

GERINOTES

SECTION ON GERIATRICS, AMERICAN PHYSICAL THERAPY ASSOCIATION

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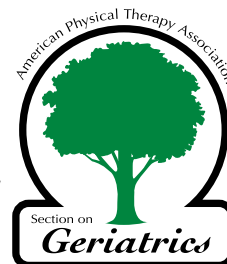
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PRESIDENT'S MESSAGE: RETIREMENT?

William H. Staples, PT, DHS, DPT, GCS, CEEAA



I play in an adult soccer league and many of the people on our team have been together playing for some time, first in an open league, then in over-30, over-40 and now over-50, as our speed and perhaps skills have eroded just a bit over time. We are now contemplating the inevitable over-60 league. Camaraderie, exercise for healthy aging, and release of a little testosterone are why we still participate. One of my teammates just turned 65 and we had a little party for him after a recent game. He was asked by several people either “when are you going to, or what are you going to do when you retire?”

Multiple discussions on this topic went on for a couple of hours, with the topic eventually becoming “can you afford to retire, when and if?” So naturally, a little factual investigation was needed. I first went to the USA.gov site¹ to see what they had to say and found a link, “Top 10 Ways to Prepare for Retirement,” that linked to the U.S. Department of Labor Web site.² Now I was expecting to see a variety of topics including health recommendations, living arrangements, etc., but in fact all 10 ways to prepare were financially based. I found a *Consumer Reports*³ report of 24,000 older subscribers from their National Research Center in 2010 that listed the following:

- “Overall, median net worth declined 18 percent. Our subscribers saw an average 11 percent drop in their retirement assets.
- Median net worth dropped 30 percent for those still working. In fact, 23 percent weren’t sure they’d be able to retire. More than half of those said they wouldn’t have enough money to live without working. Only 19 per-

cent of workers were highly satisfied with their retirement planning.

- Retirement isn’t always voluntary. Twenty-four percent of full-time retirees told us they had stopped working because they were made to, their health declined, or they no longer had the energy to work. Those retirees were less satisfied than others. Among the semiretired, 33 percent said they had to scale back from full-time work for the same reasons.
- Some people make plans based on incorrect information. Among subscribers who expected to retire early, 17 percent didn’t realize they’d collect less than their full Social Security benefit. Nineteen percent thought they could bridge the gap between employer-sponsored health coverage and Medicare with a privately purchased health-insurance plan, an option *Consumer Reports* has long criticized as inadequate, restrictive, and impossible for many to obtain or afford.”³

So preparation and planning are of utmost importance, we have all heard this before, I hope. But what makes age 65 the magic age to retire? Well, in fact it is quite an arbitrary age to say the least. Many of us think age 65 is the miracle age at which we become eligible for Medicare and Social Security. Begun in 1964, Medicare used age 65 when only 5% of the population lived that long. Now with 13% of the population reaching that age one can easily see how we got into the entitlement predicament. Changes to the current system are certainly a possibility, perhaps even requiring an older age to receive Medicare benefits.

In fact, *Consumer Reports*³ found that 14% would retire after age 70, some because they enjoyed work and others because they could not afford to retire. Now this might sound alright, but I personally believed this to be a biased sample. I would estimate the subscribers who answered the on-line survey

were better educated and have more resources than as a representation of the US population on the whole. A sample of the entire population would most likely reveal much higher numbers due to financial burdens.

If you are now expecting retirement saving advice I am afraid I’ll have to refer you to the experts. The real point of my column is to report the cost of health care, including the newly released cost of caring for people with dementia, released by the National Institute on Aging at NIH.⁴ “The costs of caring for people with dementia in the United States in 2010 were between \$159 billion to \$215 billion, and those costs could rise dramatically with the increase in the numbers of older people in coming decades.” Additionally, “adding informal, unpaid care to the equation as much as doubled the estimated total national costs for dementia care.”⁴ The study estimated full costs per case of dementia in 2010 at \$41,000 to \$56,000 per year. The Alzheimer’s Association reports that in 2012, 15.4 million caregivers provided more than 17.5 billion hours of unpaid care valued at \$216 billion.⁵

In conjunction, one must also realize that caregivers for patients with dementia may need to adjust work schedules to accommodate for their caregiving. Employed dementia caregivers indicate having to make major changes to their work schedules because of their caregiving responsibilities. Sixty-five percent said they had to go in late, leave early, or take time off; 20% had to take a leave of absence; and 11% had to quit completely.⁵ Other work-related changes pertaining to caregiving are taking a less-demanding job, turning down promotions, loss of benefits, and decreased job performance.⁵ These can all affect current and future income including social security benefits.

As physical therapists working with people with dementia, we need not only to be aware of the physical and emotional costs of caring for someone, but also

the financial burden of care. As health care professionals we need to learn about community offerings that provide free or subsidized assistance. This financial burden can lead to additional stress on the caregiver and may lead to extended care admissions, not that nursing homes are cheap. Many people end up going on Medicaid as their financial situation worsens.

Nursing homes are an expensive place to care for people. The national average daily rate for a private room in a nursing home was \$248 in 2012 (that is over \$90,000/year), while a semi-private room is \$222, up from \$239 and \$214 respectively in 2011.⁶ The national average monthly base rate in an assisted living community rose from \$3,477 in 2011 to \$3,550 in 2012.⁶

According to the Employee Benefit Research Institute,⁷ the average couple retiring at age 65 is expected to spend about \$300,000 out of pocket for health care alone during retirement. That number jumps to \$500,000 if both individuals live to 95. Honestly, who can afford these numbers? On top of all this, what will happen to Medicare and Social Security? Many people my age don't even realize that Social Security qualifications were already modified a few years ago. You do not receive 100% benefits until

age 66 if you were born between 1943 and 1954. Between 1954 and 1960 add a few months. If you were born after 1960, you cannot receive full benefits until age 67.⁸

According to *Consumer Reports*,³ "retired subscribers' satisfaction with their retirement reached a plateau when their net worth was between \$500,000 and \$1 million. Having more didn't make much of a difference. But notably, even among those who reported having less than \$250,000 in net worth, more than half were highly satisfied with their retirement if they were healthy. In addition, 38% of retirees said they depended on a defined-benefit pension for a significant portion of their income. Unfortunately, unless you work for the government, pensions have gone the way of the rotary phone. You'll need a 401(k), IRA, or 403(b) for that. The point of this column is not to scare you but to suggest we need to think about healthy aging, not only for ourselves but our loved ones and the patients we care for. Save more, save often, and plan to work longer years. Our patients who may develop a disability or chronic illness, or may need to provide care to a loved one, will lose income directly, lose the ability to add financial reserves, and use up saved resources earlier than expected.

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Interested individuals should electronically submit a cover letter (describing basis for interest and related skills/experiences) and current resume to our Executive Office (geriatrics@geriatricspt.org) no later than **July 15, 2013**.

EDITOR'S MESSAGE: SWEET SPRING

Melanie Sponholz, MSPT, GCS, CCEP, CHC



Spring has sprung! Every year when warmth creeps into the air, sunshine stays longer in the evening, and flower petals unfurl, I feel a little spark in my soul. It's the same feeling at 41 that it was at 16, which is in itself a reason to rejoice! It's a feeling that anything is possible, even probable. It is a feeling of resilience and hope. I would like to think this "spring fever" is universal; and I think we should capitalize on the positive energy for ourselves and our patients! Take every opportunity to take the action outside. We all know that walking on a treadmill is no match for a good walk outdoors. Let sunlight, warm breezes, and flowers be the motivation, and take advantage of the challenges of imperfect and unlevel surfaces. Let the changing scenery coax out longer distances. Throw in the added benefit of some natural vitamin D. Wear your pedometer and watch your numbers go up in concert with your patients' fitness levels! "Spring is your time is my time is our time." Enjoy!

"sweet spring is your
time is my time is our
time for springtime is lovetime
and viva sweet love

(all the merry little birds are
flying in the floating in the
very spirits singing in
are winging in the blossoming)

lovers go and lovers come
awandering awondering
but any two are perfectly
alone there's nobody else alive

(such a sky and such a sun
i never knew and neither did you
and everybody never breathed
quite so many kinds of yes)

not a tree can count his leaves
each herself by opening
but shining who by thousands mean
only one amazing thing

(secretly adoring shyly
tiny winging darting floating
merry in the blossoming
always joyful selves are singing)

sweet spring is your
time is my time is our
time for springtime is lovetime
and viva sweet love"

—E.E. Cummings

USE OF THE CONNECTICUT COLLABORATION FOR FALL PREVENTION (CCFP) PROGRAM WITH THE OUTPATIENT PHYSICAL THERAPY IMPROVEMENT IN MOVEMENT ASSESSMENT LOG (OPTIMAL): A CASE REPORT

Paul T. de Regt, PT, DPT, MS

ABSTRACT

Background and Purpose: Falls in the elderly population are a significant public health problem. Researchers have identified risk factors, screening tests, and fall prevention resources. Under the Medicare's new Claims-Based Data Collection Requirement, there is a need for an efficient evidence-based combination of intervention program and outcomes measure for use in an outpatient rehabilitation setting. The purposes of this case report are to describe the clinical use of the Connecticut Collaboration for Fall Prevention (CCFP) intervention program, to measure functional outcomes using the Outpatient Physical Therapy Improvement in Movement Assessment Log (OPTIMAL), and to apply Medicare functional G-codes and modifiers. **Case Description:** The patient is a 71-year-old female who presented with numerous fall risk factors and a primary diagnosis of gait imbalance. The intervention included exercises for balance and strengthening, and patient education. The length of stay was 10 weeks, composed of 17 individual physical therapy sessions at approximately 2 times per week. **Outcomes:** The patient showed an overall functional improvement of 19%, progressed through 4 out of the 5 levels in the CCFP balance exercise set, reported a decreased fear of falling, and continued with a self-directed wellness program post-discharge. **Discussion:** This case demonstrated positive outcomes using the CCFP and OPTIMAL tools, and the results suggest that this combination can be an appropriate fall prevention strategy to use in the outpatient physical therapy setting. Further research is recommended to evaluate this combination across a broad spectrum of fall-related diagnoses, and to determine the most effective methods

of encouraging clinicians to adopt this new set of fall prevention tools.

Key Words: fall prevention, functional outcomes, OPTIMAL, physical therapy, rehabilitation, Connecticut Collaboration for Fall Prevention, G-codes

BACKGROUND AND PURPOSE

Falls in the elderly population have been identified as a significant, and largely preventable, public health problem in the United States.¹⁻³ More than one in 3 adults aged 65 or over fall each year. Among this segment of the population, falls are the most common cause of deaths, non-fatal injuries, and hospital admissions due to trauma. In 2010, 2.3 million older adults were treated in emergency departments due to fall-related injuries. Of those, over 662,000 were admitted to the hospital. In 2009, approximately 20,400 older adults died from injuries sustained in unintentional falls. The average hospitalization cost for a fall-related injury in 2005 was estimated at \$17,500, and did not reflect post-hospitalization costs for home care, medications, and physicians.⁴ The financial impact of these falls in 2010 was significant: direct medical costs, adjusted for inflation, were \$30.0 billion.³ Projections for 2020 place this figure at approximately \$54.9 billion. This figure does not include many other social, psychological, and financial costs to patients, families, employers, insurers, and to society as a whole.

In a recent study conducted by the Connecticut Collaboration for Fall Prevention (CCFP), Tinetti et al showed that fall-related use of medical services in the greater Hartford, CT, area could be reduced through focused efforts to educate a wide range of people who have an interest in fall prevention.⁵ These stake-

holders included elderly citizens, physicians, physical therapists, adult day care centers, churches, legislators, home care agencies, pharmacists, assisted living facilities, emergency medical services, and emergency department clinicians. The study results showed an 11% decrease in fall-related use of medical services (ED visits and hospital admissions) during the 2-year study period. That 11% decrease translated into 1,800 fewer falls in the intervention area, and the study cites a cost savings of \$21 million in acute care costs, based on a 2002 estimated average cost per fall-related hospitalization of \$12,000.⁶

To address the need for clinical interventions designed to reduce the incidence of falls, several clinical screening tests are available to identify people at risk for falling, such as the Timed Up and Go, the Berg Balance Test, and the Tinetti Performance Oriented Mobility Assessment tests.⁷⁻⁹ In addition, researchers have identified risk factors associated with falls in the elderly. These risk factors, or health problems, may occur as a natural course of the aging process, or they may be related to a disease process or to the effects of an injury. However, as the number of health problems increases, the risk for falling increases. Table 1, drawn from Tinetti et al,¹⁰ details the relationship between falls and health problems present in older adults.

Common health problems identified by the CCFP, and which are known to be treatable, are shown below.¹⁰

- Problems walking or moving around
- Taking 4 or more medications
- Problems with feet or using unsafe footwear

Table 1. Risk of Falling Increases with Number of Health Problems Present

Number of Health Problems	Chance of Falling
0	10%
1	20%
2	30%
3	60%
4 or more	80%

- Becoming dizzy on standing up when the blood pressure drops too much
- Problems with seeing
- Presence of tripping hazards in the home

It follows that many falls can be prevented if the causative risk factors and health problems are identified and addressed appropriately and in a timely manner. To this end, research-based fall prevention resources have been developed for clinicians, and for the general public.^{2,5,11-13}

In order to bring this research into daily clinical practice, a dual challenge faces physical therapists: (1) how to incorporate an evidence-based intervention program into their clinical routine, and (2) how to evaluate the effectiveness of this intervention in a way that is efficient and is meaningful to each of the parties with an interest in fall prevention. These stakeholders might include patients, physicians, physical therapists, families, third party payers, hospitals, facility administration, elderly citizens at risk for falling, and the general public.

There are several studies that address the challenge of translating evidence-based fall prevention research into daily clinical practice.^{5,14-19} Of particular interest to the physical therapy community, however, is one study that looked at behavior change among outpatient physical therapists and provided insight into the barriers and facilitators of implementing fall prevention interventions into practice.¹⁴ In that study, Brown

et al¹⁴ presented a multifactorial fall prevention program to the clinicians and sought to learn how best to encourage them to adopt these evidence-based techniques. The authors suggested that a key predictor of behavior change was knowledge of the risk factors for falls and the fall-related practice behaviors exhibited by the physical therapists prior to the study's educational efforts. Brown et al¹⁴ found that knowledge of risk factors alone is not sufficient to generate behavior change in professionals. However, through their focused, multifactorial "hands-on" approach to informing the physical therapists about risk factors, the researchers were able to show an increase in use of fall prevention interventions in the clinic. The researchers provided therapists with ready-to-use materials, and worked to understand barriers to change among the therapists. Their efforts were successful, and this case report seeks to expand on those results.

It is suggested that, in addition to having knowledge and ready-to-use materials, physical therapists might respond positively if they had a valid, reliable, effective, and efficient way to show changes in their patients' functional status as a result of using fall prevention interventions. By linking an evidence-based functional outcomes measure to a fall prevention intervention in the clinic, physical therapists will be more easily able to relate a patient's health problems to the functional limitations which are the focus of a physical therapy Plan of Care.²⁰ This relationship might be illus-

trated in Table 2, which maps one of the key CCFP fall-related health problems shown above to the main categories of the International Classification of Functioning, Disability, and Health (ICF) disablement model.^{10,21} This mapping provides an excellent starting point for developing functional patient goals.

The World Health Organization defines the above ICF terms as follows²²:

Impairments: Health problems in body parts or in the functioning of body parts, such as a significant deviation or loss.

Activity Limitations: Problems a person may have in carrying out activities.

Participation Restrictions: Problems that adversely affect a person's success when involved in life situations.

Environmental Factors: The physical, social, and attitudinal aspects of peoples' lives.

Drawing in part from the ICF model of disablement, the Centers for Medicare and Medicaid Services (CMS) implemented a regulation that became effective on January 1, 2013. The CMS is placing an increasing emphasis on the cost-effectiveness of Medicare, including requiring clinical evidence of patients' functional gains in therapy. The new regulation is the Claims-based Data Collection Requirement for Outpatient Therapy Services--Section 3005(g) of the Middle Class Tax Relief and Jobs Creation Act (MCTRJCA) of 2012.²³⁻²⁵ Therapy providers must code each Medicare billing document with appropriate G-codes from the Healthcare Common Procedural Coding System (HCPCS) to provide details of the patient's functional status on the initial date of service, periodically during the course of treatment, and then at discharge. In addition, the G-code on the billing document must be accompanied by a two-letter Severity Modifier to indicate, in the therapist's judgment, the percent of impairment

Table 2. Fall-related Health Problem Mapped to ICF Activity and Participation Limitations

Health Problem	Impairment	Activity Limitations	Participation Restrictions	Environmental Factors
Osteoarthritis, bilateral knees	Persistent knee pain and weakness	Gait deficits, including decreased stair climbing ability	Decreased community mobility, with resulting progressive decline in strength	Decreased community socialization, with associated depression and anxiety

that the patient is experiencing. This percentage should be based on a valid and reliable outcomes measure. It is beyond the scope of this paper to describe this requirement fully. For an excellent summary of the requirements, please see the MLN Matters Article for Change Request (CR) 8005.²⁶ The Appendix to this paper also includes a list of G-code Short Descriptors, and a list of Severity Modifiers.^{27,28}

The purposes of this case report, then, are to expand on the study by Brown et al¹⁴ by describing a specific fall prevention program administered in an outpatient setting to an elderly patient, demonstrating concurrent measurement of the changes in the patient's functional status, and to show application of G-codes and modifiers. The CCFP fall prevention intervention program described in this report was developed by Tinetti et al.⁵ The outcomes tool described in this report is the Outpatient Physical Therapy Improvement in Movement Assessment Log (OPTIMAL).²⁹ A recent literature search revealed no peer-reviewed articles discussing the concurrent use of the CCFP program with the OPTIMAL tool in an elderly patient's course of outpatient physical therapy. This report documents the results of using these two clinical tools together. While this is not a randomized clinical trial, and no cause-and-effect relationship is implied, this report seeks to provide clinicians with a valid and reliable pair of clinical tools.

The clinical setting for this report is a hospital-based outpatient rehabilitation satellite office. The report used a retrospective design. It should be noted that this article is based on a Case Report originally written in 2008 as partial fulfillment of the requirements for a Doctor of Physical Therapy degree at Marymount University.³⁰ Accordingly, patient outcomes results presented here were obtained using the original OPTIMAL version, current as of 2008. The project was approved by the Institutional Review Board of Bridgeport Hospital, Bridgeport, CT, on April 10, 2008.

Fall Prevention Intervention Program

The CCFP program was chosen for this patient as a result of several fall-related health problems being identified during the initial evaluation, including

history of falls, fear of falling, multiple medications, and gait deficits.^{5,10} The CCFP was organized in order to encourage clinicians to adopt evidence-based fall prevention methods into their practice. Their study reported positive results in encouraging clinicians and the elderly population to adopt research-based fall-prevention measures. The CCFP study demonstrated translating evidence into daily clinical practice, and showed the effectiveness of these efforts through analysis of a large third-party database for the geographic areas studied. The study, however, was not designed to test the effectiveness of the CCFP program on individual physical therapy patients. The study used a multirisk-factor strategy whose principle components were 5 levels of competency-based progressive balance exercises coupled with specific risk factor identification and intervention. Tinetti et al reported that this strategy was found to be associated with reduced incidence of falls and with improvements in balance.¹ The fall prevention components of the CCFP program, balance exercises, and teaching handouts were developed for the Yale University School of Medicine falls prevention clinical trials conducted as part of a multisite project to study physical frailty and fall-related injuries.^{1,31,32} These materials have been assembled into an excellent workbook, *Falls Risk Assessment and Intervention: A Guide for Clinicians*.¹¹ The workbook and other related materials were used in the CCFP study, and are available from the CCFP.¹⁰ Based on a review of the workbook materials, which are substantially similar to those tested in a previous study, it was determined that this program would be appropriate to administer in an outpatient setting.^{33,34} The primary source of fall prevention intervention materials described in this report was the CCFP workbook.

Outcomes Measure

The outcomes measure used in this case report, the OPTIMAL, was developed by Guccione et al and the American Physical Therapy Association in 2005.²⁹ The stated objective of APTA in this project was to develop a valid and reliable tool that would be patient-centered, easy to administer in the outpatient setting, accurately reflect a patient's functional status at various points in an episode of rehabilitation

care, and provide evidence for the efficacy of physical therapy interventions. Guccione et al provided evidence of the validity and reliability in their study.²⁹ In 2012, OPTIMAL was revised and version 1.1 was made available to clinicians.³⁵ The updated version added a functional movement (standing), and, in place of the visual analog scale, added a single Primary Activity score in which the patient selects his or her single most important functional movement. In addition, APTA provided a new scoring methodology that converts OPTIMAL results to the impairment percentage figure necessary to apply the appropriate CMS G-code severity modifier,^{28,36} and a guide which maps the 22 OPTIMAL items to ICF categories.³⁷

OPTIMAL outcomes data are collected in forms that are designed to be filled out on admission by the patient, using a self-report format. Please see the Appendix for reprints of the OPTIMAL (v1.1) Difficulty and Confidence scales, and the OPTIMAL scoring instructions. The forms set consists of a demographic questionnaire, a baseline instrument to collect the patient's estimate of the level of difficulty in 22 specified functional movements, and a baseline instrument to collect the patient's estimate of the level of confidence in the same 22 functional movements. The confidence scale was included in order to elicit psychometric quality of life data. Each item is rated on a 5-point Likert scale. On the Difficulty scale, "No difficulty" is rated as "1," "Unable to do" rated as "5." On the confidence scale, "Fully confident" is rated as "1," and "Not confident" is rated as "5." A sixth choice, "Not applicable," is rated as "9" on both scales. The patient circles the appropriate number for each item. In addition, the patient is asked to select the top 3 most important activities from the 22 items. Of those top 3 items, the patient is then asked to choose a primary activity, which is the single functional item that is most important to address in physical therapy sessions. The 22-item scale is also divided into subscales. The subscales rate activities dependent primarily on trunk, lower extremity, and upper extremity function. The patient completes baseline difficulty and confidence ratings on admission, and follow-up ratings on discharge, which is completed without referring to the baseline ratings.

The forms may be used to document interim progress as well. Outcome scores can be derived from overall OPTIMAL raw data or from one or more of the subscales. Outcome results are determined by calculating a difference between baseline and follow-up scores. Please see the Appendix for computation details. The various scales may also be used to develop functional goals, with an OPTIMAL score change written as the measurable aspect of a goal. Table 3 shows the subscales available to further identify functional status.

The OPTIMAL tool has been accepted as one of the outcomes measures the Centers for Medicare and Medicaid Services recommends for providers to show evidence of functional gains made by therapy patients.²³ In addition, the National Quality Measures Clearinghouse, an agency of the U.S. Department of Health and Human Services which makes evidence-based quality measures widely available, provides a Measure Summary of the OPTIMAL tool on their Web site.³⁷

Several factors were considered in

selecting OPTIMAL for use with this patient. The tool is designed for the outpatient setting, it is easy to use, and the patient demographics described in this report fall within the range of demographic characteristics of the study participants.²⁹ Many of the identified fall risk factors have a functional component, and because the OPTIMAL tool is designed to identify functional status, many of a patient's daily activities that are affected by these risk factor areas can be specifically evaluated. In this way, as a patient's fall risk factors are improved through a fall prevention intervention, the patient's documented functional status might be expected to improve as well. The OPTIMAL tool is designed to capture this type of change. Accordingly, it was determined that the OPTIMAL tool would be appropriate to use with this patient. It should be noted that data collection occurred in 2007,³⁰ prior to the publication of OPTIMAL v1.1, so the 21-item scales were used and the scoring provided in this report reflects the original version.

PATIENT HISTORY AND REVIEW OF SYSTEMS

The patient was a 71-year-old female with a primary diagnosis of gait imbalance and a chief complaint of fear of falling. The patient's primary goals were to reduce her fear of falling, improve her stair-climbing ability, do her exercises with less pain, be more active with less pain in lifting/bending/carrying tasks, and be able to walk without her rolling walker. The patient provided her own past medical history, which was significant for several fall-related health problems, including history of falls, gait deficits, and multiple medications. In addition, the patient presented with chronic conditions such as multijoint osteoarthritis, degenerative disc disease, pseudo fibromyalgia, persistent back and lower extremity pain, breast cancer (status-post chemotherapy), weakness, osteopenia, total hip arthroplasty and subsequent fall-related hip fracture with surgical revision of THA, depression, anxiety, and multiple knee surgeries. The patient was taking more than 10 medications, including medications whose side effects are at high risk for fall-related adverse events,¹⁰ 4 of which are for pain. Her social history was significant for having a college education, being a retired professional, and living alone in an apartment in an assisted living facility. Her insurance was Medicare.

Review of Systems

Cardiovascular: SaO₂ on room air 95%, heart rate 82 beats per minute regular, respiratory rate 20/minute regular, not labored, no lower extremity edema noted.

Integumentary: Skin intact and pliable; well-healed surgical scars on bilateral knees; skin temperature and color within normal limits.

Musculoskeletal: Gross range of motion in upper extremities was within normal limits; lower extremities showed restricted knee flexion and hip flexion; gross strength was within functional limits in upper and lower extremities; body schema appears to be within normal limits.

Neuromuscular: Gross coordination intact, as observed in transferring to standing, then walking, with her rolling walker, from waiting area to therapy area.

Communication, Affect, Cognition, Learning Style: Patient was alert and

Table 3. OPTIMAL Baseline Instrument Showing Subscales

Trunk subscale	<ol style="list-style-type: none"> 1. Lying flat 2. Rolling over 3. Moving—lying to sitting 4. Sitting 5. Squatting 6. Bending/stooping
Lower extremity subscale	<ol style="list-style-type: none"> 7. Balancing 8. Kneeling 9. Standing 10. Walking—short distance 11. Walking—long distance 12. Walking—outdoors 13. Climbing stairs 14. Hopping 15. Jumping 16. Running
Upper extremity subscale	<ol style="list-style-type: none"> 17. Pushing 18. Pulling 19. Reaching 20. Grasping 21. Lifting 22. Carrying
Top-3 item subscale (Not included in follow-up scale.)	<p>From the above items, the patient lists the numbers of the three activities most desired to be accomplished without any difficulty.</p> <p>1. _____ 2. _____ 3. _____</p>
Primary Goal	

oriented to person, place, and time. She articulated her needs and expectations of therapy clearly and appropriately. She was able to learn through verbal and tactile input, and through visual images. She was willing and able to participate fully in her course of therapy.

EXAMINATION

Based on the patient's chief complaint, history, and systems review, the following tests and measures were conducted.

Functional Status: The patient's functional status was of primary concern to her, so the OPTIMAL tool was administered, which provided baseline functional data.

Joint Integrity and Mobility: Bilateral knees showed arthritic changes and decreased range of motion.

Range of Motion: Upper extremities were within normal limits. Left lower extremity was within normal limits except knee extension/flexion $0^\circ \rightarrow 90^\circ$, and hip extension/flexion $0^\circ \rightarrow 110^\circ$. Right lower extremity within normal limits except knee extension/flexion $0^\circ \rightarrow 110^\circ$, and hip extension/flexion $0^\circ \rightarrow 110^\circ$, with pain at end-range.

Muscle Performance: Upper extremities were 3+/5 to 4/5 (fair + to good). The patient complains of dropping items at times. A hand-held dynamometer was not available for grip strength testing. Lower extremities were 3+/5 to 4/5 (fair + to good).

Gait and Locomotion: The patient ambulated independently with a rolling walker. Her gait was characterized by decreased weight bearing on her right lower extremity, and a decreased step length bilaterally. She performed sit-to-stand transfers independently and safely from an arm chair to her rolling walker. She executed direction changes smoothly and accurately and with good control. She exhibited good command following.

Balance and Falls: The Timed Up and Go⁷ (TUG) was used as a fall risk assessment due to the presence of the patient's fall risk factors as detailed above. The patient's score when tested from an arm chair and using her rolling walker was 13 seconds. Her movements and direction changes were smooth, well-graded, steady, and without instability.

Posture: The patient exhibited a forward flexed trunk, and was flexed at the hips and knees.

Pain: The patient complained of chronic pain in the right hip, back, and bilateral knees. She characterized the pain as generally dull pain, rated as variable from 5 to 10 on a 10-point scale.

Reflexes: The patient exhibited intact biceps reflexes bilaterally, but patellar tendon reflexes were unable to be elicited bilaterally.

Sensation: The patient had intact sensation to light touch on all extremities.

Self-care and Home Management: The patient was a resident of an assisted living facility, so all of her meals were provided in the dining room. The patient reported that she was independent in all activities of daily living.

EVALUATION

Impairments and Functional Limitations

The disablement model used in this paper is the ICF, as described in Table 2. The patient's primary health problems were arthritic changes in both knees and hips, chronic pain in lower extremities and back, weakness of upper and lower extremities, decreased range of motion in lower extremities, and fear of falling. The patient's primary functional limitations included difficulty in ambulation with her rolling walker, difficulty ascending and descending stairs, and difficulty with bending and stooping to retrieve objects from the floor without loss of balance. The stair difficulty arose when she visited friends and relatives in the area. The patient's TUG score of 13 seconds was within the range for safe ambulation and did not, by itself, place the patient into an at-risk category for falling.⁷

Diagnosis

Based on the data detailed above, and criteria provided in the *Guide to Physical Therapist Practice* (2nd ed),²⁰ the patient was classified into Neuromuscular Preferred Practice Pattern 5A: Primary Prevention/Risk Reduction for Loss of Balance and Falling. The patient met several of the inclusion criteria for this pattern. She was further classified into two secondary patterns: Musculoskeletal Pattern 4H: Impaired Joint Mobility, Motor Function, Muscle Performance, and Range of Motion Associated with Joint Arthroplasty, and Musculoskeletal Pattern 4A: Primary Prevention/Risk Reduction for Skeletal Demineraliza-

tion. The overall clinical impression was that the patient was at high risk for a recurrence of falling, and that, given her osteopenia, another fall could result in another serious injury.

Prognosis and Plan of Care

The patient was cognitively intact and had excellent insight into her own risk for further injury from falling. She was quite able to take an active role in her plan of care and was eager to improve in strength and stability. In order to achieve her optimal level of function, a plan of care was developed.

The long-term goals for her first month of care were:

1. Able to ascend and descend one flight of stairs with less difficulty, as evidenced by a rating of "2" or "3" on the OPTIMAL Difficulty scale for stairs (OPTIMAL item # 13: Climbing stairs). [Baseline rating: 4].
2. Ability to squat to retrieve a 5-pound object from the floor without fear of falling, in order to pick up boxes in her apartment (OPTIMAL Difficulty item #5: Squatting). [Baseline rating: 5].
3. Able to bend or stoop in order to score "2" or "3" on OPTIMAL item #6: Bending/stooping. [Baseline rating: 4].

The initial long-term goals were met and new goals were developed for the second month of care, as follows:

1. Able to ambulate without rolling walker for 5 minutes, twice a day, hold a railing in the corridor for upper extremity support as needed. (OPTIMAL item # 11: Walking - long distance). [Baseline rating: 3].
2. Ability to progress to Balance Level III (OPTIMAL item # 7: Balancing). [Baseline rating: 4].

The patient had a good prognosis to achieve her goals and reduce her risk of falling. The plan of care included direct interventions for balance and fall prevention, patient education, gait training, strengthening, and aquatic therapy if available. Anticipated frequency and duration for delivery of the interventions were two times per week for two months, or approximately 16 visits. Per

the *Guide to Physical Therapist Practice*, 80% of patients classified into primary practice pattern 5A will achieve their goals within a range of 2 to 18 visits.²⁰ The patient's discharge plan was to remain in her existing social situation as a resident of an assisted living facility.

Factors which influenced this patient's episode of care included:

- Strong determination to succeed
- Age
- Social support and high level of cognitive functioning
- Co-morbidities noted above
- History of falls and fear of falling

Initial Functional Scoring

The patient's baseline OPTIMAL difficulty rating was 55. Her baseline confidence rating was 57. Using the APTA G-code scoring methodology,³⁶ these scores can be converted to a CMS Impairment Limitation Restriction percentage, from which the CMS G-code Severity Modifier can be applied.^{23,28} The difficulty score calculates to a 51% functional limitation and the confidence score calculates to a 54% functional

limitation. So, the most applicable initial G-codes and severity modifiers for this case are:

ICF Category: Mobility, Walking & Moving Around functional limitation:

G8978 Mobility current status

Current status severity modifier -- CK

G8979 Mobility goal status

Projected goal status severity modifier on discharge -- CJ

INTERVENTION

The duration of the patient's episode of care was 10 weeks, composed of 17 individual physical therapy sessions at two times per week. Her physical therapy sessions were 30 to 45 minutes long. The patient's therapeutic regime consisted of 4 elements: progression through the balance exercise set, patient education on fall prevention, strength training, and pain management assistance. In order to address the risk of falling, the CCFP fall prevention program was implemented. Please see Table 4 for details of the patient's episode of care.

1. Balance Exercises

- The balance exercise program is based on patients achieving a safe level of competency on each exercise and each exercise level, as determined by the physical therapist. There are 5 levels of difficulty in the program, with each level reflecting a decrease in support and an increase in body movements. These body movements simulate, in a safe manner, the ankle/hip/full-body strategies used to recover from a loss of balance. The required movements target the joints and muscle groups recruited in executing these recovery strategies and patients are challenged to demonstrate adequate range of motion, strength, motor planning, and motor control on each exercise. Patients should start at Level I so they can begin at a level that is within their ability to succeed and be safe. All the standing balance exercises are designed to be performed holding on to, or standing next to, the kitchen sink. Once they show the physi-

Table 4A. Flow Chart of Treatment Sessions and Patient Progress: Weeks 1 – 5

Intervention	Weeks				
	1	2	3	4	5
Initial eval	X				
Patient education for risk factor reduction	X Home safety checklist	X Gait tips, Footwear, Medications, Postural hypotension			
Balance exercises		X Level I issued; modified due to pain		X Level I discontinued; Level II issued	
Lower extremity strengthening & conditioning		X	X HEP issued; modified due to pain	X Additional HEP exercises issued	X
Vectra * for upper and lower extremity strengthening			X Lower extremity exercises		
Stair climbing				X	X
Bending/ stooping					X
Discharge planning					
Goal achievement				Met short-term goal on stairs	Met long-term goals

* Vectra VX-38 weight machine: Vectra Fitness, 7901 South 190th Street, Kent, WA 98032

Table 4B. Flow Chart of Treatment Sessions and Patient Progress: Weeks 6 - 10

Intervention	Weeks				
	6	7	8	9	10
Initial eval					
Patient education for risk factor reduction					
Balance exercises	X Level II	X Level II discontinued; Level III issued		X Level III discontinued; Level IV issued	X Level IV
Lower extremity strengthening & conditioning	X				
Vectra [*] for upper and lower extremity strengthening			X Upper and lower extremity exercises	X Upper and lower extremity exercises	X Upper and lower extremity exercises
Stair climbing					
Bending/ stooping					
Discharge planning			X Instructed in safe use of Vectra	X Agreed on discharge date	X Pt to resume participation in exercise group
Goal achievement		Met new long-term Balance goal			Not able to meet new walking goal

*Vectra VX-38 weight machine: Vectra Fitness, 7901 South 190th Street, Kent, WA 98032

cal therapist that they are able to perform all exercises in the present set safely and correctly, they can move up to the next level. Please see Table 5 for a description of the exercises in Balance Levels I through V.

- b. The patient discussed in this case report received a hands-on demonstration of the fall prevention benefit of each exercise in each set. The patient was initially instructed in Balance Level I exercises and, once she was able to demonstrate that she was safe and independent in each exercise, the set was issued for her home program. In this way, the patient progressed up through Balance Level IV. The patient was discharged with Balance Level IV in her home exercise program.

2. Patient Education

The patient received CCFP fall prevention patient education handouts, along with a discussion of the fall prevention rationale for each one.

Please see Table 6 for a description of the patient's fall risk factors and the education material issued to address each risk factor.

3. Strengthening

The patient was instructed in lower extremity strengthening exercises, which were issued for her home program. The patient's strengthening home exercise program (HEP) consisted of ankle pumps, ankle circles, ankle alphabet, isometric gluteal sets, isometric quadriceps sets, supine short arc quadriceps extension, straight leg raise, sidelying hip abduction, supine hamstring isometric sets, heel slides, seated full arc quadriceps extension, seated knee raises. Resistive strength training was accomplished using ankle weights, elastic bands, and a Vectra VX-38 weight machine.³⁹

4. Pain Management Assistance

The patient encountered pain problems, including pain the patient attributed to her osteoarthritis and to her pseudo fibromyalgia. The

patient's persistent low back pain required referral to an orthopaedic surgeon for a consult.

OUTCOMES

The patient was discharged during the 10th week following the initial evaluation. The patient met all her initial long-term goals. She met one out of two of her revised long-term goals. She was not able to walk without her rolling walker due to chronic right hip pain. The patient's history included a right total hip arthroplasty, a subsequent fall that fractured the same hip, and a revision of the arthroplasty on the same hip. She reported that she has experienced chronic pain from the right hip since the fall and revision. It is this pain that continued to limit her function and required her to use a rolling walker for her mobility. Knee pain further limited her mobility.

In spite of this chronic pain, the patient was able to progress through the first 4 levels of the balance exercises, and was able to tolerate greater balance challenges on discharge than upon admission. Her OPTIMAL results

Table 5. Level I through V Balance Exercises. The standing exercises are designed to be done at the kitchen sink. Each set is designed to be done once per day.¹¹

Level I	Level II	Level III	Level IV	Level V
Standing knee flexion with both hands on sink	Standing knee flexion with one hand on sink	Standing knee flexion with fingertips of one hand on sink	Standing knee flexion with no hands on sink	Standing arm and leg march (lift knee and touch with opposite hand) with no hands on sink
Standing heel raises with both hands on sink	Standing heel raises with one hand on sink	Standing heel raises with no hands on sink	Heel-Toe walk with both hands on sink	Standing sink rebound (lean forward holding sink; push back to an upright position)
Side-steps with both hands on sink	Side-steps with one hand on sink	Side-steps with no hands on sink	Standing side bend with feet one foot apart	Standing side bend with feet together
Standing alternating hip abduction with both hands on sink	Standing alternating hip abduction with one hand on sink	Standing unilateral hip abduction (with left and right sides) with one hand on sink; standing with side of body toward sink	Tandem walking with one hand on sink	Standing forward lunge with hands on hips
Sitting knee raises with arms by side	Sitting knee raises with arms crossed over chest	Standing hip flexion/extension with one hand on sink; standing with side of body toward sink	Cross-over walking with one hand on sink	Standing side lunge with hands on hips
Standing hip circles with both hands on sink	Sitting march (alternate arm and leg lifts)	Standing leg cross (side-step with cross-over) with both hands on sink	Standing arm circles with feet apart	Standing arm circles with feet together
Sitting arm circles	Sitting reach and turn (reaching up and across body with trunk rotation and lateral flexion and ipsilateral hip hiking)	Standing toe raises with both hands on sink	Single limb stance with heel raise with both hands on sink	Standing reach and turn (reaching up and across body with trunk rotation and lateral flexion)

Table 6. Fall Prevention Patient Education¹¹

Fall Risk Factor	Intervention
Potential environmental hazards in assisted living facility, and in homes of family members and friends in the area.	Home Safety Checklist. Topics covered are slip/trip hazards, toilet seat, lighting, step stool, reaching/bending, chairs/sofas, table, maintenance, pets, stairs, utilities.
Gait deficits: Requires rolling walker for safe mobility.	<ol style="list-style-type: none"> 1. Gait Tips Handout. Topics are walking instructions, turning, leaning, rushing, losing balance, dizziness, stairs. 2. Footwear Handout. Topics are safe and unsafe footwear.
Multiple medications, including seven in the fall-related high-risk category.	<ol style="list-style-type: none"> 1. What You Can Do To Help Avoid Bad Effects of Medications. Topics include keeping updated medication list, review list with physician and ask if any can be reduced or stopped, learn about your medications, talk with physician about any symptoms of dizziness or confusion. 2. Postural Hypotension: The "Other Important Blood Pressure." Topics are: What is it? Why should I worry? Will I know if I have postural hypotension? How do I find out if I have it? What should I do if I have it? Are there medications that are likely to cause this?

showed an overall improvement in her functional status of 14 points. There is no national database available with which to compare these results. Table 7 shows the scores for the Difficulty scale, and compares admission and discharge ratings by subscale.

The OPTIMAL Confidence scale and the TUG test were not completed on discharge, and are discussed below. The post-discharge setting was her assisted living facility, where she resumed participation in an exercise group, and continued using the home exercise program. In addition, she began a self-directed wellness program using the Vectra weight machine available in the assisted living facility. Table 8 displays the final status of the patient's desired outcomes described upon admission, and shows the relationship between these patient-centered goals and the patient's fall risk factors, the OPTIMAL scale items, and the long-term goals documented in the plan of care. As Table 8 shows, the patient's program addressed her concerns, and she showed overall improvements in her function.

Discharge Functional Scoring

The patient's discharge OPTIMAL difficulty rating was 41. Using the APTA G-code scoring methodology,³⁶ this difficulty score calculates to a 32% functional limitation. That represents a 19% improvement over the course of therapy. The most applicable discharge G-code and severity modifier for this case are:

Table 7. Functional Status Change: OPTIMAL Difficulty Scale

Scale	Baseline Score	Discharge Score	Numerical Score Change
Overall Difficulty Scale	55	41	14
Trunk Subscale	17	13	4
Lower Extremity Subscale	19	18	1
Upper Extremity Subscale	19	10	9
Top-3 Item Subscale	13	8	5

ICF Category: Mobility, Walking, & Moving Around functional limitation:

G8980 Mobility discharge status
Severity modifier – CJ

DISCUSSION

The purpose of the original case report³⁰ was to apply evidence-based practice in the demonstration of an outcomes tool used to measure functional changes in an elderly physical therapy outpatient seen for a fall prevention intervention. The purpose in updating the report was to describe the revised OPTIMAL tool, and to apply the data to new the ICF-based Medicare G-code functional reporting process.

The patient in this case was highly motivated to reduce her risk of falling, and she worked hard to improve. She achieved Balance Level IV, a relatively high level in the balance exercise set. To put this into perspective, one of the studies used to develop the evidence basis for the CCFP program showed that only about one-third of the study participants were able to achieve Level IV or V in the balance exercises.³³ Gill et

al cite that reasons for poor progression included severe de-conditioning and physical frailty, cognitive limitations, illness occurring during the intervention, and concerns for being able to complete the exercises safely when unsupervised.³³ The patient in this case report understood the balance exercises, and her understanding was reinforced when she was shown, in each exercise, that she was actually practicing the movements she would need in order to recover her balance. This knowledge may have increased her adherence to her home exercise program. The patient handouts also contributed to reducing her risk factors. One risk factor that was not reduced was her medications. This list was discussed, and the potential fall-related side-effects of several of the medications were emphasized. It was suggested that she discuss the list with her physician to determine if any medications could be reduced or eliminated. Overall, the patient seemed to have found the CCFP fall prevention program to be logical, easy to understand, and the balance

Table 8. Patient-Centered Program: Discharge Status of Patient Concerns, Risk Factors, and Goals

Patient's Desired Outcomes on Admission	Associated Fall Risk Factors	Associated OPTIMAL Item #	Associated Long-term Goal #	Status of Patient's Desired Outcomes on Discharge
Reduced fear of falling	Fear of falling, environmental hazards, multiple medications	7, 9, 10, 11, 12	1, 2, 3, 4, 5	Patient reported decreased fear of falling (met).
Able to climb stairs with less pain	Gait impairments	13	1	Patient reported increased confidence on stairs (met).
Able to exercise with less pain	Weakness	7, 9, 10, 11, 12, 13	1, 2, 3, 5	Patient reported decreased pain with exercise (met).
Able to be more active with less pain in lifting, bending, carrying tasks	Gait impairments, weakness, fear of falling, environmental hazards	6, 7, 17, 18, 19, 20, 21, 22	1, 2, 3, 4, 5	Patient reported decreased pain with daily activities (met).
Able to walk without the support of her rolling walker	Gait impairments, weakness	7, 9, 10, 11, 12, 17, 20	1, 5	Patient reported that chronic pain required upper extremity support during gait (not met).

exercises to be appropriate to do at her kitchen sink.

Her OPTIMAL scores (see Table 7) showed the lowest improvement in the lower extremity subscale, 1 point, which is consistent with the chronic pain symptoms she reported in the right hip and bilateral knees. The patient's top 3 items showed an encouraging 5-point increase, which indicates that she worked hard on improving the ability to participate in her high priority functional activities. The score on the OPTIMAL "Balancing" item (#7) improved from a rating of "4" to a "2", which is consistent with her progression to Level IV on the balance exercises. As noted above, the OPTIMAL follow-up Confidence scale was not obtained prior to discharge. This form was not completed due to a change in the organizational policy for use of the OPTIMAL during her episode of care. One advantage of using the OPTIMAL was that reading down the list of movements helped the patient articulate her goals. In addition, during the discharge discussion, comparing the baseline ratings with the follow-up ratings was a dramatic way to demonstrate to her the progress she had made toward achieving her goals. The patient's improved OPTIMAL scores were consistent with her success in achieving her personal goals. The G-code process seems to dovetail well with the rehabilitation documentation and clinical reasoning process. However, it does take some additional time to complete.

CONCLUSION

Based on the experience with this case report, several comments can be made about the OPTIMAL tool and the CCFP program:

OPTIMAL Outcomes Tool

- In its full form, it takes too long for a cognitively intact patient to fill out in a busy outpatient setting. The full form includes a demographic page, confidence baseline and follow-up, and difficulty baseline and follow-up scales. For patients whose native language is not English, or for those not cognitively intact, the OPTIMAL may not be the best outcomes measure to use.
- Due to this time factor, use of the Confidence scale was discontinued at

the facility in which this patient was seen. If the Confidence scale is not used, a key psychometric aspect may be lost, and patient self-efficacy and quality of life data would be missing.

- This patient initially did not understand the difference between the Confidence scale and the Difficulty scale, and it took too long for PT staff to describe the difference, and to instruct the patient in how to fill them out. Front desk staff also had difficulty in understanding and explaining the difference between the Confidence and Difficulty scales.
- In a recent article, Riddle et al seemed to confirm this anecdotal result. They reported that the Difficulty and Confidence scales had significant overlap, and their overall recommendation was that clinicians should use other outcomes measures than the OPTIMAL.⁴⁰
- It should be noted that, in the development of the OPTIMAL tool, Gucione et al determined that there was evidence of discriminant validity for the Difficulty scale and for the Confidence scale.²⁴ This indicates that they measure separate factors, even though they rate the same 21 movements.
- The OPTIMAL is a handy tool to measure interim functional progress, and again on discharge. It provides an excellent basis for developing functional patient goals.
- An item rating Transfers, which was removed during the development phase, might be useful to have.²⁹
- A 5-year experience with OPTIMAL has shown it to be quite time-intensive for both clinical and administrative staff. Data summary, analysis, and reporting were performed using locally developed spreadsheets and graphs.
- The new version, OPTIMAL v1.1 showed an improvement with the addition of the Standing item. The G-code formula and mapping to the ICF categories provides current utility.
- In a recent study, Elsten et al tested the Difficulty scale and found that it produced most reliable results in initial evaluation, but less so on follow-up.⁴¹ The authors recommended adding more challenging items to the tool to provide greater discrimination between the initial and follow-up assessments.

Connecticut Collaboration for Fall Prevention Program

- It is easy to teach to patients and to colleagues; works well as a home exercise program.
- The handouts were well received by this patient. They are clear and easy to understand. The handouts work well as family education resources as well.
- The patient must master each exercise in each level, to the patient's tolerance, before progressing to next whole level.¹¹
- Based on the patient's tolerance, the therapist should keep each set intact if possible.
- The program's exercise and education components are well integrated and easy to use in the clinic.

There are several limitations to this case report. First, the discharge TUG score should have been obtained in order to maintain consistency and document a possible further improvement. The discharge score was not obtained because the patient's score on admission (13 seconds) placed her in a category of a non-faller.⁷ Second, the follow-up Confidence scale should have been obtained in order to provide a complete data set for the psychometric component of the OPTIMAL tool. This is particularly important with this patient because her primary concern was fear of falling.

Finally, while no cause-and-effect can be claimed, it is interesting to note that both the OPTIMAL and the CCFP measures showed encouraging progress. It is suggested that the combination of an abbreviated OPTIMAL, with only the Difficulty scale being used, with the CCFP program is appropriate for a fall prevention program in an outpatient physical therapy setting. It is recommended that research be conducted to test the use of the abbreviated OPTIMAL with the CCFP program across a wider spectrum of diagnoses and outpatient practice settings. Research might also address the most effective means of encouraging outpatient physical therapists to adopt this pairing of evidence-based clinical tools.

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APPENDIX

1. Connecticut Collaboration for Fall Prevention Balance Level I exercise set. The exercise set is reprinted by permission.
2. APTA OPTIMAL v1.1 forms. The following forms are included:
 - a. Demographic intake form
 - b. Difficulty forms: Baseline and Follow-Up
 - c. Confidence forms: Baseline and Follow-Up
 - d. Scoring instructions
 - e. OPTIMAL Formula CMS Metric
3. CMS G-code Short Descriptors
4. CMS G-code Severity Modifiers

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OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN: A REVIEW OF IMPLICATIONS FOR PHYSICAL THERAPIST PRACTITIONERS

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INTRODUCTION

Osteoporosis (OP) is a serious clinical concern that physical therapist practitioners will encounter throughout their careers. Osteoporosis is defined as a chronic and progressive disease that is characterized by decreased bone mineral density (BMD), bone deterioration, and a high risk of fractures. Menopause can, at times, go hand in hand with osteoporosis. Postmenopausal women with OP may have bone loss related to estrogen deficiency and/or age, as well as a higher rate of bone loss.^{1,2}

There are two classifications of OP: primary and secondary. Primary OP is bone loss associated with the aging process; skeletal bone remodeling activation rate is normal, but there is incomplete filling of the bone resorption pits. Secondary OP is bone loss associated with chronic medical conditions, nutritional deficiencies, and medications. With secondary OP, the skeletal bone remodeling activation rate initially increases, causing increases in the proportion of skeletal remodeling all at one time. Unfortunately, while OP is largely preventable, it is also quite under recognized and undertreated.²

Loss of bone mineral density that causes spontaneous fractures is an important sign of OP, as it occurs in older women who have hormone deficiencies.³ Arnold et al⁴ shows that exercise leads to decreases in fracture risks in older adults with OP, and aids in improving bone density, balance, and decreasing fall risk. For those with a diagnosis of OP, balance and strengthening programs are very beneficial for improving strength, balance, and reaction time, while weight bearing and resistance exercises can address fall risk factors and also promote mechanical loading. Other non-medical interventions include either aquatic or land-based exercises.⁴

Aquatic exercises, which are typically recommended for those with severe OP for support and comfort, have benefits of decreasing stress on weight-bearing joints, increasing mobility, and using various levels of resistance to aid in strengthening. These exercises also show an increase in sensory feedback and with promoting lymphatic return. Land-based exercises are more applicable for functional tasks in day-to-day living; however, they may exacerbate joint pain or other complications that limit their ability to move beyond the limits of their base of support. Overall, aquatic exercises prove to be a useful alternative to land-based exercises in women with OP who are fearful of falling or who have poor balance, pain, or lack of motivation.⁴

Chronic pain from OP can lead to depression, anxiety, frustration, social isolation, and a fear of falling; meanwhile, a fear of falling can “induce a debilitating spiral” that leads to a loss of confidence as well as a decrease in activity. Exercise is essential for increasing bone mass and thereby reducing bone loss, and studies show that only one-third of physical therapists always screen new patients for OP.⁵⁻⁷

EPIDEMIOLOGY

As previously stated, OP is more common in postmenopausal women due to low estrogen production, which can lead to the deterioration of bone tissue, causing enhanced bone fragility and an increase in fracture risks.^{8,9} Of all women worldwide, approximately 200 million suffer from OP.¹⁰ Of the women in the United States, aged 50 years or older, 13% to 18% meet the current criteria for OP.² Also in the United States, 1.5 million fractures are associated with OP per year, the most common being vertebral, hip, and wrist.² Arnold et al⁴ shows that one in every 3 community

dwelling adults over the age of 65 fall each year, while 80% to 90% of hip fractures that occur in older adults are related to falls. The same study also reveals that 50% to 75% of hip fracture individuals are not able to return to their previous functional status and will require long-term care, while nearly 25% of these individuals will die within the first year after their fracture.⁴

Approximately 40 in every 100 women will experience one or more fractures after the age of 50. If a hip fracture occurs, the chances of subsequent hip fractures increase 2.5 times. In women with OP, postural control and muscular strength impairments are more pronounced, which parallels with common causes of falls including altered balance, gait, muscle strength, visual acuity, cognition, and the presence of chronic diseases.^{11,12} Studies have also shown that 40% of women have experienced a fracture due to OP, and more than 90% of all hip fractures occur as the result of a fall.^{5,11} Statistics show that one out of two women over the age of 50 will experience a fracture related to OP within their lifetime, and OP in postmenopausal women is most commonly due to loss of trophic support for bone tissue from sex hormones.^{7,13} The National Osteoporosis Foundation (NOF) estimates that approximately 20% (8 million) of postmenopausal women in the United States have osteoporosis, and an additional 52% (22 million) have low bone mass (defined as a BMD T-score between -1 and -2.5) at the hip.¹⁴ In addition, fractures are associated with an increase in mortality as well as a diminished quality of life.⁵

PATHOGENESIS

Osteoporosis is characterized by bone loss due to an imbalance of osteoblast and osteoclast activity.¹⁵ Risk factors for osteoporosis are associated with this

bone loss. Common risk factors for osteoporosis are high body mass index during childhood into adulthood, decreased calcium from diet, poor diet/nutrition, lack of physical activity, alcohol/cigarette use, depression, use of corticosteroids, and ethnicity.⁷ Postmenopausal women are also at high risk for osteoporosis due to bone loss related to hormone deficiencies or age.²

An area that has received less attention in the field of osteoporosis research is the prevention of falls. Several studies have shown life-threatening complications associated with falls. Approximately 30% of all women and 20% of all men older than 50 years of age will fall each year. After menopause, bone fractures particularly of the distal radius, hips, and vertebral bodies increase significantly in parallel with the amount of bone loss. Kronhed et al confirms that typical locations for osteoporosis-related fractures are the distal radius, hip, and vertebrae. Similarly, the prevalence of back pain and disability increase as a function of the severity of osteoporosis and subsequent vertebral deformities. These factors highlight the need for effective prevention of osteoporosis. A sedentary lifestyle promotes bone loss, muscular weakness, faulty posture, and chronic back pain. On the other hand, physical activity may prevent OP, back pain, and bone fractures. More recently, Vondracek confirmed that exercise can strengthen bones and decrease the risk of falls and fractures by improving muscle strength, coordination, balance, and mobility.^{9,16-18}

CLINICAL PRESENTATION

There is no one clinical presentation for patients with osteoporosis, as it typically goes undiagnosed until there is a fracture.¹ The presence of OP can only be observed by medical imaging and lab values.⁷ However, there may be some signs and symptoms associated with osteoporosis. These signs and symptoms include changes in posture, decrease in height, history of fractures, and muscle weakness.^{7,11,12} Oftentimes, it is a combination of these symptoms that occur in patients with osteoporosis. Patients may also complain of back pain due to poor posture and bone loss, or fractures in the vertebral bodies.¹⁷ In addition, low impact fractures that occur as a result of falling from standing

height, or fragility fractures that occur with no trauma, are common in patients with osteoporosis.² Once these signs and symptoms are present, it is necessary to perform medical imaging to diagnose the disease.^{1,7}

DIAGNOSIS

Diagnosing osteoporosis is not always a simple process. Because the signs and symptoms of OP do not occur immediately, many individuals live their lives not realizing they have osteoporosis until the condition becomes worse and more prominent.^{7,11,12} In clinical practice, osteoporosis is oftentimes diagnosed when performing a thorough history evaluation of the individual, reviewing diagnostic tests, and by identifying the individual's activity level. Many times, however, that examination process can be inconclusive.⁷ Other indicators, such as BMD assessment and the occurrence of low-impact or fragility fractures, are the true determinants of osteoporosis.^{1,2}

Bone mineral density assessment is a clinical approach and the primary tool used in diagnosing OP in individuals.¹ The gold standard BMD assessment is identified as being the central dual-energy x-ray absorptiometry (DXA) of the femoral head or of the bones comprising the hip. The DXA measurement of BMD is predictive of both short and long term fracture risks and is noninvasive and accurate. The World Health Organization (WHO) states that a BMD score of less than 2.5 standard deviation is considered a positive finding of osteoporosis.^{1,2}

The amount or type of fracture occurrence is another approach that is used in identifying OP in individuals.¹ Low-impact or fragility fractures are commonly seen in individuals who suffer from osteoporosis.² A low-impact fracture typically occurs after falling from standing height, whereas a fragility fracture occurs with no trauma and is typically spontaneous (ie, sneeze, cough, sudden movement). According to Tan et al,¹⁹ there is increasing evidence to suggest that the utility of calcaneal quantitative ultrasound (QUS) may be a reliable tool to use for fracture risk assessment, and may also be beneficial in identifying individuals who are at a higher risk of osteoporotic fractures for follow-up BMD measurements. These

studies show that by combining the data from a QUS and the Timed Up and Go (TUG) test, the risks for osteoporosis can be identified.¹⁹

As physical therapists, it is very important to educate the patient regarding diagnosing OP in hopes that detection of the disease occurs prior to adverse effects.

NONMEDICAL/MEDICAL INTERVENTIONS

There are many studies available that suggest both nonmedical and medical interventions are beneficial in changing the lives of postmenopausal women with OP. Such interventions, including exercise, fall prevention, medication, and life style changes, have been proven to either decrease, or maintain osteoporosis. There is great optimism that with the help of the physical therapy profession, OP prevention and maintenance can be achieved.^{2-4,14}

Mauck et al² determine that weight-bearing exercises, such as walking, resistance exercises, and mild to moderate impact aerobics, are very effective in increasing and/or maintaining bone density, especially in postmenopausal women with hip and lumbar spine complications. Weight-bearing exercises, specifically heavy loading with few repetitions and high strain are known to increase BMD.³ However, the best prevention and treatment strategy for postmenopausal women with OP is brisk walking.¹⁰

Strength training exercises have also been promising for preventing bone demineralization. Bocalini et al³ show that in older women without hormone deficiencies, 24 weeks of an intense strength training regimen improves muscular strength and aids in the prevention of bone demineralization. Strength training allows for muscle contraction that increases BMD through stimulation of tissue remodeling.³ In postmenopausal women, the effects of strength training¹⁹ did not show an increase in pain. Although weight-bearing exercises and strength training may be too intense for the older population, studies also show that for those individuals, BMD can be maintained through regular exercise that focuses more on improving strength, balance, and coordination.^{2,3,13}

These exercises show decreases in the risk of falls in elderly individuals

by 25%.² Prevention of falls is successful through improved muscle strength, balance, postural control, increase in fitness, as well as enhances the quality of life.¹⁰ Physical therapy is a great intervention for promoting weight bearing while improving strength and balance with the use of gait aids when appropriate in order to help prevent, maintain, or treat osteoporosis.²

Many individuals rely heavily on medications to decrease or maintain osteoporosis. Common medications include, but are not limited to: calcium supplements, vitamin D supplements, biphosphates, salmon calcitonin, estrogen/hormone therapy, teriparatide, and raloxifene.^{2,4,14} Calcium supplements are known to possibly prevent bone loss or mildly increase BMD. For those with osteoporosis, calcium supplements should be used in conjunction with other pharmacological interventions. According to the National Institutes of Health (NIH), it is suggested that women should increase their calcium intake to 1000 mg/d until they reach menopause, and should then continue to increase their intake to 1500 mg/d after. Vitamin D supplements have also been proven to prevent bone loss or mildly increase BMDs, and are known to reduce vertebral and nonvertebral fracture risks in deficient individuals. Vitamin D supplements reduce the risk of falls in ambulatory or institutional older individuals in stable health by at least 20%.²

Biphosphates are currently the most potent oral anti-resorptive agents and have been shown to be useful for the prevention or treatment of osteoporosis due to their ability to inhibit osteoclast activity. Similarly, salmon calcitonin inhibits bone resorption by osteoclasts and prevents bone loss and vertebral fractures. Salmon calcitonin may also decrease pain with acute or subacute vertebral fractures.^{2,4,14}

Estrogen/hormone therapy is currently a controversial topic in the United States, as hormone therapy is only approved for preventative measures and not treatment of osteoporosis. One such hormone, teriparatide, is a recombinant human parathyroid hormone that is the first anabolic drug that has been approved for treating osteoporosis. This treatment has been used in postmenopausal women who have severe bone

loss and are at a high risk for fractures. Teriparatide increases bone density, thereby reducing vertebral fractures by 65% and non-vertebral fractures by 53%. Raloxifene is also used in the prevention and treatment of postmenopausal OP since it is a selective estrogen receptor modulator, which decreases vertebral fractures by 50%.^{2,4,14} The most frequently prescribed treatments include weekly or monthly bisphosphonates. Less commonly prescribed treatments include daily bisphosphonates, hormone replacement therapy (HRT) and parathyroid hormone analogues (PTH).¹³ Ongoing research is attempting to develop treatment for OP, and investigators are also focusing on preventative measures, including HRT, exercise, and dietary interventions.¹⁵

Other ways to decrease the risk of OP is cessation of smoking and fall prevention programs.⁴ Adequate education, counseling, and follow-ups are important for patients with, or at risk for, osteoporosis. In addition to intervention, it is important to provide guidance, information, and support for nonpharmacologic measures. The surgeon general's first report on bone health provides recommendations for lifestyle changes to decrease the likelihood of developing osteoporosis.¹⁴

IMPLICATIONS FOR PHYSICAL THERAPY

Studies show that exercise has many benefits for postmenopausal patients with OP, revealing that exercise helps to maintain BMD in elderly individuals.²⁰ In frail elderly individuals, regular exercises dealing with improving strength, balance, and coordination has been shown to decrease the risk of falls by 25%.² Also, women who exercised were significantly less likely to sustain a fracture during a fall.⁶ The recommendation for patients who require physical therapy for OP related complications is that they attend a long term regular exercise program designed to improve postural stability, mobility, motor control, coordination, and mechanical efficiency. Such treatment programs have also been found to improve back complaints and additionally may delay bone loss.¹⁷ The current recommended interventions include: resistance/weight bearing exercise, fall prevention training, environmental modifications, and functional exercises.

For patients receiving treatment for osteoporosis, it is recommended that they receive 45 to 60 minutes of exercise per day, 4 times a week.⁷ A plan for long term exercise should be incorporated, as it has been shown that 30 months of weight-bearing exercises has proven to be effective in slowing or halting bone loss.⁶ In addition to this, OP related pain has been shown to be alleviated in patients who complete long-duration exercise programs.²¹

Strength training is a very effective component of treatment for osteoporosis, as strengthening exercises can result in an increase in bone mineral density, agility, balance, and strength.²¹ Bocalini et al³ looks at a long term (24 weeks) strength training regimen in older women without hormone deficiencies, showing that an intense strength training regimen improves muscular strength and prevents bone demineralization. Strength training allows for muscle contraction which increases BMD through stimulation of tissue remodeling.³ This type of site specific exercise (targeting the hip musculature) was shown to cause bone mineral content changes in that site, and has also been shown to reduce the risk factors for falls in the elderly.^{6,11}

Loading exercises such as weight lifting, jumping, and running appear to be best suited for improving bone mass. However, such exercises are associated with a relatively high risk of injuries and are, for a variety of reasons, often not acceptable to elderly patients with osteoporosis.¹⁷ On the other hand, non-loading exercises with a low risk of injuries may be less effective in modifying bone mass.¹⁶ Therefore, an exercise program for frail patients should provide sufficient load without being hazardous or harmful.¹⁷ Because of the individual differences among patients, it is important for the physical therapist to use proper judgment when prescribing exercise interventions and be aware of the proper contraindications.⁷ For example, patients who were treated with an emphasis on spinal extension resistive strength training had "higher bone density, fewer fractures, and greater strength 8 years after discontinuing the program."⁷ For patients with vertebral OP, contraindications include: exercises combining trunk flexion, side-bending, and rotation. Therefore, it is important that the physical therapist be aware that

they should implement a spinal extension program, as this leads to fewer vertebral compression fractures.⁷

Exercises that involve weight bearing have also been shown effective in increasing and/or maintaining bone density in postmenopausal women, specifically in the hip and lumbar spine. Such weight-bearing exercises include walking, resistance exercises, and mild to moderate impact aerobics.² High impact exercise has been regarded as one of the most effective regimens; however, brisk walking has also been regarded as the best prevention and treatment strategy for postmenopausal women with OP.^{5,10} According to Korpelainen et al,⁶ brisk walking increases BMD of the femoral neck in such patients.

In addition to strength and weight-bearing exercises, using balance training⁵ to reduce falls is an important aspect of OP rehabilitation. Professionally prescribed balance training and muscle strengthening (specifically lower extremity strength training) are likely to be beneficial in preventing falls in elderly people.¹⁶ The adult skeleton requires more loading than walking provides, therefore targeted loading is also recommended. Resistive back strengthening exercises (10 repetitions/day, 5 days/week) are related to improving spinal muscle strength and fewer vertebrae compression fractures in postmenopausal women.⁹

When treating a postmenopausal patient with OP, it is important to focus on effective strategies that address muscular strength and postural control, with the aim of preventing falls and consequent comorbidities. The prevention of falls can be specifically targeted through muscle strength, balance, postural control, and an increase in fitness leading to improved quality of life.¹⁰ Therefore, physical therapy² should focus on improving strength and balance with the use of gait aids when appropriate. For patients who are in a great deal of pain, hydrotherapy can be incorporated to reduce weight bearing and promote strength training. Tolomio et al⁸ demonstrate that hydrotherapy prevents bone loss just as effectively as land based exercises. However, it is important to note that the skill to develop muscle strength decreases with aging, which is why gradual progression in both aquatic and land-based exercises is imperative.¹¹

Another important treatment technique for postmenopausal women with OP is the incorporation of group exercise. Group exercise has been shown to be beneficial for patients due to the social aspect and the encouragement that they receive from a group of similar patients. Such exercise programs not only reduce pain and increase strength, they provide psychological improvements due to the patient's increase in self-efficacy, vitality, and quality of life by allowing the patients to relate to one another and work together.²¹ Exercise should be done in small groups with consistent supervision of a physical therapist, which will facilitate social interaction¹² and decrease feelings of isolation. In doing so, the therapist not only helps to improve the quality of life of patients, but also helps to improve adherence to exercise programs. In one recent study performed by Kronhed et al,⁹ women with the diagnosis of "established osteoporosis" participated in a 4-month supervised group-training program and in a one-year follow-up study of pain, falls, and physical activity level.¹² After one year, pain significantly decreased in the exercise group and there was an improvement on the Short Form 36 (SF-36), a 36 question survey used for assessing general patient health. However there was no change in balance noted between the groups.⁹

CONCLUSION

The risk of osteoporosis related fractures can be reduced by a timely diagnosis of bone mineral loss using DXA and implementation of specific medical treatment, yet osteoporosis remains underdiagnosed and undertreated.¹³ There is currently a wealth of evidence that points to the benefits of exercise programs for treatment and prevention of osteoporosis in postmenopausal women that incorporates strength training, weight-bearing exercise, balance training, and aquatic therapy.⁷⁻⁹ However, it is important to note that easy and trendier exercise programs, such as aerobic classes and Tai Chi, are less effective in preventing OP fractures.¹⁰ As such, it is important for the physical therapist to design an effective individualized exercise program tailored to each patient's needs in order to maximize function and vastly improve their independence as well as their overall quality of life.

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THE KINETICS OF TEAMWORK

Ann Lowrey, PTA; Beth Carr, PT, DPT, CWS

The way a team plays as a whole determines its success. You may have the greatest bunch of individual stars in the world, but if they don't play together, the club won't be worth a dime. -Babe Ruth

What do you do when, by choice or not, you are placed on a new team and expected to function effectively and efficiently? How do you make it work? You're doing what you love to do, treat patients, but now you have a new Physical Therapist to work with or a new Physical Therapist Assistant to follow your plan of care. You've moved from one setting to another and into a new dynamic. How do you adapt to that team? Team work can be many things. What you do with yourself, and your desire to help that team function, play an important role in fostering that new team.

Teamwork divides the task and multiplies the success. -Author Unknown

Regardless of differences, we strive shoulder to shoulder...Teamwork can be summed up in five short words: "We believe in each other." -Author Unknown

The value of teamwork cannot be summed up any better than the quotes listed above. The ease of getting a project done, or succeeding in your passion and profession, is dependent upon the ability to work well with others and to contribute effectively to the team. This allows the goal to be accomplished to the greatest satisfaction of all involved. When addressing physical therapy, there are several members of the team: administration, therapists and assistants, and most importantly, the patient. All must work together to achieve the goal of healing the patient. Active participation by all involved, with the common goal of providing optimal care for the patient, is vital in achieving success.

T Time
E Effort
A Affirmation
M Mentor
W Willingness
O Open Minded
R Respect
K Kinetics

Time: Healing takes time, and so does building an effective team. When new team members come together, time needs to be taken for the members to voice their goals as well as concerns for the team. This is when they need to build on their strengths and address their weaknesses. The more time they spend discussing these aspects, the more the team will flow with greater ease. Time also needs to be spent with the patient, to educate regarding their diagnosis and the plan for treatment. Take time to introduce the patient to the team and the facility, and move slowly in the beginning to allow them to adjust to the program, letting them accommodate to this new change in their life. More often than not, the patients feel their story has not been heard, and their time with the therapy team may be the first opportunity they had to share thoughts and feelings about their health and condition.

Effort: Nothing comes easily; everyone has to complete their part. The therapist needs to guide the care given to the patient and ensure that it is advancing appropriately. The assistant needs to communicate well with the therapist and the patient. The patient needs to be heard by everyone on the team, and the therapist needs to be aware of changes and challenges with the care of the patient. Communication is everyone's responsibility...thus the old adage about no "I" in team. The patients are placing trust in the team to provide ideal care. Patients have their end of the bargain to uphold as well, putting forth effort to be compliant with attendance, a home

exercise program, and good communication. For some patients, coming to appointments is a great effort, for others the challenge is following through when they are on their own. However, in almost every instance effort is more gladly made when patients are empowered to feel like active members of the team, with input into the plan of care.

Affirmation: No one needs affirmation more than the patient. Positive feedback on participation and results is key. Team members can easily provide affirmation with a few simple few words: "That is great form." "I can see you have been working on your home exercise program." "You are increasing your strength and range of motion." "You couldn't do that last week!" Good teammates also provide affirmation to one another, with the Physical Therapist and Physical Therapist Assistant providing feedback that improves the delivery of care and acknowledges work well done. Work that goes above and beyond should always be noted! Reinforcing good work perpetuates it! It only takes a few seconds to say: "You work well with J. Doe. His progress is noticeable, and you have a great rapport with him." "I appreciate the detail in this plan of care." "Thank you for the help today, I appreciate it." Affirmation is an enormous self-esteem and confidence booster.

Mentor: Every member of the team can teach. People come from different backgrounds and have various proficiencies; this is what makes us individuals. The key is to take this knowledge and use it by sharing it with others. Our profession is one of constant change. By taking others under our wing and sharing our knowledge, we continue to grow and change. This is not a one way street. It is a two way street for the physical therapist and physical therapist assistant. Assistants often possess a great deal of experience in patient care and knowledge in regulations concerning their

scope of practice, and they can be great mentors to a new physical therapist. Learning from each other's experience makes for a great team.

Willingness to communicate: This is the key to success in any relationship, including for a rehab team. The ability to communicate and share information needs to come from all levels of the team--patient to treating therapist, therapist to assistant, and every combination thereof. The patient needs to be willing to communicate their symptoms and reactions to treatment, in order to allow for optimal benefits and aid in attaining the most effective plan of care. The therapist and the assistant must be able to communicate the plan of care with the patient to allow for full participation from the patient. The communication between the physical therapist and the physical therapist assistant is crucial to the effectiveness of the progression of the patient towards achieving goals and potential discharge. Every team member must be willing to accept constructive criticism to understand development needs and communicate effectively.

Open Minded: Everyone on the team needs to keep an open mind. The patient is often entering a new realm of having an injury or illness and needing to ask for help. The therapist and assistant need to keep an open mind with regard to what patients have to say--for instance, about treatments that have or haven't worked in the past--since they know their own bodies better than anyone else. The therapist also has to keep an open mind in regards to suggestions by the assistant regarding treatment. Often, the assistant spends more time with the patient and may see things that may not have been apparent on evaluation. Likewise, the assistant needs to keep an open mind regarding new treatments the therapist may want to try. Everyone must be willing to "think outside the box," and not get stuck in a rut with interventions and goal setting. Every team member brings different experience to the table. The classic saying, "there is more than one way to skin a cat" cannot be truer. The ultimate goal still remains of assisting a patient to improved function. Remember that different is not wrong, just different.

Respect: Respect goes hand-in-hand with good communication. First and

foremost is respect for the patient, who is the center of the team's efforts. It is a desire to help patients that leads people to enter the field of rehabilitation in the first place. Patients who feel respected will feel more a part of the team, and will communicate more openly with the team about their treatment, progress, and goals. Respect for each team member's knowledge base and treatment style is also imperative. Each person brings something to the table, and this makes a stronger team. The patient will be able to tell if there is not harmony within the team and will then lose confidence in the team's ability.

Kinetics: This is the core of our profession. Kinetics is the study of the forces that produce or change motion. In therapy, the PT-PTA team is the force that can bring about the change in the patient. These forces need to work together strongly, using all aspects listed above, to design the best therapist-patient relationship and to strive toward the goal of recovery and healing. If one of the forces veers off course, the whole chain becomes disrupted and the goal cannot be achieved.

All aspects of teamwork are crucial to having an efficient and effective team. Members need to embrace the aspects together and have the desire for the team to function as each individual has an important role and contribution. Without good communication, respect, motivation, and effort the kinetics of the team cannot flow, and the patient and co-workers suffer. Working in a setting with good team work, where each individual shows compassion for others, is one of the great rewards of this profession, and a reward that is passed on to our patients.

Ann Lowrey, PTA, and Beth Carr, PT, DPT, CWS, have been working together as a team for a year. They admit that making a new team function effectively and efficiently requires all of the above from all members of the team. They comprise the lower extremity team at West Park Rehab in Franklin, Pennsylvania (www.westparkrehab.com).

Individual commitment to a group effort - that is what makes a team work, a company work, a society work, a civilization work. -Vince Lombardi



Ann M. Lowrey graduated in 2000 from the University of Pittsburgh – Titusville Campus. She has been a full-time physical therapist assistant with West Park Rehab for 5 years and is part of the lower extremity team. She holds Advanced Proficiency in Geriatrics and Musculoskeletal for the PTA with the APTA. Ann can be reached at annlowreypta@gmail.com.



Beth Carr graduated from Slippery Rock University and has worked in various settings in Physical Therapy. She is also a Certified Wound Specialist and has been involved in several interdisciplinary teams throughout her career. Dr. Carr currently works at West Park Rehab where she is a member of the Lower Extremity Team.

SECTION MEMBERS ARE LACING UP THEIR SNEAKERS

Jill Heitzman, PT, DPT, GCS, CWS, CEEAA, FACCWS

Since 1985, there has become a greater awareness that many of the age related changes of the human body can be prevented by lifestyle changes and thus reduce functional decline.¹ They used the term successful aging to include low levels of disability, high cognitive and functional capacity, and active engagement in life. In 1997, Schwartz took this further to discuss the slippery slope of aging.²

Greater physical exercise has been noted to be a key to improving the potential to live more years with fewer physical limitations. However, the CDC still shows that many adults reduce their physical activity as they age.³ Part of the mission statement of the Section on Geriatrics is to advocate for optimal aging. Value statements include issues such as viewing older people and aging as a positive event, enhance the quality of life of older adults by following principles of health promotion and prevention of disease.⁴ As leaders and members of the Section, we are called to be role models for successful aging and many are taking up this challenge through the activity of walking/running—a task that is portable and can be done anywhere by anyone.

The current President of the Section, Bill Staples and fellow CEEAA instructors Mark Richards and Karen Kemmis have been running for the majority of their life. Mark started running in college and Bill after college when he was no longer as active in other sports as a way to manage weight and cardiovascular health. These therapists have found running to be a great way to remain active while traveling (only having to pack running shoes and clothes) as well as to see the areas they are visiting. Bill achieved his goal of running a ½ marathon every month in 2011 with all but one under 1 hour and 55 minutes! More recent intense runners include our Secretary, Greg Hartley and Treasurer, Ann Geers. Both

began in the last 5 years as a way to get fit and be challenged. They report this is a great structured way to be outdoors and relieve stress. These therapists have all ran in everything from 5K's to marathons for various organizations such as the Arthritis Foundation, MS, ALS, and Alzheimer and Crohn disease. These organizations were chosen mostly due to having had patients or family/friends afflicted with the disease, but are all organizations that support the same population as our Section.

A new graduate and member of the Section on Geriatrics, Michael Heitzman, has been active in competitive sports all his life but after 2 knee surgeries and a 20-pound weight gain, he returned to running. While in PT school at NYU, he and his fellow classmates began to run in the brain tumor awareness event in DC as a way to honor a classmate who is a survivor of a brain tumor. This event has become an annual event for these new graduates to reunite every spring. Michael has also challenged his undergraduate colleagues to join him in the "Tough Mudder" races that join military obstacle courses with ½ marathons.

More casual runners includes Director, Lucy Jones who began to run about 3 years ago when her daughter asked her to run in a 10K, an event she now does annually with her daughter. This author was challenged by her 4 children and the other faculty of the CEEAA course to improve fitness. Beginning by walking, now up to running 3-5 miles 3x/wk, an improvement has been noted in stress relief and overall psychological relaxation. Creative ideas are fostered by being outside without a cell phone or other electronic devices for distraction.

When asked what the affects of their running has on the profession of physical therapy, these runners have reported discussing the importance of stretching, cross training, and strength

training with fellow event runners. They have also emphasized the referrals for those that do get injured while running. Most importantly though, these active therapists have discussed the need to "walk the talk." If we are to promote global health and wellness and educate our patients on the importance of doing a home exercise program, then we need to be a model of the behavior. Evidence-based research has shown that exercise improves cardiovascular health, depression, and overall quality of life.

Whether your activity is hitting the fitness center, taking a zumba/tai chi/pilates/yoga class, walking the dog or your children, or even being inside playing a game on the Wii, fitness is essential to promoting successful aging. So lace up your sneakers and join the fun! Take a look at the next couple of pages for some feedback from other Section members in action!

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Here is a photo of my family on the summit of Mt St Helens last August. Our family vacations are filled with activity. Our daughter-in-law Beth, a PT, in the center tells folks that we are the only family she knows that you have to work out before going on vacation. For me, life is movement and movement is life. I ride my bike 3-5 times weekly. I lift some light weights 5-7 days weekly. I referee rugby which may be 1-4 matches a weekend. I enjoy it because I sprint, jog, go sideways and backwards and I have to think—making decisions and shouting orders. I tease my wife that I have to continue this because the best way to offset age-related cognitive decline is to be physically fit in a challenging environment—NIH Consensus Statement 2010. I am in the last quarter of my 65th year; I have to keep moving.

Tim Kauffman, PhD, PT



My favorite motivator to exercise, which I try to fit in every day, is to record TV shows, like the Big Bang Theory or Glee, and watch them while I do the elliptical. I don't let myself watch them unless I am exercising and it is a great motivator to get me to exercise.

Carole B. Lewis, PT, DPT, GCS, GTC, CCOEE, MPA, MSG, PhD, FAPTA



Fitness is a priority at Fox Rehabilitation, where the leadership team believes in practicing what you preach. Early morning team workouts are part of an extensive workplace wellness program that also includes stretch and flex and Zumba classes that are free to everyone at Fox headquarters.



I find what works for me and is fun is diversity of exercise. I work out a couple of times a week with work colleagues, run with a running group, and here I'm in a crossfit class that gets me doing all kinds of different exercises that I never did before. Even my 19-year-old son is impressed with my hand stand push-ups.

Matthew Mesibov, PT, GCS



Time is my big factor so like everything else in my life I must prioritize and assure exercise gets into my schedule. Regardless of where my responsibilities take me, each week I try to meet the ASCM/AHA recommendations for vigorous physical activity. For aerobic conditioning, in great weather I prefer to do my old ladies jog outdoors either on Long Island near my house heading toward Long Island Sound, or around Washington Square Park in New York City near my small apartment. When the weather is not good, I do one of two things for aerobic activity. In my house on Long Island I have a treadmill in my office. In NYC, I live on the 12th floor, so I will go down and up 10 flights of stairs 6x, followed by a walking cool down in the hallway of my apartment. For resistance training, it will again depend on whether I am on Long Island or in NYC. On Long Island, I lift weights for 8 exercises doing between 8-12 reps to fatigue. In NYC in my apartment, I tend to do body weight strengthening - plank holds for 60-90 seconds with alternately raising one leg up for 10 seconds, wall slides using the same formula, and usually some additional core work for my not too great abs. Balance activities I fit in during the day - standing alternately on one leg while brushing my teeth, walking the hallways on toes, heels, side stepping, carioca, and the like. When traveling, I always try to stay in a place with an exercise facility so that I can use the equipment generally around 5 in the morning. As hard as it is at times and especially so when I have those 15-18 hour flying days, I always feel better when I am finished. And with my push for the development of the CEEAA program, I feel it is essential that we practice what we preach.

Marilyn Moffatt, PT, DPT, PhD, DSc (hon), FAPTA, CSCS, CEEAA



I love my exercise time! It helps to clear my mind. No matter if I'm running, lifting weights or doing Pilates, I always feel more relaxed.

Ellen Strunk, PT, MS, GCS, CEEAA

For me, exercise is a great way to balance my work and home life. I can blow off steam and stay healthy, and have fun at the same time. I like to workout first thing in the morning before work responsibilities get in the way. This way I start my day knowing I can cross one thing off of my (growing) list of things to do. My University has a great gym and locker rooms with showers so I can just rinse and go. Out of 24 hours in a day, I should get to keep at least one!

Tamara Gravano, PT, DPT, GCS



SECTION ON GERIATRICS RECOMMENDED OUTCOME MEASURES FOR MEDICARE FUNCTIONAL LIMITATION/ SEVERITY REPORTING

*A Joint Report by the Section on Geriatrics Practice Committee (Greg Hartley, Chair),
the Reimbursement/Legislative Affairs Committee (Ellen Strunk, Chair),
and the GeriEDGE Task Force (Michelle Lusardi, Chair)*

PART 1: BACKGROUND AND REPORTING PROCESS

The Middle Class Tax Relief and Jobs Creation Act of 2012 (MCTRJA; Section 3005(g); see <http://www.gpo.gov/fdsys/pkg/CRPT-112hrpt399/pdf/CRPT-112hrpt399.pdf>) states that “*The Secretary of Health and Human Services shall implement, beginning on January 1, 2013, a claims-based data collection strategy that is designed to assist in reforming the Medicare payment system for outpatient therapy services subject to the limitations of section 1833(g) of the Social Security Act (42 U.S.C. 1395l(g)). Such strategy shall be designed to provide for the collection of data on patient function during the course of therapy services in order to better understand patient condition and outcomes.*” This reporting and collection system requires claims for therapy services to include nonpayable G-codes and related modifiers (eg, severity/complexity modifiers). These non-payable G-codes provide information about the beneficiary’s functional status at:

- the outset of the therapy episode of care (the evaluation),
- specified points during treatment (every 10th visit and at re-evaluation), and
- the time of discharge.

These G-codes and related modifiers are required on all claims for Medicare Part B therapy services regardless of who provides them: hospitals, critical access hospitals, skilled nursing facilities, home health agencies (when the patient is not under a home health plan of care), physical therapy private practices, physician-owned physical therapy practices, rehab agencies, or certified outpatient rehabilitation facilities. The G-codes and modifiers are also required on all Medicare Part B therapy claims, regard-

less of whether it is above or below the therapy cap amount.

Application of New Coding Requirements

While this functional data reporting and collection system is effective for therapy services with dates of service on and after January 1, 2013, providers are **required** to begin reporting G-codes and their modifiers on claims with dates of service **no later than July 1, 2013**. A testing period is in effect from January 1, 2013, through June 30, 2013, to allow providers to begin using the new codes and “test” their system’s claims processing with the codes. During this time period claims without G-codes and modifiers will be processed. Because the G codes are nonpayable, there will be no payment for these codes.

A separate instruction/article (see MLN Matters® Article MM8126 at <http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/Downloads/MM8126.pdf>) contains more information about the claims processing instructions.

Function-related G-codes

Table 1 lists the Healthcare Common Procedure Coding System (HCPCS) G-codes used to report the status of a beneficiary’s functional limitations for PT/OT. (Speech Therapy has eight different codes which will not be listed here. See <http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/Downloads/MM8005.pdf> for this information):

Severity/Complexity Modifiers

For each nonpayable G-code shown above, a modifier must be used to report the severity/complexity for that func-

tional measure. The severity modifiers reflect the beneficiary’s percentage of functional impairment as determined by the therapist furnishing the therapy services. The evaluating therapist must determine the

1. beneficiary’s current impairment/restriction/limitation level – determined at evaluation or re-evaluation;
2. anticipated goal level of impairment/restriction/limitation level, eg, what is the discharge goal level of impairment anticipated determined at evaluation or re-evaluation; and
3. actual discharge status is reported.

The 7 modifiers are defined in Table 2.

Required Reporting of Functional G-codes and Severity Modifiers

Only one functional limitation per discipline shall be reported at a given time for each related therapy plan of care (POC). However, functional reporting is required on claims throughout the entire episode of care; so, there will be instances where two or more functional limitations will be reported for one beneficiary’s POC. Thus, reporting on more than one functional limitation may be required for some beneficiaries, but not simultaneously.

Specifically, functional reporting, using the G-codes and modifiers, is required on therapy claims for certain DOS as described below:

- At the outset of a therapy episode of care, ie, on the DOS for the initial therapy service;
- At least once every 10 treatment visits--which is the same as the newly-revised progress reporting period--the functional reporting is required on the claim for services on same DOS that the services related

Table 1. Functional Limitation G-codes and Descriptors

Category	G-code	Long Descriptor	Short Descriptor
Mobility	G8978	Mobility: walking & moving around functional limitation, current status, at therapy episode outset and at reporting intervals	Mobility current status
	G8979	Mobility: walking & moving around functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Mobility goal status
	G8980	Mobility: walking & moving around functional limitation, discharge status, at discharge from therapy or to end reporting	Mobility D/C status
Changing & Maintaining Body Position	G8981	Changing & maintaining body position functional limitation, current status, at therapy episode outset and at reporting intervals	Body position current status
	G8982	Changing & maintaining body position functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Body position goal status
	G8983	Changing & maintaining body position functional limitation, discharge status, at discharge from therapy or to end reporting	Body position D/C status
Carrying, Moving & Handling Objects	G8984	Carrying, moving & handling objects functional limitation, current status, at therapy episode outset and at reporting intervals	Carry current status
	G8985	Carrying, moving & handling objects functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Carry goal status
	G8986	Carrying, moving & handling objects functional limitation, discharge status, at discharge from therapy or to end reporting	Carry D/C status
Self Care	G8987	Self care functional limitation, current status, at therapy episode outset and at reporting intervals	Self care current status
	G8988	Self care functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Self care goal status
	G8989	Self care functional limitation, discharge status, at discharge from therapy or to end reporting	Self care D/C status
Other PT/OT Primary	G8990	Other physical or occupational primary functional limitation, current status, at therapy episode outset and at reporting intervals	Other PT/OT current status
	G8991	Other physical or occupational primary functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Other PT/OT goal status
	G8992	Other physical or occupational primary functional limitation, discharge status, at discharge from therapy or to end reporting	Other PT/OT D/C status
Other PT/OT Subsequent	G8993	Other physical or occupational subsequent functional limitation, current status, at therapy episode outset and at reporting intervals	Sub PT/OT current status
	G8994	Other physical or occupational subsequent functional limitation, projected goal status, at therapy episode outset, at reporting intervals, and at discharge or to end reporting	Sub PT/OT goal status
	G8995	Other physical or occupational subsequent functional limitation, discharge status, at discharge from therapy or to end reporting	Sub PT/OT D/C status

- to the progress report are furnished;
- The same DOS that an evaluative procedure, including a re-evaluation, is submitted on the claim (see below for applicable HCPCS/CPT codes);
 - At the time of discharge from the therapy episode of care, if data is

available; and

- On the same DOS the reporting of a particular functional limitation is ended, in cases where the need for further therapy is necessary.

As noted above, this functional reporting coincides with the progress

reporting frequency, which is being changed through this instruction. Previously, the progress reporting was due every 10th treatment day or 30 calendar days, whichever was less. The new requirement is for the services related to the progress reports to be furnished on or before every 10th treatment day.

Table 2. Severity Modifiers for Functional Limitation G-codes

<i>Modifier</i>	<i>Impairment Limitation Restriction</i>
CH	<i>0% impaired, limited, or restricted</i>
CI	<i>At least 1% but less than 20% impaired, limited, or restricted</i>
CJ	<i>At least 20% but less than 40% impaired, limited, or restricted</i>
CK	<i>At least 40% but less than 60% impaired, limited, or restricted</i>
CL	<i>At least 60% but less than 80% impaired, limited, or restricted</i>
CM	<i>At least 80% but less than 100% impaired, limited, or restricted</i>
CN	<i>100% impaired, limited, or restricted</i>

Required Tracking and Documentation of Functional G-codes and Severity Modifiers

The reported functional information is derived from the beneficiary's functional limitations set forth in the therapy goals, a requirement of the POC, that are established by a therapist, including—an occupational therapist, a speech-language pathologist or a physical therapist—or a physician/NPP, as applicable. The therapist or physician/NPP furnishing the therapy services must not only report the functional information on the therapy claim, but he/she must track and document the G-codes and modifiers used for this reporting in the beneficiary's medical record of therapy services.

Source: <http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/Downloads/MM8005.pdf>

PART 2: FUNCTIONAL LIMITATION REPORTING CATEGORIES AND THE INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY, AND HEALTH (ICF)

The functional limitations categories selected by CMS are from the International Classification of Functioning, Disability, and Health (ICF). The ICF is a classification of health and health-related domains. The ICF model acknowledges that every human being can experience some level of “disability” and views functioning and disability as an interaction between health, the environment, personal, and social factors. For more information on the ICF, please see the APTA ICF Web site (<http://www.apta.org/ICF/>). The way that CMS is

using the term “functional limitation” is within the context of the areas of the ICF relating to “activity limitations” and “participation restrictions.” It is worth reading and understanding these definitions in order to determine which functional limitation category your patient might best fit.

The definitions of the terms described below come from the *International Classification of Functioning, Disability and Health*, World Health Organization, 2001, Geneva. You may also find all of the descriptions of the components classified in the ICF using the ICF Browser (<http://apps.who.int/classifications/icfbrowser/>).

1. **Mobility:** Moving by changing body position or location or by transferring from one place to another, by carrying, moving, or manipulating objects; by walking, running, or climbing; and by using various forms of transportation.
 - a. Walking: Moving along a surface on foot, step by step, so that one foot is always on the ground, such as when strolling, sauntering, walking forwards, backwards, or sideways. Inclusions: walking short or long distances; walking on different surfaces; walking around obstacles.
 - b. Moving Around: Moving the whole body from one place to another by means other than walking, such as climbing over a rock or running down a street, skipping, scampering, jumping, somersaulting or running around obstacles. Inclusions: crawling, climbing, running, jogging, jumping, and swimming.
 - c. Moving around in different locations: Walking and moving

around in various places and situations, such as walking between rooms in a house, within a building, or down the street of a town. Inclusions: moving around within the home, crawling or climbing within the home; walking or moving within buildings other than the home, and outside the home and other buildings.

- d. Moving around using equipment: Moving the whole body from place to place, on any surface or space, by using specific devices designed to facilitate moving or create other ways of moving around, such as with skates, skis, or scuba equipment, or moving down the street in a wheelchair or a walker.
 - e. Moving around using transportation: Using transportation to move around as a passenger, such as being driven in a car or on a bus, rickshaw, jitney, animal-powered vehicle, or private or public taxi, bus, train, tram, subway, boat or aircraft. Inclusions: using human-powered transportation; using private motorized or public transportation.
2. **Changing basic body position:** Getting into and out of a body position and moving from one location to another, such as getting up out of a chair to lie down on a bed, and getting into and out of positions of kneeling or squatting. Inclusion: changing body position from lying down, from squatting or kneeling, from sitting or standing, bending and shifting the body's center of gravity.
 - a. Maintaining a body position: Staying in the same body position as required, such as remaining seated or remaining standing for work or school. Inclusions: maintaining a lying, squatting, kneeling, sitting, and standing position.
 - b. Transferring oneself: Moving from one surface to another, such as sliding along a bench or moving from a bed to a chair, without changing body position. Inclusion: transferring oneself while sitting or lying.
 3. **Lifting and carrying objects:** Raising up an object or taking something

from one place to another, such as when lifting a cup or carrying a child from one room to another. Inclusions: lifting, carrying in the hands or arms, or on shoulders, hip, back, or head; putting down.

- a. Moving objects with lower extremities: Performing coordinated actions aimed at moving an object by using the legs and feet, such as kicking a ball or pushing pedals on a bicycle. Inclusions: pushing with lower extremities; kicking.
- b. Fine hand use: Performing the coordinated actions of handling objects, picking up, manipulating and releasing them using one's hand, fingers and thumb, such as required to lift coins off a table or turn a dial or knob. Inclusions: picking up, grasping, manipulating and releasing.
- c. Hand and arm use: Performing the coordinated actions required to move objects or to manipulate them by using hands and arms, such as when turning door handles or throwing or catching an object. Inclusions: pulling or pushing objects; reaching; turning or twisting the hands or arms; throwing; catching.

4. **Self Care:** caring for oneself, washing and drying oneself, caring for one's body and body parts, dressing, eating and drinking, and looking after one's health.

- a. Washing oneself: Washing and drying one's whole body, or body parts, using water and appropriate cleaning and drying materials or methods, such as bathing, showering, washing hands and feet, face and hair, and drying with a towel. Inclusions: washing body parts, the whole body; and drying oneself.
- b. Caring for body parts: Looking after those parts of the body, such as skin, face, teeth, scalp, nails and genitals, that require more than washing and drying. Inclusions: caring for skin, teeth, hair, finger and toe nails.
- c. Toileting: Planning and carrying out the elimination of human waste (menstruation, urination and defecation), and cleaning oneself afterwards. Inclusions: regulating urination, defecation, and menstrual care.

- d. Dressing: Carrying out the coordinated actions and tasks of putting on and taking off clothes and footwear in sequence and in keeping with climatic and social conditions, such as by putting on, adjusting and removing shirts, skirts, blouses, pants, undergarments, saris, kimono, tights, hats, gloves, coats, shoes, boots, sandals and slippers. Inclusions: putting on or taking off clothes and footwear and choosing appropriate clothing.
- e. Looking after one's health: Ensuring physical comfort, health and physical and mental well-being, such as by maintaining a balanced diet, and an appropriate level of physical activity, keeping warm or cool, avoiding harms to health, following safe sex practices, including using condoms, getting immunizations and regular physical examinations. Inclusions: ensuring one's physical comfort; managing diet and fitness; maintaining one's health.

(Source: <http://www.apta.org/Payment/Medicare/CodingBilling/FunctionalLimitation/>)

PART 3: SECTION ON GERIATRICS RECOMMENDED OUTCOME MEASURES FOR MEDICARE FUNCTIONAL LIMITATION AND SEVERITY REPORTING

Upon request of its members and the APTA, the Section on Geriatrics set out to develop a list of tests and measures that clinicians working with older adults could use to assist them in meeting the functional claims reporting requirement as well as to provide supportive documentation for both the severity modifiers and intensity of therapy services. The Section on Geriatrics assembled a group of clinicians who are either currently serving on the SOG Practice Committee, the GeriEDGE Task Force, the Reimbursement Committee, or are considered experts in functional outcomes or measurement (see acknowledgements at the end of this report for a complete list). What follows is a list of **recommended** measures with best evidence, practicality of use, responsiveness, and psychometrics.

First and foremost, however, it should be said that a therapist can and should use as many tools as needed to

adequately and comprehensively determine the appropriate G-code category and the level of severity of the reportable functional impairment. The selection of both is based on the therapist's clinical reasoning in interpreting the results of tests and measures and the overall presentation of the patient. The tests and measures are used to support the therapist's selection of the severity modifier. The severity ratings need to be selected based on the individual presentation of the patient/client, looking at the aggregate of data gathered with the use of standardized tests and measures as well as medical status, complexities and comorbidities, environmental demands, etc. The measures are expected to be universal, not setting specific.

The **recommended** measures are:

- **Walking Speed [self-selected/fast-paced].** There is strong evidence for its use, self-selected speeds may be preferred over fast paced, but both can be useful.
—<http://www.rehabmeasures.org/PDF%20Library/10%20Meter%20Walk%20Test%20Instructions.pdf>
- **Six Minute Walk Test.** There is strong evidence for this capacity test. It can be modified to the 2 or 3 minute versions in more impaired patients.
—Six Minute Version: <http://www.csc.unc.edu/spir/public/UNLICCMMSSWSixMinuteWalkTestFormQxQ08252011.pdf>
—2 Minute Version: <http://www.rehabmeasures.org/PDF%20Library/2%20Minute%20Walk%20Test%20Instructions.pdf>
- **Timed Up and Go (TUG) and/or TUG Manual [dual task].** There is strong evidence for the use of this test which also captures information on gait speed.
—<http://www.rehabmeasures.org/PDF%20Library/Timed%20Up%20and%20Go%20Test%20Instructions.pdf>
—<http://www.rehabmeasures.org/Lists/RehabMeasures/PrintView.aspx?ID=1057>

- **Five Times Sit to Stand Test and/or 30 Second Sit to Stand.** There appears to be stronger evidence for Five Times Sit to Stand than the 30 second Sit to Stand, though either would be suitable for the purposes intended here.
—<http://web.missouri.edu/~proste/tool/>
- **Sitting Balance Scale.** There is limited evidence supporting its use, but it is a good tool for very low level patients.
—<http://www.ncbi.nlm.nih.gov/pubmed/21574772>
- **Berg Balance Scale.** Excellent evidence to support its use and it is suitable for multiple levels of patient severity.
—<http://www.fallpreventiontaskforce.org/pdf/BergBalanceScale.pdf>
- **Patient Specific Functional Scale.** This test may be a good measure of self-care and UE function.
—<http://www.tac.vic.gov.au/media/upload/patient-specific.pdf>

- **Disabilities of the Arm, Shoulder, and Hand Scale (DASH or Quick-Dash).** Strong evidence to support its use. It captures moving, carrying, handling objects well.
—<http://www.dash.iwh.on.ca/>
- **Fullerton Advanced Balance Scale.** Good evidence to support its use. It captures balance deficits on high level patients who may not show deficits on less advanced tests.
—<http://hhd.fullerton.edu/csa/documents/FABScaleScoringFormwithCut-OffValues.pdf>
- **Elderly Mobility Scale.** This test captures low level activities and may be appropriate for institutionalized, homebound, or frail patients.
—www.csp.org.uk/sites/files/csp/.../agile_outcome_measures_ems_v2_0.pdf
- **Falls Efficacy Scale – International.** Strong evidence to support its use as a self-reported measure of balance confidence.
—<http://www.health.qld.gov.au/stayonyourfeet/documents/33346.pdf>

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WCPT UPDATE

Brenda Myers, WCPT Secretary General

Why is an international outlook important? When you're bound up in the day to day realities of providing the best you can for patients and organising services within limited resources, then considering issues from an international perspective and learning about the experiences of professional colleagues in other countries might not be top of your "to do" list.

However, physical therapists who look beyond national boundaries find that a wider perspective gives them a deeper understanding of their profession and its ability to meet challenges. I know this because, as Secretary General of the World Confederation for Physical Therapy (WCPT), it's a message I hear consistently in every country I visit. I also hear it at WCPT Congresses, which every 4 years bring together delegates from across the world.

Physical therapists from the United States have always been global leaders and encouraged a sense of global unity in the profession. They were instrumental in establishing WCPT in 1951 to promote the international exchange of professional and scientific knowledge – Mildred Elson from the American Physical Therapy Association was WCPT's first President.

In those days, WCPT was a confederation of physical therapy professional organisations from just 11 countries. Today, WCPT represents physical therapists from 106 countries.

And American physical therapists are still global leaders – as illustrated by the number involved in establishing and leading WCPT subgroups, the current President of WCPT Marilyn Moffat and the 350 physical therapists from the United States who participated in WCPT's congress in Amsterdam – all of whom are serving as examples for the rest of the world to follow. Whether you like it or not, you have an international presence!

With globalisation, international concerns are today on our doorsteps. Learning about the international community, different belief systems, values and cultures has direct relevance to many of the immigrant communities

in the United States. We all need to understand the variety of attitudes to age and ageing across cultures – that "independence" in older people, for example, may be a strange concept to people from countries where elders are revered, looked after, and dependent.

Looking elsewhere in the world can introduce us to new solutions. For example, the experience of physical therapists who work in sparsely populated areas in Australia can introduce us to new ways of addressing the challenges to service delivery faced in remote rural areas of other countries including the United States.

All physical therapists, wherever they are, benefit from being part of the global family of professionals that WCPT represents, through its 106 member organisations of professional bodies (including the APTA). The WCPT provides the profession with a single

voice to bodies such as the World Health Organization and the United Nations, and the impact that it has can feed back to all countries where physical therapists practice.

We make the case for why physical therapists are the key resource in the global fight against noncommunicable disease such as cardiovascular disease, cancer, and respiratory problems. We help our member organisations achieve investment in the profession, systems of regulation, and high standards of education – and in any one country, the impact of efforts to raise standards is all the greater because of all the WCPT member organisations (including the APTA) standing behind it.

It is a cliché to say that unity brings strength, but it is certainly true that being part of a larger global body of professionals brings benefits to all those who are a part of it.

Help Us Celebrate 35 Years with a Free Home Study Course

To celebrate the Section on Geriatric's 35th anniversary, any Section member who recruits a new member in 2013 will receive a free printed previous edition home study course, while supplies last!

Watch for more details
in the months to come!

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For age is opportunity, no less than youth itself,

*though in another dress, and as the evening twilight fades
away, the sky is filled with stars, invisible by day.*

- Henry Wadsworth Longfellow

Section on Geriatrics - APTA

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