cycle, anticipating the possibly entry-points within the cycle, and intervening, or seeking referral as needed.

Nutrition

The physical therapy profession is always searching for a more perfect intervention and optimization of care; we must also look to areas which are among the further reaches of our scope. Providing general nutrition guidelines and screening for appropriate intake is a grossly underutilized facet of our scope. It is apparent within the cycle of frailty that weight loss, decreased strength, reduced activity, exhaustion, and sarcopenia are all areas heavily influenced by nutrition. Malnutrition of older adults is also associated with increased mortality, infection development, and quality of life reduction .[6] Furthermore, regarding recovery and vitality, proper nutrition is among the most powerful tools that can promoted.

Physical activity challenges

It takes little imagination to consider the many impairments that may limit one's ability to perform physical activity and that contribute to sedentary lifestyle. Combatting physical frailty in the face of many barriers, it as though *the perfect* is the enemy of *the good*. The longstanding guidelines of 150 minutes/week of moderate intensity aerobic activity in conjunction with 2 days/week of resistance training no doubt provide protective measure against heart disease development, functional decline, cognitive deficits, and improve quality of life.[7] However, for individuals who are entirely sedentary, chronically deconditioned, or in debilitating pain, this exercise prescription is like summiting Everest. Research shows that among adults >65 years old: 52% do not meet the ACSM guidelines for physical activity, 16% report meeting the guideline, and 33% report no leisure physical activity whatsoever.[8] Individuals with a non-load-bearing physical function pillar, in which exercise and activity have little to no place in daily routine, the initial approach should be that any activity is better than no activity. A research study looking into the impact of standing time and overall function found that increased standing time of 2 hours per day resulted in significant improvements in HDL cholesterol, BMI reduction, improved cholesterol panel, and increased glucose stability.[8] This can be an incredibly powerful intervention and an easy and gradual off-ramp from the cycle of frailty for individuals able to stand. Putting this into context, for an individual who walks <500 steps/day the immediate goal should not be progressing them to 10,000 per day as even the suggestion may seem insurmountable. However, suggesting ways to improve step count 100-300 steps a day and gradually progressing from there seems much more manageable. These research studies certainly carry the bias of the ability to stand and walk and do not adequately capture the function of wheelchair users or patients who are non-ambulatory. However, the general message is fair to extrapolate; any movement is good and small victories can build towards desired goals and decreasing health risks.

Social Engagement Pillar

Interacting with the world, family, friends, and loved ones is for many people a central pillar. The importance of cultivating memories, fostering fellowship, and valuing each other's presence cannot be overstated. However, social interaction and engagement has historically been a blind spot for physical therapists. Significant value and stake into the "how" a person moves within their world is assessed and many times the PT evaluation has forgotten the "why." Focus on movement dysfunction has placed us in a unique position to address barriers to physical engagement with the world. However, the ability to mobilize unassisted, move without pain, or communicate without shortness of breath means extraordinarily little unless they are placed within the context of a social environment. Walking, transferring, sitting unassisted all are valuable activities to an individual because they allow them to engage socially. Addressing the barriers to social engagement is critical in the value of the entirety of the patient perspective and improving quality of life.

Social frailty is an emerging concept which is defined as "a continuum of being at risk of losing or having lost resources that are important for fulfilling one or more basic social needs during the lifespan."[9] The criteria that have been most researched and serve as defining characteristics of a socially frail individual are decreased helpfulness to others, limited social participation, loneliness, financial strain, and reduced availability of other individuals to talk to. Addressing barriers related to social interaction vs. physical function may be less explored territory for physical therapists; it is important to address many of the defining characteristics of social frailty and present possible ideas for navigating that barrier.

Helpfulness to others

Older adults and individuals with disability may have sustained an acute or chronic change in function in which the current version of themselves is a significant departure from the abilities and functions of what they were able to perform in a pre-morbid state. This dichotomy between current and previous function can create feelings of uselessness as the image in one's head of how a task must be performed, or how assistance to others can be provided, relies heavily upon the abilities and functions of the pre-morbid individual. As Movement experts, PTs, are poised perfectly to address ways an individual can uniquely perform tasks in the setting of new impairments. Person-centered goal writing and subjective inquiry into values and beliefs are paramount for success in this area. Although the individual may be accomplishing a task differently than they did previously, fostering an environment in which they can trial and error functional task performance can improve confidence and feelings of usefulness to others. This could be as simple as the ability to perform homecare tasks or require decreased caregiver assistance with transfers. Also, in the face

of considerable acute disability, an individual may not be able to return to prior work setting. However, with understanding of protections within the Americans with Disabilities Act we can advocate for reasonable work accommodations, address barriers that impede ability to perform work-related tasks, and recommend consultation with our valued rehabilitation partners in occupational therapy and speech language pathology accordingly.

Limited social participation

Countless possible impairments exist related to disability; physical therapy should focus on why an individual feels they are limited in participation. Common reasons an individual may feel limited or that they self-limit could be related to embarrassment regarding impairments, poor self-image, or feelings that they simply no longer fit into the social environment. Embarrassment regarding new onset of impairments could be related to insecurity regarding assistive device use, difficulty with maintaining conversational pace due to cognitive challenges, incontinence, and an array of others. Particularly with acute onset of disability such as may follow an amputation or stroke, friends or family may themselves be exceptionally challenged with how to interact socially with the newly disabled individual. This could create tension, awkward encounters, and a feeling of social dehiscence among both parties. Addressing all these barriers is within our grasp either directly or secondarily. Particularly with impairments related to self-image, PTs can reinforce an individual's ability to improve independence and exude confidence in achieving their self-described goals. Similarly, as it relates to a person's capacity and comfort with discussing their disability in a social setting, physical therapists are poised perfectly as experts on disability to educate an individual on medical and rehabilitative details so the person can explain the nuts and bolts while feeling confident in control of the narrative regarding their newly emerging image. Despite our role in addressing many of these issues, therapists cannot manage these tasks alone. It is critical to identify the appropriate timing for clinical psychology, psychiatry, occupational therapy, and other professional members to join the interdisciplinary team and make recommendations, as necessary.

Personal-Environmental Autonomy Pillar

The environment that we live in heavily influences our feelings of safety, happiness, and freedom. As we age, this environment may quickly change because of an acute destabilizing event. Loss of autonomy typically follows an acute event such as a fall or urinary tract infection resulting in a hospitalization, which topples or perturbs eroded pillars. Maximizing personal-environmental autonomy requires the union of 2 critical concepts- ageing in place and life space. Ageing in place is a concept in which an individual can safely age within their desired "home" location by modifying and anticipating environmental barriers or adding mobility aids needed. Equally important is the concept of life space; this is defined as "a novel and integrated measure of mobility that assesses the extent, frequency, and independence of individuals' movement within their environment."[10] Emerging research has found that life space is reliable predictor for hospital readmission, depression, poor physical capacity, and frailty. While an older adult frequently has many comorbidities and subsequent disabilities that can impact longevity, the measure of life space is found to be an independent risk factor for increased mortality and frailty. A leading hypothesis for this relationship is that as individuals spend more time within the home without venturing beyond its borders, the physical activity and subsequent cardiovascular fitness they would garner are significantly blunted. Research supports the life space concept. Men who were unable to venture outside their neighborhood are at a 28% increased risk of mortality over 2.7 years.[11] Life space is the largest predictor for hospitalizations and exacerbations in the geriatric COPD population[12]. This further highlights the predictive power of subjective inquiry and truly understanding the lived experience of the individual.

In some situations, restoring the ability of an individual to return to an optimal home environment may simply be beyond possibility. However, this does not allow abandonment of the personal-environmental autonomy pillar. Goals in this situation are to prevent undesired escalation of care and to improve the ability to move about and manage the environment that they are currently in, even if it is subjectively sub-optimal. This can include training of nursing/caregiver staff on transfer techniques or promoting the individual's ability to advocate for how they desire to be assisted. This allows the individual to have some degree of autonomy regardless of the environment in which they are placed.

An outpatient or private practice setting allows the therapist to focus on and address the trajectory of comorbidity/disability for the elder remaining in the desired home environment of a private residence. However, particularly for therapists working in an acute setting, instances may arise in which an individual has had a major destabilizing event in which foresight would be impossible. In these situations, implementation of the interdisciplinary team with speech therapy, occupational therapy, social workers/case managers, and physical medicine and rehabilitation physicians is of paramount value. It is not enough to educate that equipment and compensatory strategies exist. We must go further and advocate for obtaining the equipment, train on its use, and educate on its importance. This includes understanding and advocacy for protections under the Americans with Disabilities Act, educating patients on resources in the event of unfair restrictions, and recourse to ameliorate the impact.

Pillar interactions

"A rising tide lifts all boats." As robustness and strength in one pillar is improved, our opportunity to improve the others is expanded. However, this can work in the opposite direction as well. If ground is lost in one area, its impact may erode another pillar. The goal of this framework is to improve our ability as clinicians to draw parallels between superficially unrelated components and put them into context of intentional ageing. Cascades of depreciating function cannot always be entirely anticipated nor prevented. In these situations, our view should be aimed at limiting rapid collapse of all pillars and focusing on which areas have some foundational robustness and are the most important and realistic for the individual to rejuvenate. A simple example of how rejuvenation of the physical function pillar creates improvements in other pillars: As an individual improves the ability to ambulate without shortness of breath, they feel more confident in walking across the street to visit with a neighbor and engage socially. Rejuvenation in physical function expands life space and broadens social interaction. Unfortunately, reverse effects are also true: a fall may cause a rapid decline in physical capacity, a temporary loss of environmental autonomy while in a skilled rehab center, this transiently causes limited social engagement.

Conclusion

Moving beyond the reactionary history of physical therapy delivery, it is critical that a framework be applied in a manner that looks beyond an individual's chief complaint and reason for referral and aims to address the many factors that could potentially cause another destabilizing event while facilitating intentional ageing. It is important to note that it is not the role of therapy to correct every shortcoming within each pillar, but rather to serve as a switchboard operator. A physical therapist may not be the optimal practitioner to address the challenge. It must be understood that if an impairment or disability hinders intentional ageing, it is either our ability to holistically address this head-on or to refer and facilitate interaction with those who can.

References

1. Strait, G., 2001. Living and Living Well. [Online] Nashville: MCA Nashville
2. Verbrugge LM, Jette AM. The disablement process. *Soc Sci Med*. 1994 Jan;38(1):1-14. doi: 10.1016/0277-9536(94)90294-1. PMID: 8146699.
3. Owens J. Exploring the critiques of the social model of disability: the transformative possibility of Arendt's notion of power. *Sociol Health Illn.* 2015 Mar;37(3):385-403. doi: 10.1111/1467-9566.12199. Epub 2014 Dec 19. PMID: 25524639.
4. Vision Statement for the Physical Therapy Profession. 2019.
5. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, Seeman T, Tracy R, Kop WJ, Burke G, McBurnie MA; Cardiovascular Health Study Collaborative Research Group. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci*. 2001 Mar;56(3):M146-56. doi: 10.1093/gerona/56.3.m146. PMID: 11253156.
6. Toniazzo MP, Amorim PS, Muniz FWMG, Weidlich P. Relationship of nutritional status and oral health in elderly: Systematic review with meta-analysis. *Clin Nutr.* 2018 Jun;37(3):824-830. doi: 10.1016/j.clnu.2017.03.014. Epub 2017 Mar 28. PMID: 28392164.
7. ACSM's Guidelines for Exercise Testing and Prescription. Philadelphia: Wolters Kluwer; 2018.
8. Healy GN, Winkler EA, Owen N, Anuradha S, Dunstan DW. Replacing sitting time with standing or stepping: associations with cardiometabolic risk biomarkers. *Eur Heart J.* 2015 Oct 14;36(39):2643-9. doi: 10.1093/eurheartj/ehv308. Epub 2015 Jul 30. PMID: 26228867.
9. Bunt S, Steverink N, Olthof J, van der Schans CP, Hobbelen JSM. Social frailty in older adults: a scoping review. *Eur J Ageing.* 2017 Jan 31;14(3):323-334. doi: 10.1007/s10433-017-0414-7. PMID: 28936141; PMCID: PMC5587459.
10. Baker PS, Bodner EV, Allman RM. Measuring life-space mobility in community-dwelling older adults. *J Am Geriatr Soc.* 2003 Nov;51(11):1610-4. doi: 10.1046/j.1532-5415.2003.51512.x. PMID: 14687391
11. Valtorta NK, Kanaan M, Gilbody S, et al. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. Heart. 2016;102(13):1009–1016.
12. Iyer AS, Wells JM, Bhatt SP, Kirkpatrick DP, Sawyer P, Brown CJ, Allman RM, Bakitas MA, Dransfield MT. Life-Space mobility and clinical outcomes in COPD. *Int J Chron Obstruct Pulmon Dis.* 2018 Sep 4;13:2731-2738. doi: 10.2147/COPD.S170887. PMID: 30233163; PMCID: PMC6130264.

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What I Wish I Had Known Working with Older Adults

Reflection on Essential Clinical Skills for the Early Career Professional

by Kimberlyn Thomas, PT, DPT

The population of aging adults is projected to increase from 46 million to more than 98 million, rising from 15% to 24% of the U.S. population between 2014 and 2060.[1] With this ever-rising percentage, the likelihood of treating an older adult at some point within your physical therapy practice also increases, no matter the setting that you work in. As a new graduate who recently entered the field of physical therapy, I knew that I had a passion for working with older adults. What I didn't expect was how much I would learn from working with this population so early in my career. Now, almost a year from passing my boards and beginning my career in the clinic, I have reflected on all the tips and tricks I have learned along the way.

Treat the person, not the diagnosis

Body structure impairments, activity limitations, and participation restrictions - these are the components of the International Classification of Functioning, Disability, and Health (ICF) model that we follow as best practice when considering an assessment with an evaluation.[2] In my experience working with many different populations, taking these into consideration is important to not only an effective treatment, but also in developing rapport with the person. This is all the truer with older adults. Approaching treatment with a biopsychosocial approach is of high value and will lead to the best outcomes for you and your patient.[3] While some people are motivated by passing outcome measures and special tests, others just want to be able to live independently. The value of open-ended questions is an aspect of my care that I have found extremely useful when initially gathering information. I typically don't tell them why the doctor sent them; I ask why they feel like they need physical therapy. I often hear the phrases, "I can't do anything on my own" or "I can't do anything for fun anymore". However, after talking with them further and getting to know them more - past and present, we can identify hobbies and things they enjoy doing that we can work towards during our sessions. I have been able to see them light up in our sessions when they realize that I do value their wants and desires and that they are capable of more. Allowing them the space to identify their "fun" has been so beneficial in my practice to create that relationship with them and build their trust.

When an older adult comes in the pain, it's important to look at them as a whole person, rather than just what the referral says. Just like in younger populations, low back pain on the referral might also mean "hip pain, leg pain, and foot pain" which limits their function. Pain tends to be more complex in older adults, with approximately 60-70% of them reporting multiple sites of pain and >60% describing multiple types of pain.[3] With this in mind, I have found that treating someone with low back pain may look very different based on their comorbidities. A 40-year-old patient and 80-year-old patient walking into the clinic both with reports of chronic low back pain will look extremely different in my approach to the initial evaluation and overall plan of care. Other medical conditions, such as severe kyphosis from osteoporosis or advanced COPD, may limit positions that would be ideal for a given treatment, such as prone or sidelying. At first glance, this may appear like a barrier to treatment. It has been one of the most profoundly challenging and life-changing opportunities that has allowed me to grow as an early career professional to make physical therapy work for each patient, no matter their ability level.

Tapping into creativity

I have had to ensure that treatment sessions are relevant for each person with individual needs in mind; I don't get unnecessarily frustrated that they aren't able to do "standard" exercises that I would give a patient coming to me post-operatively. Specificity with activities and interventions is important to patient goals. I find myself having to be more and more creative to allow people to feel empowered with their exercises, rather than prescribing the traditional modes of strengthening. I have seen more value in teaching floor transfers to allow them to play on the floor with their grandkids, rather than making sure they can do 3 sets of 10 squats each session. Core stability interventions tend to involve supine positions – however, as mentioned before, not all patients are most comfortable in that position. A fun way to work on core stability and reactive postural control is playing catch in either sitting or standing. Adding conversation or dual task to the simple game can make it fun and challenging, such as naming a state that they've been to or a sport that they've played every time they catch the ball.

From day one, honoring the person's goals is an important piece of any initial evaluation but very important with older adults, as their goals may be unpredictable and simple. Being on the same page shows that you care, want what is best for them, and truly listen to what they have to say. Interventions like these may not always be taught in physical therapy schools; if they're meaningful for your patient, they should matter to you as well.

Yes, intensity matters here too!

While treatment specifics may look different, that doesn't mean that intensity does. Older adults often are underdosed with activity in fear of worsening symptoms or because they simply can't handle it.[1] However, just like any other condition, I have found that the importance of intensity makes all the difference in terms of recovery and prognosis. The CDC recommends 150 minutes of moderate intensity exercise or 75 minutes of vigorous intensity exercise, with 2 days of strength training and balance related activities 3 days per week.[4] Any older adult who googles "how much exercise do I need?" will find this on the CDC's website. It is our job as physical therapist and physical therapist assistants to help educate patients on the benefits of this. It is also our job to help them to gain an understanding of how to implement these recommendations into their daily lives. I often see patients twice a week initially, which checks off their strength training and balance-specific training days to initiate these physical activity recommendations. I encourage my patients to complete aerobic activity over specific strength exercises at home during the rest of the week to allow for the meeting of the remainder of their physically active minutes. I also work with them to adapt these recommendations based on comorbidities or physical limitations that they present with. Physical therapy professionals know that movement matters and reduces falls. We can show our patients that participating in this level of intensity of physical activity will reduce the risk of falls and improve the overall safety of their functional mobility.

Embracing the complexity

Working with older adults is one way to keep you on your toes. There's a strong stigma around working with older adults that "Oh, they can't do much, so it'll just be a pretty basic session". Treatment sessions with older adults, combined with polypharmacy and countless comorbidities, often ends up being anything but basic.[3] Consideration must be given to each medication's possible interactions, potential relationship to the symptoms that they are describing to you or other side effects (that they haven't mentioned), considering them "normal." Countless times I would type up a patient's medication list into a trusted site and find the exact severe side effects that they are experiencing. One person referred for dizziness and balance impairments reported that their doctors had diagnosed vertigo; they had experienced numerous falls within the last few months because of the dizziness. Despite a definitive diagnosis, they reported that hadn't seen any improvements in their symptoms with traditional treatment for vertigo, so they were sent to physical therapy. After completing various dizziness-related objective measures, nothing was quite adding up. They were dizzy when I wouldn't have expected them to be and not dizzy when I would have expected them to be. Finally, I looked at their medication list and realized that the medications they were on had a severe adverse reaction potential, the most common symptom presents as dizziness. I printed off my findings and gave it to the patient, explaining what I had found. This allowed them to take the information to their primary care physician (PCP), who was managing all their medications; adjustments were made in specific medications to prevent this adverse reaction. Within a week or two of the medication change, the patient had minimal to no dizziness. The residual physiological balance deficits from her episode were addressed with a few weeks of physical therapy; she returned to her daily life. Equipping older adults with this knowledge allows them to take evidence to their PCP or whoever is prescribing their medications to assist them in their quality of life.

I passed the NPTE. There's still more to learn?

When the incident I just described above happened, I had just hit the 3-month mark at my clinic during my first job as a new-graduate. I was just starting to feel comfortable as an early career professional in the outpatient physical therapy world without a clinical instructor watching my every move. This moment made me recognize the consistent need for continued education and learning post-graduation. During that patient's evaluation, when nothing was adding up, I was very frustrated. It wasn't like anything that I had learned in school. Once I took a step back to realize that there might be something bigger going on, however, I realized the source behind that person's symptoms and complaints. I didn't have the answer immediately for that patient on day 1 of the evaluation; I've learned that that's okay. I discussed this with other professionals to gain other opinions on the situation. I am blessed to be able to have other physical therapists and physical therapist assistants, occupational therapists, and speech-language pathologists at my clinic. Establishing relationships with other healthcare professionals has been extremely helpful for me. Good, thorough, interdisciplinary rehab provides best-practice care for the patients, making them feel seen and valued, irrespective of medical condition.

I recognize the importance of staying up to date with the most current research. Though I've just been out a year – I can feel how difficult that is. APTA Geriatrics provides tools to equip their members to maintain evidence-based practice while still having time to maintain a good work-life balance. Some of the tools that I have found useful are bimonthly journal clubs, webinars on a wide variety of topics, Special Interest Group membership, and many evidence-based documents to aid in my clinical decision making. Reliable and trustworthy continuing education classes are also available through APTA Geriatrics. Working with older adults doesn't have to be hard, but it's important to recognize the knowledge gap upon graduation and to realize where there's room to continue to

grow. Valuing lifelong learning isn't just good for you as a therapist, but also what is best for any referrals that walk through the clinic door.

Conclusion

It may sound more difficult to treat an older adult than someone younger, and in some ways, that's probably true. There's more life lived and history to be considered into treatment. Those biopsychosocial factors play an even more significant role in their progression with therapy.

All said, giving yourself a chance to really see an older adult for who they are, rather than just an age or another patient on your schedule, can make a huge impact on their relationship with you and their response to therapy. If you're anything like me, taking a second to slow down, listening to their perspectives, not only enhances your practice and makes you a better therapist, but also allows you time to remember why you chose this profession of helping to empower others, rather than just meeting productivity expectations.

References

1. Criss MG, Wingood M, Staples WH, 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.
2. Tiernan CW, Fleishman HA, Hiscox MA, Shaver SN, Stauffer CM, Thibodeau PAW. Factors Related to Self-rated Health in Older Adults: A Clinical Approach Using the International Classification of Functioning, Disability, and Health (ICF) Model. *J Geriatr Phys Ther.* 2019;42(2):86-97.
3. Miaskowski C, Blyth F, Nicosia F, et al. A Biopsychosocial Model of Chronic Pain for Older Adults. *Pain Med.* 2020;21(9):1793-1805.
4. How much physical activity do older adults need ... How much physical activity do older adults need? https://www.cdc.gov/physicalactivity/basics/older_adults/index.htm. Published April 6, 2022. Accessed April 27, 2022.

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Know When it Hurts - If They Can't Tell You

by Carmina Lagarejos Rafael, PT, DPT and Annalisa Na, PhD, PT, DPT

This clinical case commentary is part of content for the November 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: Coronado RA, Albers HE, Allen JL, Clarke RG, Estrada VA, et al. ***Pain-Reducing Effects of Physical Therapist-Delivered Interventions: A Systematic Review of Randomized Trials Among Older Adults with Dementia.*** *J Geriatr Phys Ther****. 2020;43(3):159-169.***

Pain, among older adults, negatively impacts physical function, mobility, safety, and independent living.[1] Assessing pain when clients are unable to verbalize or accurately express themselves due to cognitive deficits such as dementia or other neurologic deficits like expressive aphasia poses a major challenge in physical therapy (PT) evaluation and treatment.

The Pain Assessment in Advanced Dementia Scale (PAINAD) is a valid and reliable pain assessment tool for identifying and evaluating pain among those with cognitive and/or expressive deficits.[2] Such standardized pain behavior assessments can optimize chances to identify pain and evaluate associated benefits, or lack thereof, of PT sessions. The purpose of this case study is to highlight the use of the PAINAD during PT services for a patient with severe cognitive and communication impairments recovering from kyphoplasty while in a skilled nursing facility (SNF).

History of present illness

JA is an 86-year-old female admitted to a skilled nursing facility after kyphoplasty of lumbar spine (L2) vertebral spine compression fracture attributed to osteoporosis. Hospitalization and surgery were prompted by worsening pelvic and lower back pain for a few days; JA's caregiver also reported a recent fall. Post-operative precautions included the use of a lumbar spine orthosis (LSO) when out of bed. While in the hospital, JA was diagnosed with vascular dementia. She scored 6 out of 7 on the Global Deterioration Scale (where a 1 indicates no cognitive decline to a 7 indicates severe cognitive decline). This is interpreted as indicating a moderately severe dementia.[3]

Past medical history

In the previous year, JA experienced a cerebrovascular accident (CVA) with aphasia and right hemiparesis that resulted in right-sided foot drop mediated with the use of an ankle foot orthosis for ambulation. Additional diagnosed comorbidities include hypertension, hyperlipidemia, depression, atrial fibrillation, ejection fraction 60%-65%, lower extremity deep vein thrombosis status-post inferior vena cava filter, upper gastrointestinal bleed, gastroesophageal reflux disease, thoracic vertebral spine compression fracture s/p vertebroplasty, low back pain, osteoporosis, repeated falls, herpes zoster, and dementia.

Medications: Amlodipine, Lasix, Coumadin, Pregabalin, Atorvastatin, Omeprazole, Oxycodone acetaminophen PRN.

Social history, home environment and prior level of function (PLOF)

JA lives in a one-level condominium on the 10th floor that is accessible by elevators. Two regular private aides rotate within a 24-hour period and report that JA requires contact-guard assistance (CGA) to stand-by assistance (SBA) with:

- Functional mobility: bed mobility, transfers (sit to stand, toilet transfers with elevated toilet seat and grab bars), and ambulation using a small-based quad cane (SBQC).
- Activities of daily living: dressing, bathing, and grooming. JA has a walk-in shower with a handheld shower head, grab bars and shower chair.

Patient / Family Goals

JA has a daughter from out-of-state who is her health care power of attorney. She expressed desire for JA to be able to return home and be safely assisted by the private aides with no fall episodes.

Precautions

Spinal precautions, LSO when out of bed, osteoporosis, pain, falls, aphasia, dementia, cardiac, R hemiparesis with R AFO use wen ambulating. JA understands Spanish better than English, her private aide translates. Code status: full

Initial evaluation findings

- Vitals: Blood Pressure: 132/76; Pulse: 78-86 bpm; SpO2: 94%-97% on room air; Temperature: 97.5°F;

- PAINAD (Figure 1): 3/10 at rest; 10/10 with movement
- Cognition: Alert and oriented to name, but not to time nor place; Mini-Cog: 0/5
- Range of Motion of both Lower Extremities: Within functional limits
- Strength of Lower Extremities: Right: 2+/5 to 3-/5 hip and knee musculatures, ankle 2-/5 with footdrop; Left: 3/5 to 3+/5
- Functional Performance: (Table 2)
  - » Bed mobility: maximum assistance rolling side to side and supine<>sit
  - » Transfers: maximum assistance sit<>stand, stand-pivot, and bed<>wheelchair<>toilet
  - » Gait: totally dependent; one step attempt at the parallel bars with retro pulsive response
- Outcome Measures:
  - » Patient Driven Payment Model (PDPM) Section GG
  - » Elderly Mobility Scale (EMS)[4]: 0/20

Physical therapy (PT) treatment plan

JA participated in PT 6x per week for 30 days (26 treatment encounters) for an average of 45 minutes per session. In addition, she participated in activities with nursing, occupational therapists, and speech therapists.

PT interventions (Table 1)

- Therapeutic Exercises — Active-assisted to active cycling using motorized lower extremity ergometer while seated in wheelchair; progressive resistive exercises with ankle weights up to 3 lb. LLE and 2 lb. RLE; trunk stabilization and strengthening exercises with progressive elastic band resistance
- Therapeutic Activities / functional mobility training— bed mobility with rolling side to side and supine<>sit training; transfers training with bed<>w/c, sit<>stand, stand-pivot, and toilet transfers

Table 1. PT Interventions

Intervention	Types	Intensity		Time	Frequency
Therapeutic Exercises	Lower extremity ergometer	Levels 0-1 Level 2 Level 3		Week 1 Week 2 Weeks 3-4	5-6x/week
	Progressive resistive exercises – ankle weights	RLE 0 lb. RLE 1 lb RLE 2 lb.	LLE 2 lb. LLE 2.5 lb. LLE 3 lb.	Week 1 Week 2-3 Week 4	3-4x/wk
	Trunk strengthening progressed with elastic band resistance	Seated unsupported Yellow Red		Week 1 Week 2-3 Week 4	3x/wk
Therapeutic Activities Training	Bed mobility	Max Mod Min		Week 1 Week 2-3 Week 4	3x/wk
	Transfers	Max Mod Min		Week 1 Week 2 Week 3-4	6x/wk
Neuromuscular re-education	Standing weight-shifting	Parallel bars Hemi-walker Hand-held support		Week 1 Week 2-3 Week 4	4-6x/wk
Gait training	Parallel bars Hemi-walker Wide-based quad cane Hemi-walker	Max to mod Max to mod Mod Mod to min		Week 1 Week 2 Week 3-4 Week 3-4	5-6x/wk
Pain management	TENS with MHP followed by exercises	20 minutes duration		Week 1-4	6x/wk

- Neuromuscular Re-education / Balance training with focus on achieving midline stability and improving confidence —standing weight shift within the parallel bars with the following progressions: hemi-walker support on R side to handheld support.
- Gait training—within parallel bars with the following progressions: hemi-walker on R side; wide-based quad-cane attempted in training (noted with increased negative expressions and greater assistance needed due to lateral and posterior loss of balance that may be associated with fear of falling.
- Pain management – TENS unit with moist heating pad for 20 minutes; followed by manual therapy/ massage with menthol-based cream for about 6 to 8 minutes to the low back area. Pain management modalities were provided prior to functional mobility and gait training.

Discharge status

- Vitals: Within normal physiological variations for BP, HR, respirations
- PAINAD (Figure 1): 0/10 at rest; 4/10 with movement
- Strength of Lower Extremities:Right: 3-/5 to 3+/5 hip and knee musculatures, ankle 2-/5 with footdrop; Left: 4/5 to 5/5
- Functional Performance:
  - » Bed mobility: minimal assistance rolling side to side and supine<>sit
  - » Transfers: minimal assistance sit<>stand, stand-pivot, and bed<>wheelchair<>toilet
  - » Gait: minimal assist with hemi-walker x 75 feet, retropulsion response with posterolateral loss of balance about 50% of the time
- Outcome Measure:
  - » PDPM Section GG: see Figure 2 Discharge
  - » EMS: 6/20, see Table 2

Assessment/discussion

Pain assessment among individuals with dementia and/or aphasia poses a challenge in the delivery of physical therapy.[5] This journal club article on Pain-Reducing Effects of Physical Therapist-Delivered Interventions resonates well among PTs delivering care in skilled nursing facility settings. Although evidence-based strategies to identify pain among people living with dementia who experience severe cognitive and/or communication have improved with the development of standardized measures to quantify pain behaviors, strategies for pain assessment remains complex. Pain can manifest as challenging behavior, but so can other unmet needs such as overstimulation, under-stimulation, hunger, voiding etc. Hence, the job of PTs extends beyond identifying pain. This includes differentiating challenging behaviors while assessing and characterizing pain (e.g., location, description, severity, etc.), treatment tolerance, and assessment of potential treatment benefits or the lack thereof. Aligning with the literature review by Coronado et al, the 3 included studies reported pre and post pain assessments using behavioral observation, which should be the minimal strategy for assessing pain including for people living with dementia.

In addition, this case report illustrates that standard of care for pain management extends beyond massage and passive range of motion. Specifically, the benefits that JA gained in this case study exceeded the functional and pain benefits (standard deviations) reported in the studies included in the systematic review. This is in part due to a multi-modal approach that prioritizes active and resistive exercises and not the sole use of passive treatments. Unfortunately, based on Coronado et al, prospective randomized control trials have yet to assess the effectiveness of PT delivered exercise for pain management among people living with dementia. Ellis et al[6] reported use of PT for pain management among residents with dementia. Abd El-Kader et al[7] reported using treadmill to improve quality of life among people with Alzheimer's disease. However, while both of those studies demonstrated promising outcomes, they were limited by study design (i.e., case – cohort and retrospective, or not delivered by PT) and excluded from Coronado et al.

Other systematic reviews on pain management for this vulnerable population continue to focus on passive and pharmacological interventions, which are often limited and can impose adverse risks that perpetuate additional

Table 2. Comparison of Levels and Outcome Measures

Case JA	PLOF	Evaluation	Discharge
Bed mobility	CGA	max	min
Transfers	CGA	max	min
Gait	CGA	TD	min
Distance / assistive device	100 feet / SBQC	0 feet / parallel bars	75 feet / hemi-walker
Elderly Mobility Scale	6 / 20	0 / 20	6 / 20
PAINAD	NT	10 / 10	4 / 10

Figure 1. **Pain Assessment in Advanced Dementia (PAINAD) Scale** 09/03/19 10/02/19

Items*	0	1	2	Score		Score
Breathing independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation.	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations.	2		0
Negative vocalization	None	Occasional moan or groan. Low-level speech with a negative or disapproving quality.	Repeated troubled calling out. Loud moaning or groaning. Crying.	2		1
Facial expression	Smiling or inexpressive	Sad. Frightened. Frown.	Facial grimacing.	2		1
Body language	Relaxed	Tense. Distressed pacing. Fidgeting.	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out.	2		1
Consolability	No need to console	Distracted or reassured by voice or touch.	Unable to console, distract or reassure.	2		1
			Total**	10	**	4

Figure 2.

Section GG Mobility Items (Assessment Item GG 0170***)

	Admission	Goal	Discharge	Item	Definition
A	2	5	4	**Roll left and right**	The ability to roll from lying on back to left and right side, and return to lying on back on the bed.
B	2	4	3	**Sit to lying**	The ability to move from sitting on side of bed to lying flat on the bed.
C	2	4	3	**Lying to sitting on side of bed**	The ability to safely move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.
D	2	4	3	**Sit to stand**	The ability to safely come to a standing position from sitting in a chair or on the side of the bed.
E	2	4	3	**Chair/bed-to-chair transfer**	The ability to safely transfer to and from a bed to a chair (or wheelchair).
F	2	4	3	**Toilet transfer**	The ability to safely get on and off a toilet or commode.
G	88	3	3	**Car transfer***	The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.
	Score "I" through "O" only if the client is walking				
I	88	4	3	**Walk 10 feet**	Once standing, the ability to walk at least 10 feet in a room, corridor, or similar space. If admission performance is not assessed, Skip to M (1 step (curb)).
J	88	4	3	**Walk 50 feet with 2 turns**	Once standing, the ability to walk at least 50 feet and make two turns.
K	88	4	88	**Walk 150 feet***	Once standing, the ability to walk at least 150 feet in a corridor or similar space.

6: Independent—Patient/resident safely completes the activity by themselves with no assistance from a helper.
5. Setup or Cleanup Assistance—Helper sets up or cleans up; patient/resident completes activity. Helper assists only prior to or following the activity.
4. Supervision or Touching Assistance—Helper provides verbal cues and/or touching/steadying and/or contact guard assistance as patient/resident completes activity. Assistance may be provided throughout the activity or intermittently.
3. Partial/Moderate Assistance—Helper does less than half the effort. Helper lifts, holds, or supports trunk or limbs, but provides less than half the effort.
2. Substantial/Maximal Assistance—Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
1. Dependent—Helper does ALL the effort. Patient/resident does none of the effort to complete the activity. Or, the assistance of 2 or more helpers is required for the patient/resident to complete the activity.

07: Resident Refused
09: Not Applicable—Resident did not perform this activity prior to current injury, exacerbation, or injury.
10: Not Attempted—Due to environmental limitations.
88: Not Attempted—Due to medical condition and safety concerns.

health issues.[8] In any patient population, especially with persons living with dementia, non-pharmacological solutions need to be prioritized in pain management. Physical therapists need to be at the forefront.

Utilization of exercises and physical activities (functional mobility and gait) preceded by passive methods (i.e., massage with menthol-based cream in combination with TENS unit and MHP for pain management) as in JA's case example, seemed to have pain-reducing benefits that facilitated participation and progress in functional outcomes. During PT, an improved EMS score to prior level (0/20 to 6/20) allowed JA to safely return to her own home while continuing to receive care with her familiar aides; this achieved the family goal.

Future research should consider evaluating exercise and physical activity for pain management among individuals with dementia. These interventions will need to be assessed with behavioral observation measures such as the PAINAD, which was beneficial when assessing JA's level of discomfort. The PAINAD was used to inform pain; however, we also took note of facial expressions that may also be associated with apprehension and fear of falling. At the time of discharge, JA's facial expressions and PAINAD scores reduced to near baseline ease while she improved movement quality, performance, activity tolerance, and overall confidence. These observations lead to additional considerations of whether behavioral responses were induced by fear and apprehension versus pain.

As characteristic of a case study, data is reported for one person, which limits generalization to other patients that may similarly experience pain and achieve similar treatment benefits. In addition, one behavioral observation was used to assess pain, which as discussed can be biased to other factors associated with challenging behaviors or similar behavioral expressions. The EMS is a reliable and valid measure, with established MCID[9] of 3 points distribution-based and 7 points criterion-based; JA demonstrated MCID progress. The Section GG of the PDPM showed improvements indicating benefits gained from skilled PT treatments, including pain management. Inability to effectively use other higher standard outcome measures for individuals with advanced dementia poses as another barrier to this case.

Overall, the use of PAINAD and the skilled PT pain management with other active interventions for JA yielded beneficial gains with mobility and function. Although JA did not meet her PLOF during SNF stay, her progress enabled her discharge home to her prior set-up of receiving aid from 24-hour formal caregivers. In addition, JA is expected to make additional gains, as home-health PT was recommended following discharge from SNF.

References

1. Covinsky KE, Lindquist K, Dunlop DD, Yelin E. Pain, functional limitations, and aging. J Am Geriatr Soc. 2009;57(9):1556-1561. doi:10.1111/j.1532-5415.2009.02388.x
2. DeWaters T, Faut-Callahan M, McCann JJ, et al. Comparison of self-reported pain and the PAINAD scale in hospitalized cognitively impaired and intact older adults after hip fracture surgery. Orthop Nurs. 2008;27(1):21-28. doi:10.1097/01.NOR.0000310607.62624.74
3. Reisberg B, Ferris SH, de Leon MJ, Crook T. The Global Deterioration Scale for assessment of primary degenerative dementia. Am J Psychiatry. 1982;139(9):1136-1139. doi:10.1176/ajp.139.9.1136
4. Nolan JS, Remilton LE, Green MM. The Reliability and Validity of the Elderly Mobility Scale in the Acute Hospital Setting. The Internet Journal of Allied Health Sciences and Practice. 2008 Oct 01;6(4), Article 5. doi:10.46743/1540-580X/2008.1213
5. Coronado RA, Albers HE, Allen JL, et al. Pain-Reducing Effects of Physical Therapist-Delivered Interventions: A Systematic Review of Randomized Trials Among Older Adults with Dementia. J Geriatr Phys Ther. 2020;43(3):159-169. doi:10.1519/JPT.0000000000000235
6. Ellis JM, Wells Y, Ong JSM. Non-Pharmacological Approaches to Pain Management in Residential Aged Care: a Pre-Post-Test Study. Clin Gerontol. 2019;42(3):286-296. doi:10.1080/07317115.2017.1399189
7. Abd El-Kader SM, Al-Jiffri OH. Aerobic exercise improves quality of life, psychological well-being and systemic inflammation in subjects with Alzheimer's disease. Afr Health Sci. 2016;16(4):1045-1055. doi:10.4314/ahs.v16i4.22
8. Achterberg W, Lautenbacher S, Husebo B, Erdal A, Herr K. Pain in dementia. Pain Rep. 2019;5(1):e803. doi:10.1097/PR9.0000000000000803
9. de Morton NA, Nolan J, O'Brien M, et al. A head-to-head comparison of the de Morton Mobility Index (DEMMI) and Elderly Mobility Scale (EMS) in an older acute medical population. Disabil Rehabil. 2015;37(20):1881-1887. doi:10.3109/09638288.2

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Lessons Learned when Implementing High-Intensity Functional Training (HIFT) Among Older Adults in the Skilled Nursing Facility Setting

by Nanami Mano, PT, DPT

The UPMC Centers for Rehab Services Geriatric Physical Therapy Residency Program is in Pittsburgh, Pennsylvania and was first credentialed in 2014. The program remains credentialed to date. The program is a 16-month program that provides licensed physical therapists with advanced training in examination, clinical decision making, and evidence-based interventions for the older individual. The program emphasizes evidence-based practice and facilitates the use of research and outcome measurements. The program is designed to advance the competent physical therapist through education, mentoring, and professional service into a board-certified specialist in geriatric physical therapy. To date, the program has a 100% graduation rate and a 100% pass rate.

High-intensity functional training (HIFT) has been shown to be safe to administer and improves functional mobility among older adults.[1-4] However, there is little research applying HIFT in the Skilled Nursing Facility (SNF) setting. Changes in reimbursement have led to shorter lengths of stay. Low-intensity rehabilitation is less effective as there may be few physiological or functional gains during a short period of time. A high-intensity rehabilitation framework, i-STRONGER, for SNF settings was created and studied by Gustavson et al.; findings suggest it is safe, feasible, and demonstrates improved patient outcomes with a shorter length of stay compared to usual care.[4] Research findings must be implemented clinically through knowledge translation to improve the quality of care.[5] During my SNF rotation as a resident, I used knowledge translation to trial HIFT interventions among older adults and determine solutions to implementation barriers.

HIFT was implemented with short- and long-term care residents with varying admitting diagnoses at a SNF in the Greater Pittsburgh area. Residents demonstrated a variety of functional and cognitive levels. This initiative was focused on 5 SNF residents that represented the heterogeneity of those admitted to a SNF (i.e. acute hypoxic respiratory failure, diabetic ketoacidosis, general weakness, benign paroxysmal positional vertigo, and status post fall); their responses to HIFT, barriers, and potential solutions to these barriers was reviewed. HIFT was incorporated into gait training (i.e. intensity determined by target HR 60-80% or RPE >5/10), balance training (i.e. loss of balance >20% of the time), and resistance training (i.e. 8-repetition max or RPE >5/10) per the guidelines set in the i-STRONGER protocol. Outcomes were indicated by length of stay, gait speed, BERG Balance Scale score, assistance level for functional mobility, and/or ambulation distance.

Like previous research implementing HIFT among older adults in SNF, this trial proved to be feasible and safe. Improvements in one or more outcomes were observed in the majority of residents. This initiative provided additional insight beyond what had been presented in previous research. My assessment of the barriers to implementation and possible solutions are indicated as follows:

Barrier 1: Lack of available equipment due to COVID-19 isolation restrictions. Early 2022, COVID-19 isolation restrictions were in place at this SNF in which residents were being treated in their rooms or on their floors. This led to lost time with residents when equipment was inaccessible or therapist had to return to the rehab gym to obtain equipment. **Solution:** It was beneficial to carry a pair of 5-pound ankle weights, gait belt, and resistance band of higher resistance throughout the facility in addition to equipment that will be used for treatment based on the needs of each resident.

Barrier 2: Difficulty identifying the level of intensity due to cognition. One of the people in this study had Alzheimer's disease; they had a difficult time identifying the level of intensity when asked for RPE. **Solution:** Use of target heart rate zones or talk test for aerobic exercises. I found that asking if an activity is "easy, medium, or hard" was also effective. This was also useful in residents who were on cardiac medication that blunted heart rate response and for determining intensity for balance activities.

Barrier 3: Some participants expressed concerns of being overworked. When increasing intensity, some resi-

dents would make comments such as, "This is hard, you don't understand my limitations!" These people typically had poor insight in their functional ability and were self-limiting, requiring encouragement as well as reassurance. **Solution:** After educating each person on the purpose and benefits of HIFT to improve their overall function, they were more agreeable to participate in HIFT. This was effective to set expectations early in their start of care with the goal to increase the potential for outcomes at discharge.

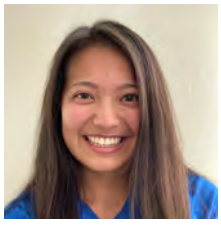
Barrier 4: Determining when to terminate HIFT for residents with progressive diseases and cancer. One of the participants had a stage IV ovarian cancer diagnosis and had difficulty tolerating therapy over the course of their stay; they were limited by extreme fatigue and decreased oral intake. **Solution:** HIFT can be implemented if adjusted and individualized to the resident's RPE level. However, it would be appropriate to terminate HIFT when the risk outweighs the benefits, as in this case, resident would benefit from reserving energy levels for functional tasks such as eating, completing transfers, visiting with family, etc. for the day. Rather than expending limited energy on HIFT, these activities were more important to them for their quality of life.

Barrier 5: Communication between clinicians. If another PT or PTA is covering for the primary therapist who works with a resident, HIFT may not be implemented without adequate communication and buy-in from the other therapists. **Solution:** For continuity, indicating the best method to determine intensity for the resident and target heart rate values in a section of documentation that is looked at often would be beneficial to improve communication between providers.

There is a great need for HIFT to be considered for effective intervention in the SNF setting limited length of stay and the risks of under-prescribing exercise in older adults. HIFT can be implemented to improve outcomes among older adults in the SNF settings. This can be accomplished by proper preparation, providing patient education on HIFT, and modifying plans and communication methods unique to each resident.

References

1. Toots A, Littbrand H, Lindelöf N, et al. Effects of a high-intensity functional exercise program on dependence in activities of daily living and balance in older adults with dementia. *JAGS*. 2016;64(1):55-64.
2. Stevens-Lapsley JE, Loyd BJ, Falvey JR, et al. Progressive multicomponent home-based physical therapy for deconditioned older adults following acute hospitalization: A pilot randomized controlled trial. *Clin Rehabil*. 2016;30(8):776-785.
3. Sahin UK, Kirdi N, Bozoglu E, et al. Effect of low-intensity versus high-intensity resistance training on the functioning of the institutionalized frail elderly. *Int J Rehabil Res.* 2018;41(3):211-217.
4. Gustavson AM, Malone DJ, Boxer RS, Forster JE, Stevens-Lapsley JE. Application of high-intensity functional resistance training in a skilled nursing facility: An implementation study. *Phys Ther.* 2020;100(10):1746-1758. doi:10.1093/ptj/pzaa126
5. Hudon A, Gervais M-J, Hunt M. The contribution of conceptual frameworks to knowledge translation interventions in physical therapy. *PhysTher.* 2015;95(4):630-639.



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Words Matter

What Does it Mean to Prescribe Strengthening Exercise?

by Wendy K. Anemaet, PT, MSPT, DPT, PhD; Carole Lewis, PT, DPT, PhD, FAPTA and Linda McAllister, PT, DPT

Words matter. We hear that phrase a lot and it rings true in many situations. It is especially true in physical therapy when we talk about strength training. How often is strengthening on a plan of care? Or participants are told the exercises they are given will make them stronger? Are we really doing strength training? Will those exercises really make them stronger? Physical therapists are supposed to be exercise specialists and should know best about how to help participants gain strength. When we don't, and even more so when we still talk about strengthening but our actions don't match our words (or our interventions don't match our plan of care), we are doing our participants, ourselves, and our profession a huge disservice.

Physical therapists who tell participants they are giving them strengthening exercises, then assign bodyweight exercise or very light resistance exercises (when individuals are capable of more) are not demonstrating their expertise as exercise specialists. There is nothing wrong with body weight/low-intensity resistance exercises. They can be quite effective for muscle initiation, task practice, and motor control. The problem occurs when they are called strengthening exercises but are nowhere near the right intensity to actually improve strength. Words matter.

Physical therapists and participants assume that strengthening exercises will result in strength gains. What happens when people don't get stronger after doing "strengthening exercises" that are not prescribed at a sufficient intensity? Many participants lose faith in the benefits of physical therapy. Former PT clients have told their doctors and families: "I tried physical therapy, and it didn't work." How often was that attributable to a mismatch between what the PT said they were doing — and what they were doing? Calling an activity "strengthening exercise" when it is not scientifically designed to increase strength also reinforces false stereotypes that older people are not able to improve muscle strength. Words matter. There is ample evidence that dramatic strength gains and functional improvements occur in older adults when strengthening exercise is prescribed correctly.[1-4]

Physical therapists who say they are treating muscle strength, when they are not, or who inaccurately prescribe strengthening exercises often do not get the gains they are expecting with their participants. This can result in loss of confidence in their skills, decreased job satisfaction, and burnout.[5] It also sets a poor example for student physical therapists and therapist colleagues; it perpetuates less than best practice regarding exercise. Words matter.

The incongruity of physical therapists saying they are prescribing strengthening exercise when the interventions do not reflect this is likely not intentional. Many colleagues do not know current evidence or best practices and fail to incorporate the science into day-to-day therapy delivery. Without a good understanding of strength training and dedication to providing best practices, physical therapists do not live up to their role as exercise specialists.

Strengthening exercises are designed to improve strength by overloading a muscle or group of muscles to the point of muscle fatigue.[6] The optimal load for strengthening persons who are older is 60-80% of their one repetition maximum (1RM) although some strength gains can be made with a load as little as 40% of the 1RM in individuals who are older and have not recently been doing strength training.[7]

The foundation for a good, evidence-based strengthening exercise is the 1RM.[8] It provides a baseline of strength from which to measure outcomes and determines the correct load for exercise to help patients reach their goal of strengthening. Fortunately, it is simple and takes only a few minutes to perform. A one repetition maximum is the amount of weight a person can lift one time and one time only through full range with good form.[9] If one pound more were added they would not be able to go through full range or would break form by compensating to lift the weight. If one pound less were used, they could perform more than one repetition of the exercise with good form. To determine a 1RM, incrementally add and remove weight as a person performs an exercise until the weight used is the most that can be lifted one time and one repetition only with good form through full range. This usually occurs within 2-5 trials.[10] Instead of determining a true 1RM, a prediction equation can be used.[11] This involves selecting a weight the PT feels the patient could lift with good form fewer than 20 times and asking them to perform the exercise with good form through full range as many times as possible. The repetitions are counted until the individual is unable to go through full range or breaks form. Then the number of completed repetitions and the weight used are entered into an online 1RM calculator or app to yield the predicted 1RM. There are many online 1RM calculators and apps using various prediction equations including the Landers,[12] O'Connor,[13] Bryznski,[14] Mayhew,[15] and others. Prediction equations demonstrate good reliability with the true 1RM[11] and are

an excellent alternative to save time and for individuals for whom performing a true 1RM may not be safe (i.e., persons with severe osteoporosis).

After determining the 1RM, correct exercise prescription for strength improvement involves selecting an intensity of 60-80%, prescribing the number of repetitions and sets, allowing for adequate rest periods, and detailing the optimal frequency. The best strength gains in older adults who are not currently resistance training occur at 60% of the 1RM for 4 sets of 12 repetitions with a 2–3-minute rest between sets performed 3 times a week on non-consecutive days.[7] The number of repetitions corresponds to the intensity or load used. The higher the intensity, the fewer the expected number of repetitions. A person exercising at 60% of the 1RM should be able to perform 12 repetitions, at 70% 10 repetitions, at 75% 8-9 repetitions, at 80% 7 repetitions, and at 85% 6 repetitions. Persons who are older and persons of any age who have heart abnormalities should not perform strength exercises above 85% 1RM because of the risk of Valsalva and serious cardiac consequences.[16]

The process of determining a 1RM for a muscle or muscle group and accurately prescribing an exercise that will improve strength and function takes less than 3 minutes. It is time well spent to ensure strength goal attainment with strong translation into improvement in functional activities.

As physical therapists, our words can be life-giving water, as refreshing as a bubbling brook (Proverbs 18:4). By embracing the role of exercise specialist and remaining up to date on current evidence and best practices, physical therapists ensure their words match their actions regarding strength training. This results in optimal treatment for patients, accurate expectations for both PTs and patients, realization of intended goals, and recognition of physical therapists as true exercise specialists. Words matter.

[Editor's Note: This is the first article in a series synthesized from lectures in the Great Seminars and Books courses]

References

1. Liu C, Latham NK. Progressive resistance strength training for improving physical function in older adults. *Cochrane Database of Syst Rev*. 2009. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002759.pub2/full.
2. Moura BM, Ruas CV, Diefenthaeler F. Influence of muscle strength gains on functional capacity improvements following resistance training in older adults: a linear mixed model approach. *Phys Occup Ther Geriatr*. 2021; 39(2):113-128.
3. Senthil P, Radhakrishnan R, Kumar PM, Sudhakar S. Effectiveness of Quadriceps Resistance Training on Physical Function of Elderly People. *J Clin Diag Res*. 2019; 13 (02): YC06-08. https://www.jcdr.net/ReadXMLFile.aspx?id=12613.
4. Santos PRPD, Cavalcante BR, Vieira AKDS, et al. Improving cognitive and physical function through 12-weeks of resistance training in older adults: Randomized controlled trial. *J Sports Sci*.2020; 38(17):1936-1942.
5. Bridgeman PJ, Bridgeman MB, Barone J. Burnout syndrome among healthcare professionals. *Am J Health Syst Pharm*. 2018; 75(3): 147-152.
6. Fragala MS, Cadore EL, Dorgo S, Izquierdo M, Kraemer WJ, Peterson MD, Ryan ED. Resistance training for older adults: Position statement from the National Strength and Conditioning Association. *J Strength Cond Res. 2019;* 33(8):2019-2052.
7. Peterson MD, Rhea MR, Sen A, Gordon PM. Resistance exercise for muscular strength in older adults: A meta-analysis. *Aging Res Rev. 2010;* 9:226-237.
8. Buskard ANL, Jacobs KA, Eltoukhy MM, et al. Optimal Approach to Load Progressions during Strength Training in Older Adults. *Med Sci Sports Exerc.* 2019;51(11): 2224-2233.
9. Rydwik E, Karlsson C, Frändin K, Akner G. Muscle strength testing with one repetition maximum in the arm/shoulder for people aged 75 + - test-retest reliability. *Clin Rehabil.* 2007; 21(3): 258-265.
10. Schroeder ET, Wang Y, Castaneda-Sceppa C, Cloutier G, Vallejo AF, et al. Reliability of maximal voluntary muscle strength and power testing in older men. *J Gerontol Biol Sci Med Sci*.2007; 62(5): 543-549.
11. Wood TM, Maddalozzo GF, Harter RA. Accuracy of seven equations of prediction 1-RM performance of apparently healthy, sedentary older adults. *Meas Phys Educ Exerc Sci*.2002; 6(2):67-94.
12. Lander J. Maximums based on reps. *Nat Strength Cond Assoc J*.1985; 6: 60–61.
13. O'Connor B, Simmons J, O'Shea P. Weight training today. St. Paul, MN: West, 1989.
14. Brzycki M. Strength testing: Predicting a one-rep max from reps-to-fatigue. *J Phys Educ Rec Dance*.1993; 64(1), 88–90.
15. Mayhew L, Ball TE, Bowen JC.. Prediction of bench press lifting ability from submaximal repetitions before and after training. *Sports Med Train Rehabil*. 1992; 3:195–201.
16. Hackett DA, Chow CM. The Valsalva maneuver: its effect on intra-abdominal pressure and safety issues during resistance exercise. *J Strength Cond Res*.2013; 27(8):2338-2345.

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