

# GERINOTES

SECTION ON GERIATRICS, AMERICAN PHYSICAL THERAPY ASSOCIATION

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## WANTED: ARTICLES FOR GERINOTES

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Contact Melanie Sponholz, GeriNotes Editor  
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# PRESIDENT'S PERSPECTIVE: SUCCESS

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



After two hours of staring at a blank computer screen waiting for some words of wisdom to suddenly appear, I decided to review some of the previous

President's Perspectives. After all, this column is not going to write itself. The previous columns have passed on insightful and informational thoughts and ideas. How did my predecessors John Barr and Jennifer Bottomley manage to do this so well every other month for the last 12 years?

So I thought hard about where the Section has been and what it has done since I have been in a leadership position, and then it came to me. I know where we have been, but where are we going, what does the future hold for us? To be successful, we need to plan. And when I say successful, I mean successful to our membership. Success is defined as "a favorable or desired outcome of something attempted." I want each member to feel that the Section is a success, so much so that you get your co-workers and colleagues to join this organization. Like any good business or organization we need to plan for the future. Our mission is "to further our members' ability to provide best practice physical therapy and to advocate for optimal aging." Values will dictate the way in which the mission is achieved. Our values are:

- Older people and aging as a positive event.
- The unique contributions of physical therapy to enhance the quality of life of all older adults.
- Collaborative relationships with internal and external constituencies.
- Quality of life as enhanced throughout the lifespan by following principles of health promotion, prevention of disease, and appropriate rehabilitation intervention.
- The highest standards of clinical practice as supported by research and education.

- The current and potential contributions of each physical therapist, physical therapist assistant, and student member.
- Communication among the members.
- Leadership's accountability to the members considering their current and anticipated needs.
- The cultural diversity of each member and older adult.

Leadership must use these values to set new dynamic objectives for the Section that may then establish new relationships to foster our efficiencies and effectiveness. Leadership is also about creating vision and inspiring people to change and getting others actively involved in building and supporting the process. These changes should also empower the membership.

We are a volunteer-led, member-driven, and fiscally sound organization. The Board of Directors and the Committee Chairs spend a great deal of their free (donated) time to make the Section a success. I believe that with new leadership it is time to hold a strategic planning retreat to refresh and rethink the future of the Section for the next 3 to 5 years. The Section is quite lucky, and I am thankful, to have great people to work with in this endeavor. But we cannot do this alone. We need your help as members. Decision making for a successful organization is a very important part of good leadership. Making good decisions leads to well-deserved success. Poor decisions, on the other hand, usually lead to unwanted outcomes. This should be avoided within the organization. So as the newly elected President of the Section on Geriatrics, I am asking you, as members, to help us with the decision-making process and let us know what you would like to see started, accomplished, continued, or discontinued, in order to make the Section successful. As with being a constituent in the political system, being a Section member shouldn't be a spectator sport.

At some point this spring you will be receiving an online survey. Please do your best to take a couple of quality minutes to respond. Your responses will

be used to guide our planning session this summer to develop fiscally sound goals for the future of the Section. Also, feel free to E-mail the leadership with your thoughts. E-mails can be sent to the office and we will forward to the appropriate Board member or Committee Chair.

The Section needs to embrace a broad involvement in the aging continuum from the baby-boomers to the old-old. With about 6,000 people turning 65 years young every day, older Americans may eventually overwhelm the health care system. Add to this the fact that payment for health care services provided to this population could possibly be cut, and you have a prescription for disaster. What innovations or ideas can the Section support to assist with this looming crisis? What can the Section do to assist the innovators, such as providing education, grants, or materials? Are there groups we can partner with in our mission to be more successful?

In September of 2010, it was announced that the Section had developed a Promotional Partner Agreement with the International Council on Active Aging (ICAA), an organization that is focused on active aging. This is a perfect match with an organization outside the world of physical therapy. There are probably many other groups out there with whom we can mutually gain visibility and respect, to reach our target audience more efficiently and effectively. There will certainly be opportunities for extending our name further into health promotion and prevention areas of health care.

We need to ask the right questions to come up with the right answers. Are we currently giving membership what they want? Are home study courses covering the wanted knowledge base? Are continuing education classes meeting the hands-on need? Are the *Journal of Geriatric Physical Therapy* and *GeriNotes* publishing the wanted answers to clinicians' questions? Are there organizations with which we should be aligned? These are just a few things we need to think about as the Section progresses for the next few years. But again, we need to hear from you! Let's be successful.

# EDITOR'S MESSAGE

Melanie Sponholz, MSPT, GCS



The groundhog may have seen his shadow, but we all enjoyed CSM 2012 in Chicago without a blizzard or sub-zero temperatures!

It was exciting to be part of such a great conference, with more than 12,000 physical therapists gathered to learn and network. It is fun to see how busy the hotel fitness centers are during physical therapy conferences! It was good to hear about the new goings on in the Section on Geriatrics, and to see all of the new GCS recipients on opening night of the conference. I have to brag a little, because our practice, Fox Rehabilitation, had 8 GCS recipients this year! Of all of the Board Certified Specialties, Geriatrics now ranks second in number of specialists! Hopefully this trend will continue, since the need for professionals treating older adults is tremendous. I was encouraged too by the number of students I had the chance to speak to who are interested in specializing in Geriatrics. We all need to do our best to foster this interest and provide support and mentoring to new and recent graduates with an interest in our field.

We had our *GeriNotes* board meeting to discuss plans for the year, and I think there are some great ideas for content. Our Residency Corner feature will continue this year, highlighting the varied geriatric residency programs and their participants and directors. This March issue contains two new content concepts, book reviews and Master Class interviews, that I would like to see continue. As you can see from the suggested reading list, there are many books out

there that offer psychosocial perspectives on the older adult population and/or issues affecting that population. The Master Class is a fantastic way to take advantage of the wisdom and experience of the leaders of our field.

This year, we will also have two special topic issues. In July we will have an international issue, with guest editor Dr. Jennifer Bottomley, who is the President of the International Association of Physical Therapists Working with Older People (IPTOP). It will feature writers from many different countries, discussing the field of geriatric physical therapy from their unique perspectives. The round table discussions at the WCPT Conference in Amsterdam were eye-opening and inspiring, and they gave us the idea of bringing that information to the *GeriNotes* readership. There is much we can all learn from what our colleagues are doing around the globe! In September, we will have the annual Focus CEU issue, which will center on oncology this year. Cancer affects so many of our clients, whether they have it in their past medical history or are currently undergoing treatment for active disease. Whether managing the musculoskeletal, neuromuscular, integumentary, and cardiopulmonary needs of cancer patients, treating the secondary sequela of chemotherapy or radiation, or working as part of the health care team for a patient on palliative care, there is much for us to learn about this important topic. I hope these special issues will prove interesting and useful to readers, as I always want *GeriNotes* to offer "news you can use."

I would like to use this opportunity to ask you all to consider contributing. This publication offers the unique opportunity to share any and all informa-

tion about our specialty area. If you have intervention ideas, case studies, literature reviews, an idea for an interview, a student paper, a pet project, or anything else you would like to share with Section members, please consider sending them to me! The instructions for writers can be found on the *GeriNotes* page of the Section on Geriatrics Web site. If there are leaders in our field that you would like to hear from, or topics you would like to know more about, let me know! I will do my best to fill these pages with what you want to read. The more feedback I get from you, the more this "clinical magazine" will reflect and represent its readers. In my ideal scene, the arrival of *GeriNotes* in the mailbox will be eagerly anticipated, and a chance for our members to share with and learn from one another. Hope to hear from you soon!

## ERRATUM

Please note the reprint of the January issue's CEEAA announcement on pages 28-30. We apologize for the errors in the photographs and captions in the original printing.

# MASTER CLASS: THE EXPERTS WEIGH IN ON REIMBURSEMENT AND ADVOCACY

Jennifer M. Bottomley, PT, MS, PhD

Timothy Kauffman, PhD, PT

Carole Lewis, PT, DPT, GTC, GCS, MSG, MPA, PhD, FAPTA

*Interviewed by Melanie Sponholz, MSPT, GCS and Matthew Mesibov, PT, GCS*

## HOW HAS THE REIMBURSEMENT CLIMATE CHANGED?

**TK:** The reimbursement climate has changed immensely; especially with the advent of Medicare Part D, which precipitated the Medicare replacement plans. Often the Medicare replacement plans have high co-pays, as much as \$50 per patient visit. Physical therapy has been incorrectly grouped into the specialist category in order to, I believe, purposefully discourage rehabilitation. Fifty dollars to visit a specialist isn't so bad if it only happens once a month, or once every 6 months. But paying that amount 3 times a week is a very effective way of discouraging seeking rehab services. Paying high co-pays or larger deductibles is not as difficult for persons who are able to work, but for persons on social security or a fixed income, this is a cruel policy.

**JB:** Twenty to 30 years ago, you could treat soup to nuts. You had indefinite amounts of time. Patients stayed in the hospital from 2 to 6 months; some with SCI were in the hospital for a year or more, so you could really use a wholistic approach. In the 80s, we saw a stripping of services from Medicare, during the Reagan administration. Health care "reform" has been around forever. Mrs. Clinton's proposal, when Bill Clinton was in office, was reflective of Obama Care...a lot of good stuff, like increasing home care and providing maintenance therapy, are in that legislation, and people aren't aware of this. Now we have limited time with our patients and have to focus on "a diagnosis" rather than the whole person.

**CL:** I started working in the late 70s, so have I seen a huge change. It used to be fee for service, so we got paid for what we did. This was the best way to practice medicine. Unfortunately some people took advantage of the system and we saw overutilization of services. Reality is that there is not unlimited funding, we have to manage the amount of care delivered.

## DO YOU BELIEVE THAT MEDICARE AND OTHER INSURANCE POLICIES DISCRIMINATE AGAINST OLDER ADULTS?

**TK:** I do not believe that Medicare and other insurance policies openly discriminate against older persons, but as mentioned above, with the high co-pays, this is, I believe, a clear intent to discourage care.

**JB:** Yes, rationing is taking place. The system is identifying higher functioning people and giving them less care for shorter periods of time. And for the involved folks, not enough care or enough time. Some of these folks really NEED ongoing care to maintain function.

**CL:** Yes, there is discrimination, but I don't believe it is intentional. The system is focused on treating those with "curable" conditions, without an understanding of the importance of maintaining quality of life. However, research is showing that we can improve function and quality of life, even for people with chronic diseases.

## WHY DO YOU THINK THERE IS A PUSH TO LIMIT REIMBURSEMENT FOR REHABILITATION SERVICES?

**TK:** It is unclear to me why there is a push to limit rehabilitation, but I believe that there are two principle explanations. First, I believe that there are certain powers within insurance circles that feel that rehabilitation is not necessary, especially for some of the patients who need prolonged rehabilitation. Second, I have the impression that insurance people feel that the rehabilitation field is not cohesive or politically powerful, and thus, it is an easy plum to pick. An additional consideration is the result of overuse of services or perceived overuse of services, especially in physician owned physical therapy practices, as well as in other settings.

**JB:** Bottom line, it is a savings for the system. However, this leaves no room for prevention, and it is prevention that keeps people out of the hospital. There has been a lot of pie-in-the-sky discussion, but no one is defining what preventative care is. There are prevention centered programs out there, for instance Balance for Life, these are fantastic.

The negative effects of limiting, or rationing, care can be seen in the reimbursement models in places like England and Ireland, where there are long wait lists for care. For older adults, waiting can result in a quick loss of strength and function.

**CL:** We are not vocal enough. It is easy to squeeze us out of reimbursement. We don't have the glamour and drama of orthopedics, or plastic surgery, or neurology. Rehab is time consuming and patient dependent, it is not "do it to me" medicine. If we were more vocal and politically savvy, we could protect ourselves better.

### HOW CAN WE, AS THERAPISTS, DO A BETTER JOB OF EDUCATING POLICY MAKERS AND OTHER HEALTH CARE PROFESSIONS ABOUT THE VALUE OF OUR SERVICES?

**TK:** I believe that marketing and public relations are essential for physical therapy. It is my belief that research is the way to promote our services, not just RCTs, even simple case studies. After all, we do treat individual patients. Small studies can say a lot, for instance reporting that 12 out of 15 patients over the age of 90 became independent ambulators after hip fractures, also has its importance. Advocating for proper patient care is a requisite for our profession.

**CL:** Word of mouth is extremely important. We need to find new ways to promote ourselves. We need to say who we are and what we do in all settings. Everyone needs to have that 20-second "elevator" speech about the cost-saving results of our services. I will take abstracts from journal articles about the value of what we do and send them to physicians, with an invite to get together to look at the entire article and talk about how what we do can help their patients. I also educate my patients on how to advocate for our services with their representatives.

**JB:** Grassroots. Politicians need to "see" or experience the impact of their legislative decisions. Outcome measurements on our part are particularly helpful in making a statement, and policy makers respond favorably to "evidence-based" knowledge about the effectiveness of physical therapy interventions. Also—ask public policy

makers about their parents or relatives who may have required physical therapy... in other words, bring it "home"—so that their experience will give them a personal touchstone.

### WHAT DO WE NEED TO DO ON THE RESEARCH FRONT TO PROVIDE EVIDENCE FOR THE EFFECTIVENESS OF OUR SERVICES?

**TK:** First, I believe we need to support and encourage research. Clearly, translational or clinical research is essential. Additionally, we can promote our research to others by establishing research awards and acknowledging the persons who win these awards in the area of rehabilitation. Specifically, examples would be the Excellence in Research Award for the Section on Geriatrics. A new award, Excellence in Rehabilitation of Aging Persons, was started in 2011 with the Gerontological Society of America (GSA). Although the award is not exclusively for PTs, APTA member, Alan Jette, PhD, PT, was the first winner. These kinds of awards put PT research in front of other professionals.

**JB:** We need to collect data on hospital readmissions and fall and accident rates. Retrospective studies would show the cost effectiveness of what we do, and that the cost of reimbursing for preventative care results in older adults maintaining a higher level of function.

**CL:** A lot of good research is out there, but we don't always promote it. For example, studies that show that the conservative approach to rehab for rotator cuff has the same efficacy as surgery. Ninety percent of people have a rotator cuff tear on MRI; do they all need surgery? No! They need a balanced shoulder musculature and good scapulohumeral rhythm. Arthroscopic knee surgery is no more effective than placebo. All this evidence, yet surgeons have no problems with insurance coverage, and we do! Send the articles to your referral sources and representatives with a cover letter. We should be informing them as much as

the pharma reps do.

### HOW CAN OUR PATIENTS HELP PROMOTE THE VALUE OF OUR SERVICES AND ADVOCATE FOR COVERAGE?

**TK:** I believe that we need to encourage our patients to promote the value of the services because of the benefits that they receive. Also, patients need to be informed as to some of the insurance methods of denying care and thus, they can be encouraged to advocate for proper care. Good results speak for themselves, and we must always make them known.

**JB:** We should help our clients understand the details of proposed health care plans. What's in the news is often generic, because the focus in media is always cost and budget, but not the long term ramifications of proposed plans. We can advise patients where to go to find the details, so they can be educated constituents and advocates.

**CL:** We don't realize how important it is to talk to everyone. My own parents didn't think to talk to me about the impact on their benefits of changing health care plans! We can also encourage our patients and their families to write advocacy letters upon discharge...Have a letter ready to go to help them do this! I also have a suggestion list for patients on how to keep our services covered that includes everything from Yelp to Twitter. If representatives get enough of this feedback, it makes a difference.

### WHAT DO VOTERS NEED TO KNOW ABOUT HEALTH CARE REFORM?

**TK:** Not everything in the Affordable Care Act, is fantastic, but in my opinion, to have done nothing would have been worse. Some of the changes are unequivocal improvements, such as the option for college or post-college students up to age 26 years to be covered by their parents' policy. These young persons are the least likely to

need health insurance, because fewer medical problems occur in this age group; thus, the insurance companies can now make more profit by charging for these young persons, colloquially—a no brainer. The second excellent change is the removal of the lifetime cap—physical therapists rehabilitate persons with catastrophic illnesses that require extensive and prolonged care.

A major concern for me is the negative scare tactic describing health care reform as socialist. The root word of socialist is social, which indicates that this is a relationship between human societies. The basis of our Western culture comes from the social contract as described by a variety of philosophers such as Thomas Hobbes, John Locke, Jean Jacques Rousseau, Thomas Jefferson, and others. The Dali Lama wrote that “...so that when we say ‘others’ and we think of others, we will no longer dismiss them as a something that is irrelevant to us.”

The Affordable Care Act is not a socialist law; it does not eliminate private insurance companies and choice. There are no death squads. Complete freedom in health care did not exist before the reform and it most likely will never occur unless we return to a true state of nature. However, it is important to recognize that when one chooses not to have insurance in order to save money, and later he/she needs care, this is an infringement on the society’s fabric because of cost to persons who do have insurance.

Voters must beware of the sloganeering and demagoguery of politicians and others. Incorrect information is easy to pass along and facts are often hard to find. Today’s news is usually views, not news. Voters need to be informed and not ignore history.

**JB:** Again people need to understand the details what is being proposed, and what politicians’ positions are voting on; the specifics under the

media highlights. One good source for the current administration’s stance is [www.whitehouse.gov](http://www.whitehouse.gov). Thomas.gov also provides a more comprehensive look at itemized issues being discussed and debated. You’d be surprised at the “gems” that are often embedded in legislation that has a broader theme. Look at specifics for things like balance/falls, pediatrics, and home care for elderly. I think the proposed plan has it about 70% right, but we need another 30%.

I don’t think much will be done during this election period. Most plans are talked about as a “far off dream.” Romney will try to remodel the Massachusetts model, which is not bad but is missing elements. It doesn’t look at service providers. More attention needs to be paid to the specifics of provider reimbursement; capping of services, which should be omitted; reimbursement based on “needed services;” and obtaining functional goals that result in prevention of subsequent health issues and improve the quality of life for our elderly patients.

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# SINGLE CASE STUDY

## COMPARING CHANGE IN PHYSICAL FUNCTIONING ASSESSED DURING ACUTE HOSPITALIZATION AND THEN AT ONE MONTH POST DISCHARGE

*Kristen Griffin, DPT; Steve R. Fisher, PT, PhD*

People 65 years of age and older account for approximately 38% of all acute hospital admissions, and 44% of the total days of in-hospital care.<sup>1</sup> Functional decline during hospitalization is common in this age group.<sup>2</sup> Between 30% and 60% of older patients experience a decline in basic activities of daily living (ADLs) during their hospital stay;<sup>3</sup> and less than half of these regain baseline functioning by one month post discharge.<sup>4</sup>

Physical therapists are frequently involved in the care of older patients during and soon after acute hospitalization.<sup>5</sup> However, limited objective information exists regarding comparisons of physical performance measures that can be used both during and after a hospital stay. This information is needed to better inform physical therapists working in the acute, subacute, or home environment regarding choice of test instrument, goal setting, and treatment planning.

For this case study, we describe the physical functioning of an older patient during and after acute hospitalization using measures common to physical therapy practice. These measures included components of the Short Physical Performance Battery (ie, chair rise time, gait speed, hierarchical test of standing balance), a self-report of ADL function, the Timed Up & Go, and upper and lower extremity strength. Our objective was to examine which measures were most responsive to change during this critical period. The study received approval from the University's institutional review board.

### SUBJECT

A 72-year-old African American man was admitted to an Acute Care for Elders (ACE) unit at a university teaching hospital because of progressively worsening dyspnea and chest pain. He was medically managed for congestive heart failure. His hospital stay lasted 5 calendar days. The heart work up was negative for new myocardial infarction. He was discharged to home with his wife. Past medical history included cerebrovascular disease, myocardial infarction, congestive heart failure (ejection fraction 25-30%), and peripheral vascular disease. His body mass index was 24.4, within normal range according to National Heart Lung and Blood Institute.<sup>6</sup> He was retired, a nonsmoker, and had a total of 14 years of education. Prior to this admission he ambulated without an assistive device ad-lib distances and was independent in all ADLs & IADLs. He did not receive physical therapy during or after his hospital stay.

### PHYSICAL FUNCTION MEASURES

A battery of physical function and strength measures was performed within 48 hours of hospital admission (on the hospital unit) and again at one month after discharge (within the subject's home). The functional assessment included the Short Physical Performance Battery (SPPB), Timed Up & Go, and measures of upper and lower body muscle strength and self-reported ADL function.

The SPPB includes 3 objective tests of lower body function:

- (1) **A timed 8-foot walk, measured over a distance of 2.4 meters (8 feet).** The time score was converted to meters per second for analysis purposes.
- (2) **Five timed, repetitive chair stands from a regular height chair as quickly as possible.** The patient first demonstrated the ability to rise once with arms folded across his chest.
- (3) **A hierarchical test of standing balance.** For the standing balance task, the subject was asked to place his feet in a side-by-side position, followed by a semi-tandem position (heel of one foot alongside the big toe of the other foot), then tandem position (heel of one foot directly in front of the other foot). Each position must be held for 10 seconds in order to advance to the next position.

Categorical scores (0-4) for each measure were calculated based on previously established methods developed by Guralnik et al.<sup>7</sup> A SPPB summary score was then created by summing the 3 individual test items (8-foot walk, chair stands, and balance test). There was a potential range of 0-12, with higher scores indicating better lower body function.

The Timed Up & Go consisted of the time (in seconds) it took to rise alone—from sitting in a chair, stand up, walk 3 meters, turn around, walk back, and sit down.

Strength measurements were taken with a rest period of at least 15 seconds

between trials, and were performed in the subject's room in the sitting position. The higher (in kilograms) of two successive trials was used for analysis purposes. Grip strength of the dominant hand was assessed via hand held dynamometer, with the elbow at 90°. Maximal isometric knee extensor and hip flexor strength of the leg ipsilateral to the dominant hand was assessed using a factory calibrated, hand held electronic dynamometer, with the hips at 90° and the knee at approximately 80° of flexion. For the knee extensor test, the dynamometer was placed at the front of the lower leg just proximal to the ankle with the force pad perpendicular to the limb being tested. For the hip flexor test, the dynamometer was placed over the femoral condyles perpendicular to the thigh. The patient was shown the movement to be tested and then asked to perform it to confirm understanding. He was then instructed to, at the word "go," increase his effort to maximum force until the tester said stop (3-5 seconds).

For ADL function, the patient was asked if he had difficulty or needed help performing 7 basic activities of daily living: walking across a small room, bathing, grooming, dressing, eating, getting from bed to a chair, or using the toilet. Possible scores could range from 0 to 7, with 7 indicating greater dependency in ADL function.

## STATISTICAL ANALYSIS

A percent change score (1 month test score–in-hospital test score/in-hospital test score \* 100) was calculated for each in-hospital and one-month post discharge functional or physical performance measure.

## RESULTS

The table shows the physical performance measure scores assessed in the hospital and at one month post discharge, as well as the percent change over the same time period. The measures that showed greatest percentage change were those that included a timed walking component. Gait speed increased 73.9% (from 0.46 m/s to 0.80 m/s). The TUG score decreased 37.5% (lower score indicates better performance). Conversely, the strength measures showed comparatively less change and were inconsistent in direction; knee extensor strength increased 12.3%, knee flexor strength decreased 10.1%, and grip strength only changed by -2.6%. The Short Physical Performance Battery summary score increased by one point. The ADL measure (as expected), and the hierarchical test of standing balance, did not change.

## DISCUSSION

The objective of this case study was to examine change in measures of physical functioning assessed during acute hospitalization and up to one month af-

ter discharge. Although based on a single individual, clinically useful information was found. Most notably, tests with a timed walking component had the highest percent of change from hospitalization to the one month follow-up. While the summary score for the SPPB also increased, its change could be mostly attributed to an increase in the gait speed measurement of the test. Measures of muscle strength and self-reported ADL function changed very little or not at all.

All measures that included walking speed were able to detect clinically important degrees of improvement from in-hospital to the one month follow-up. Previous studies have shown that a substantial change in gait speed for older adults is on the order of 0.10 m/s.<sup>8</sup> In the current study, gait speed increased by over three times this amount. In regard to the TUG, Van Iersel et al<sup>9</sup> showed change of more than 9% was needed to be considered clinically relevant. Minimal detectable change (MDC) for the TUG is approximately 4.0 seconds. Our subject's TUG performance met both of these criteria and therefore likely reflects a functionally meaningful improvement for him.<sup>10</sup> Of note, the subject's TUG score was worse than the norm for his age in hospital but better than the norm at one month post discharge.

Interestingly, while the 5 chair rises was a timed test, it showed only modest improvement from hospital to home.

**Table 1.** In Hospital and 1 Month Post Discharge Performance Scores and Percent Change over that Same Time Period

	In Hospital	1 Month Post Discharge	Percent Change
Gait speed (meters/seconds)	0.4	0.8	+73.9
Standing Balance*	4	4	0.0
Chair Rise Time (seconds)	12.3	13.3	+8.2
SPPB**	11	12	+9.1
Timed up and go (seconds)	12.8	8	-37.5
Knee Extensor strength (kg)	13.0	14.6	+12.3
Hip Flexor Strength (kg)	11.9	10.7	-10.1
Grip strength (kg)	39	38	-2.6
ADLs	0/7	0/7	0.0

\*4 on the balance measure indicates the highest possible score for the test. \*\*SPPBS= short physical performance battery: 2.4 meter timed walk, balance, and chair rise time measures. IADL= instrumental activities of daily living, ADL= activity of daily living.

In-hospital and post-discharge scores neared normative standards for his age group.<sup>11</sup> Meaningful change or minimal detectable change has not yet been established for the chair rise test.

Physical performance measures have long been advocated as important vital signs of overall health and vitality in older persons.<sup>12</sup> Data from this case study provide straight forward evidence of this assertion in a “natural experiment” context: a functional assessment performed during documented acute illness and then again one month later, when the acute condition is resolved. The lower timed scores in hospital are likely the result of the increased physiologic burden of acute illness; since this person had no orthopedic conditions, there was not enough time for significant hospital-associated deconditioning to occur prior to the first assessment, and strength scores remained relatively stable over time.

This information could inform a physical therapist’s decision when choosing a functional measure intended to monitor change in performance over time—such as improvement or decline following injury or illness, as in this case, or when assessing the effectiveness of an intervention. Additionally, because time and space are so often in short supply in the acute and home setting, it was also informative that the simplest mobility related measure to perform, gait speed, may be the most responsive. Future research studies examining the effects of in-hospital physical therapy on post-discharge outcomes might also consider using gait speed as the functional outcome.

## CONCLUSION

In conclusion, a comparison of physical performance measures common to physical therapy practice showed those with a timed walking component were most responsive to change from acute hospitalization to one month follow-up. As a result, gait speed, or the Timed Up & Go should be strongly considered for use in hospital when able. Use of these measures again during follow-up assessments will increase the likelihood of de-

termining clinically meaningful change in the patient’s performance over this critical period.

## ACKNOWLEDGEMENT

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# BOOK REVIEWS AS A TEACHING STRATEGY FOR A GERIATRIC COURSE

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



According to the 2010 US Census, 13% of the population is 65 years of age or older. This number is expected to double over the next 30 years as Baby

Boomers continue to reach this milestone. As part of the forefront treating this population, physical therapists and students must be adequately prepared to care for this growing population. The students must be able to understand the various aspects of aging, including not just physiological changes but personal

and emotional changes, and the impact of societal and cultural reactions to aging. Interactions with patients can be hard for students due to Medicare regulations and reimbursement restrictions. One way to provide students with the insight into the lives of aging adults and their interactions with society and health care is through the use contemporary literature.

A book review allows a student to reflect on the unique needs and perspectives of the aging adults presented in a novel. A journaling process can be used during the reading of a novel to facilitate self-reflection, while book clubs can provide the opportunity for discussion of the novels' characters and events and

their implications for clinicians as health care providers. These book reviews also give students a change of pace from the traditional studying format and allow them to enter into a world they may otherwise not encounter. The personal lives of the aging population, cultural issues, and generational differences/similarities can be presented to allow the students to reflect on their role as a physical therapist.

A potential listing of books can be found on any book club reading list but can include some of the ones listed, below. Open a book, discuss, and share. You may find you look at the aging adult differently.

## SUGGESTED READINGS

### **Ending Up** by Kingsley Amis

In this black comedy, 5 eccentric old people who are becoming senile share a home in London.

**Quartet in Autumn** by Barbara Pym  
Four elderly people in England face retirement and old age without assistance.

**Jimi Hendrix Turns Eighty**  
by Tim Sandlin

In 2020, a group of senior citizens tired of being treated condescendingly by the staff of the senior facility in which they live, stage a rebellion reminiscent of those participated in during the sixties.

**As We Are Now** by Mary Sarton  
Written as the journal of a 78-year-old woman placed in a nursing home against her will.

**Bless Me, Ultima** by Rudolfo Anaya  
A young Mexican boy learns about wisdom and evil from an old, wise woman who is a curandera with magical powers.

**Cold Sassy Tree** by Olive Burns

Set in the south in the early 1900s, an old man astonishes his family when he marries a very young woman after the death of his beloved wife.

**Age of Iron** by JM Coetzee

An elderly white woman is dying of cancer as the South African situation deteriorates.

**The Death of Artemio Cruz**

by Carlos Fuentes  
An old man who has chosen wealth rather than compassion throughout his life, lies dying and reflects on his choices.

**Losing Julia** by Jonathan Hull

An elderly man who lives in a nursing home remembers his experiences in WWI, when he lost his closest friends. A depiction of the indignities of old age.

**The Prince of West End Avenue**

by Alan Isler  
A man living in a NY senior citizen apartment comes to terms with his actions during the Holocaust.

**The Distinguished Guest**

by Sue Miller  
An aging writer with Parkinson disease stays with her son's family.

**Jan's Story: Love Lost to the Long Goodbye of Alzheimer Disease**  
by Barry Petersen

A man watches his wife decline with early onset Alzheimer at age 55.

**The Long Goodbye** by Patti Davis

A look at the impact of Alzheimer Disease on President Reagan, and the affects on his family and friends.

**Two Old Women** by Velma Wallis

This book follows two older women of the Athabaskan Indian Culture as they learn to adapt on their own. A look at how other cultures view aging allows the reader to challenge their own bias.

## BOOK REVIEW: JIMI HENDRIX TURNS EIGHTY

Shanelle Bowen, SPT

Tim Sandlin penned *Jimi Hendrix Turns Eighty*, giving a futuristic view of the lives of aging adults who find themselves under the care of their children who determine they should be institutionalized. After the death of his wife, Lily, 72-year-old Guy Fountaine, moves from his native Oklahoma to California to live with his daughter, Claudia. Guy lost all interest in activities he once enjoyed, after watching Lily slowly succumb to renal cancer.

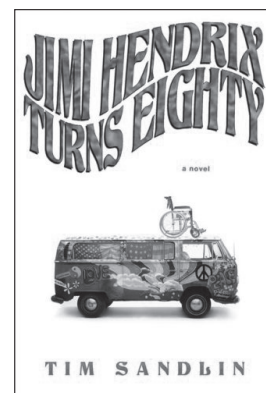
A former sports writer, Guy, loved to watch and play golf. One day, while playing with a few gentlemen in California, Guy got into the golf cart, and instead of going to the next hole to putt, he drove into busy traffic. This was the impetus for his daughter and son-in-law's decision that he should be moved to Mission Pescadero, an assisted living facility with a nursing care unit. Guy likened his experience at Mission to starting high school, in a new place, with no friends. The residents cluster in different groups, similar to high school cliques, according to shared characteristics such as hometown and profession. They discuss how family members are abusing them financially, how staff refers to them as demented, and how they feel about each other's aging changes. Guy faces many internal conflicts as he adjusts to this setting. One person, Ray John, at Mission Pescadero sees Guy's uneasy demeanor and befriends him. Together, these two let the reader experience the turmoil of coping with loss of family, home, and independence. Guy and the other residents convey the joy of being wanted, the viewpoint of the aging when discussing technology with the younger generation, and the reality of age-related changes. Their interactions with fellow residents reveal the internal peace that comes with asserting yourself for a positive purpose.

Though the story is centered around Guy, Sandlin also exposes the unfortunate truth about physicians, through characters like Dr. Beaver, who thought, "dementia...excited him, but now [after

many years of practicing] he'd rather talk about his kids." Sandlin also discusses issues such as the recreational drug use of the hippie era, and the increased libido of those with early signs of Alzheimer disease. He illustrates the bias of nursing home administrators who treat residents like children. Alexandra Truman, the administrator at the Mission, constantly shows disregard for the residents, making statements like, "I'm going to tell your children," when the residents act in a manner that is not what she considers age appropriate. The residents rally against her.

The novel also explores cultural diversity. Guy's Oklahoma background makes him a country bumpkin to the California hippies at the Mission. There are also a few racial slurs, comments directed towards the ancillary service personnel, such as the Hispanic janitor and African American security guard and administrative assistant. Through these comments, Sandlin probes the impact of the racial divide, and how the Mission residents have experienced issues related to race throughout their lives.

Although there is no physical therapist in this book, the age-related issues explored, including the various interactions with the staff and health care professionals, caused me to reflect upon my own interactions with older adults in similar settings. For instance, when Rocky in the novel recounts his awkward conversation with a candy striper who expresses disdain for generations who grew up without computers, I reflected on my own conversations, wondering if I had been similarly insensitive. We are probably all guilty of assuming that what is common or familiar to us is also familiar to our patients. As health care professionals, physical therapists must strive to show respect and consideration to clients of varying ages with varied life experience and backgrounds. It is important to relate to our patients, and establish affinity with them.



Reading *Jimi Hendrix Turns Eighty* will open your eyes to the potential mayhem that occurs "behind the scenes" in nursing homes, both with staff and residents. The book also presents the potential abuse that can occur when family members have suspect motivation for placing someone in a facility. As mandatory reporters, physical therapists must not ignore the information from residents or the suspicious activity by administrators, fellow employees, or resident family members. There is much to be learned and much wisdom to be gained from older adults and their behavior can be a cry for a listening ear.

Jill Heitzman graduated from St. Louis University with her PT degree in 1978 and returned to get her DPT degree at Creighton University as one of the first members of their t-DPT graduation class in 2002. Dr Heitzman serves on the Board of Directors for the Section on Geriatrics and also is program chair for CSM. She is a member of the faculty for the Certified Exercise Expert for the Aging Adult series and teaches for the College of St Scholastica in Duluth, MN. She has written and lectured nationally on various topics related to the aging adult and is self employed providing contract physical therapy services in the Auburn, Alabama area.



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# BENIGN PAROXYSMAL POSITIONAL VERTIGO AND POSTTRAUMATIC BRAIN INJURY

Carol A. Steiner, PT, MPT

## BACKGROUND/PURPOSE

The following case study is about the incidence of benign paroxysmal positional vertigo (BPPV) following mild traumatic brain injury (TBI). As a physical therapist who specializes in the treatment of patients with neurological and vestibular disorders, I have found a surprising number of patients, post mild TBI, may also have underlying BPPV. Some of the common symptoms that patients with a mild TBI may experience are typically vertigo and/or dizziness, and difficulty maintaining balance during standing or walking activities. As part of my initial physical therapy assessment, I perform a number of clinical tests and measures to determine a physical therapy diagnosis and formulate a comprehensive treatment plan specifically for that patient. The Dix-Hallpike and the Roll test are two tests I use to screen for BPPV. The following example is about a 67-year-old male who sustained a 12- to 15-foot fall from a scaffold and sustained multiple injuries, including a mild TBI and also found to have BPPV. I have cited 3 articles below that describe BPPV in patients with posttraumatic brain injury. Following the case study and article review is a glossary of terms that may be helpful to those unfamiliar with this area of practice.

## CASE DESCRIPTION

**Practice Setting:** Specialty Outpatient-Neurological and Vestibular Rehabilitation

**Orders/Referral:** (09/28/2010) Vestibular Rehabilitation -From a physician specializing in Neurology/ Neuro-Otology

**Diagnosis:** Initial diagnosis: Hypoactive Labyrinth, BPPV, Right Labyrinthine Concussion, and Dizziness and Giddiness. Secondary diagnosis: Post Concussion Syndrome and Central Suppression of Vestibular Responses

**Insurance:** Ohio Casualty – Work Compensation

**History of Present Illness:** The patient is a 67-year-old male who sustained a 12- to 15-foot fall while working in a fabrication plant in Mexico on 7/23/10. Injuries sustained included cerebral concussion with + LOC (loss of consciousness), left occipital laceration, left ear laceration, right shoulder contusion, right nondisplaced scapula fracture, fractured ribs on the right 3 thru 7, blood in right lung, and blunt trauma to anterior throat.

**Diagnostic Tests:** (10/19/2010) Laryngoscopy, MRI, and CT were unremarkable. X-rays of chest and shoulder girdle revealed above noted fractures.

**PMH:** Lumbar stenosis, right shoulder rotator cuff tear, left pleural effusion, tobacco use (quit 2006), and depression.

**PSH:** Lumbar laminectomy x 2 (1985 and 1989), left lung surgery (2006), and right rotator cuff repair (2006).

**Social History:** Patient worked full-time as a supervisor for a materials fabrication company. His position required him to travel extensively to various countries and throughout the United States. Duties included carrying heavy equipment and navigating on high scaffolding. He spent his leisure time deer hunting. He is a retired Marine. He is married with 2 grown children. The patient resides in a one level home with his wife.

**Medications:** Desonide .05%, Vanicream topical, Prednisone 10 mg, Reglan 10 mg p.o., Zolpidem 12.5 mg, Vicodan 5 mg – 500 mg p.o., Amantadine 100 mg, Magnesim Oxide. Medications once seen by the concussion team (03/16/2011): Trazadone 50 mg, Restoril 30 mg, Clonazepam .5 mg, Tylenol Extra Strength 500 mg.

**Subjective Information:** Headache, nausea, dizziness, blurry vision, decreased balance, weakness, fatigue, unsteady gait, difficulty swallowing, hoarse voice, light, and noise sensitivity.

## PHYSICAL THERAPY EXAMINATION (10/05/2010)

**Observation:** Elderly male accompanied by his wife, appears physically fit, without any postural abnormalities, ambulating without an assistive device and wearing sunglasses secondary to c/o light sensitivity.

**Vitals:** Blood pressure 118/78, heart rate 84 beats per minute, respiratory rate 16.

**Sensation/DTR:** Intact to light touch bilateral UE/LE. Patient denies any numbness or tingling bilateral UE/LE. DTRs UE/LE = normal.

**ROM/ Muscle Strength:** Range of motion is within functional limits for bilateral UE/LE, except for right shoulder elevation and abduction that are limited to 110°. Strength is 5/5 for bilateral UE/LE, except for right shoulder proximal muscles, which are 4/5. Grip strength (right hand dominant): Right = 18 kg, Left = 34 kg.

**Cognition/Mood:** Alert and oriented x 3, pleasant and talkative at the time of evaluation but patient is reporting difficulty concentrating, remembering, foggy, light and noise sensitivity, difficulty sleeping, irritable, anxious, and sad.

**Pain:** Right shoulder 6/10, right flank area 2/10.

**Headache/Dizziness Rating:** Headache--Now: 7/10, Best: 5/10, Worst: 10/10; Dizziness--Now: 8/10, Best: 8/10, Worst: 10/10

**ABC (activities balance confidence scale)/DHI (dizziness handicap inventory):** ABC = 28% and DHI = 68 (Normal values for ABC = 100% and DHI = 0)

**Post Concussion Symptom Scale:** Symptoms = 22, Intensity = 80 (Normal values for PCSS: Symptoms = 0, Intensity = 0)

**Ocular Motor Exam:** Smooth pursuits, saccades, VORc all normal but causes an increase in headache and dizziness.

ness. VOR x 1 = abnormal with horizontal head turns with retinal slips, Head Thrust Test = positive with head thrust towards the right. Cover/Uncover test = unremarkable. Cross cover test = abnormal and positive for exophoria. Maddox Rod Test = abnormal and positive for exodeviation. Near point convergence = abnormal at 25 cm.

**Balance:** Eyes open-closed/feet together on floor = 30 sec/20sec; Eyes open-closed/feet together on foam = 20sec/unable to maintain standing.

**Dix-Hallpike Roll Test:** Dix-Hallpike positive for upbeat and torsional nystagmus with right ear down. Roll test positive for geotropic horizontal nystagmus.

**Four Item DGI and Gait speed:** Four item DGI score 8/12 (12/12 = normal and < 9 fall risk). Gait speed = .84 m/sec (1.22 m/sec required to cross street).

#### Assessment:

Post concussion syndrome, right peripheral vestibular hypofunction, right posterior canal BPPV canalithiasis, left geotropic horizontal canalithiasis, and decreased static and dynamic balance limiting the patient's functional abilities and putting the patient at risk for falls. Also, right shoulder pain, limited range of motion and decreased strength.

#### Problem List:

**Post concussion syndrome**--has not been evaluated by a physician specializing in concussions or a neuropsychologist as of the date of the PT evaluation. (The neuro otologist recommended the appropriate physician and neuropsychologist, and the appointments are in a few weeks).

**Opposite and bilateral canal involvement for BPPV**--can be treated in physical therapy, but usually one canal involvement each visit.

**Peripheral vestibular hypofunction with decreased gaze stabilization**--difficult to initiate exercises to improve gaze stabilization until BPPV resolved.

**Static and dynamic imbalance**--putting patient at high risk for falls.

**Right shoulder dysfunction**--recommend physical therapy for right shoulder. Physical therapist will need to contact the case manager to recommend

PT for right shoulder, but patient will then have to see two separate physical therapists, and have two separate files. Work comp cases usually allow this but most insurance companies will not.

**Patient Goals:** "Get back to normal and return to work."

#### Physical Therapy Goals:

##### Short Term:

1. Decrease subjective complaints of dizziness to 6/10 or less.
2. Negative Dix-Hallpike and Roll tests.
3. Improve DHI score to 40 or less.
4. Improve ABC score to 50% or more.
5. Improve static balance EC on foam to 30 seconds.
6. Improve PCSS to symptoms = 16 and intensity = 50 or less.
7. Improve 4-item DGI to 10/12.

##### Long Term:

1. Decrease subjective complaints of dizziness to 3/10 or less.
2. Improve DHI score to 10 or less.
3. Improve ABC score to 80% or better.
4. Improve PCSS to symptoms 8 or less, intensity 30 or less.
5. Improve gait speed to 1.1 m/sec or better.
6. Improve 4-item DGI to 12/12.
7. Independent in a home exercise program.

**Plan of Care:** Canal repositioning maneuvers, gaze stabilization exercises (VOR x 1), static balance on floor/foam eyes open/eyes closed, convergence and ocular motor exercises, dynamic gait with head turning, patient and family education on reducing fall risk and home exercise program.

**Rehab Potential:** Fair--limited by post concussion syndrome, vestibular hypofunction, and BPPV.

**Status at Discharge:** Discharged on January 27, 2011. ABC score 80%, DHI score 10, DGI = 18/24, FGA = 22/30, PCSS = 12/40, gait speed = 1.0 m/sec, subjective dizziness = 3/10, headache = 4/10, negative for BPPV. Patient wished to discontinue therapy and progress home program independently. He was also discharged from speech therapy for cognitive rehab and had 3 visits remaining at vision therapy.

## CLINICAL QUESTION AND LITERATURE SEARCH

### Should patients be screened for BPPV posttraumatic brain injury?

#### Article One

Seong-Ki A, Sea-Yuong J, Jin-Pyeong K, et al. Clinical characteristics and treatment of benign paroxysmal vertigo after traumatic brain injury. *Journal of Trauma: Injury, Infection, and Critical Care*. 2011;70(2):442-446.

**Purpose:** To identify the clinical characteristics of BPPV after TBI and to determine whether clinical differences exist between BPPV after TBI and idiopathic BPPV.

**Patients and Methods:** During the time from 01/01/2003 to 01/31/2009, a total of 32 patients (ages 30 to 74 yrs) with BPPV after TBI and 112 patients (average age 55 yrs) with idiopathic BPPV were included in the study. Inclusion criteria: no history of BPPV post head injury (for the TBI group), or no history of BPPV or head injury (for the idiopathic group). Benign paroxysmal positional vertigo was diagnosed based on the Dix-Hallpike and Roll tests (head turning test), and nystagmus was observed and clinically diagnosed as PC (posterior canal) canalithiasis, HC (horizontal canal) apogeotropic (cupulolithiasis), or geotropic (canalithiasis), and treated using the appropriate repositioning maneuvers. Resolution of BPPV was determined by the absence of nystagmus and positional vertigo.

**Results:** Of the 32 patients of the BPPV and TBI group, 24 had PC-BPPV, and 11 had HC-BPPV. Three of the 32 patients had either bilateral BPPV or multi-canal involvement. Repositioning treatments per patient: 19 received 1, 8 received 2, 1 received 3, 2 received 4, 1 received 5, and 1 received 7. During follow-up visits, 5 of the 32 patients experienced a reoccurrence of BPPV. Of the 112 patients of the idiopathic BPPV group, 94 responded favorably to a single treatment. The study does not report how many visits were required for the multi-canal involvement patients.

The mean number of treatment sessions of the BPPV post-TBI group was significantly greater than the BPPV idiopathic group. The recurrence rate was 15.6% in the BPPV post-TBI group,

and 18.8% in the BPPV idiopathic group, but this difference was not significant ( $p > 0.05$ ).

**Discussion:** Imbalance and dizziness are common symptoms post TBI. In this study, the incidence of BPPV caused by head injury was 11.7%. In other studies, the incidence of BPPV caused by head trauma was found to be 8.5% to 20%. Physicians should be aware of the possibility of BPPV when patients complain of dizziness even after mild head trauma. Posttraumatic BPPV may be more difficult to treat, requiring repeated maneuvers, but no tendency to recur was observed in patients who developed BPPV post TBI, compared to the idiopathic BPPV group.

**Summary:** Patients post TBI, even considered “mild TBI” (classified as a type of concussion), report chronic dizziness and imbalance. This article investigated the incidence of BPPV post TBI, and whether there were any clinical differences between BPPV post TBI and idiopathic BPPV. The causative factor of some patient complaints of dizziness and imbalance after a head injury may be a mechanical dysfunction within the inner ear, such as BPPV. Through proper screening, such as performing a Dix-Hallpike and/or Roll test, the diagnosis of BPPV can be obtained. Physicians and experienced clinicians should consider screening this patient population for BPPV once all contraindications and indications have been determined and considered. It is also noted that once the determination of BPPV has been made and treatment indicated, only experienced physicians and/or clinicians should initiate treatment for BPPV, since post-TBI BPPV may require multiple treatments and is difficult to treat in comparison to idiopathic BPPV.

## Article Two

Motin M, Keren O, Groswasser Z, Gordon CR. Benign paroxysmal positional vertigo as the cause of dizziness in patients after severe traumatic brain injury: diagnosis and treatment. *Brain Injury*. 2005;19(9):693-697.

**Purpose:** To identify patients with BPPV following a severe traumatic brain injury and evaluate the effectiveness of a particle repositioning maneuver.

**Design and Methods:** Eighteen month prospective study of 150 consecutive patients with severe TBI referred to an in-patient rehabilitation department. Patients who complained of dizziness or the illusion of movement (vertigo) elicited by positional changes or physical exertion and relieved by rest were evaluated. No patient had complaints of vertigo before the trauma or any history of pre-existing inner ear disease that can cause BPPV. All patients were in the subacute phase of rehab. A detailed neuro-otological examination was performed, which included an ocular-motor exam, evaluation of spontaneous nystagmus, evaluation of dynamic VOR function, and positional testing with the Dix-Hallpike or Roll test. For the patients with PC-BPPV, a PRM (particle repositioning maneuver) was performed. For patients with bilateral BPPV, treatment for one ear was done on the first visit and for the other ear one week later.

**Results:** Twenty out of the 150 patients (13.3%) complained about positional vertigo. The diagnosis of BPPV was confirmed in 10 of the 20 patients (50%). There were eight men and two women with a mean age of 43 years. Ten of these patients had PC-BPPV, 4 patients had a diagnosis of bilateral BPPV, and none had HC-BPPV. Six out of the 10 patients had complete resolution of symptoms after one treatment. The other 4 patients required 3 to 6 repeated treatments. Because of the limited number of patients for this study, the incidence of BPPV in patients with TBI was inconclusive, but it is remarkable that 50% of the patients complaining of positional vertigo actually had BPPV.

**Discussion:** Although a small group of patients suffering from TBI and BPPV were examined, it is believed that the preceding head trauma was the direct cause of BPPV in those 10 patients. It is well known that bouts of BPPV can persist for weeks to months in some patients. Bilateral BPPV has been reported to be more frequent following head trauma. All patients were treated successfully using a PRM. Benign paroxysmal positional vertigo should be examined in patients post TBI complaining about dizziness or positional vertigo.

**Summary:** Benign paroxysmal positional vertigo can also be diagnosed

in patients with a “severe” brain injury. Benign paroxysmal positional vertigo can be very disabling in patients with TBI, and can have a negative impact on their rehabilitation potential. Successful treatment and resolution of symptoms can be achieved using the proper particle repositioning maneuver, after examination of nystagmus and determination of what side and what canal is involved. The incidence of BPPV after a TBI in this study was inconclusive because of the small number of patients.

## Article Three

Katsarkas A. Benign paroxysmal vertigo: idiopathic versus post-traumatic. *Acta Otolaryngology*. 1999;119(7):745-749.

**Purpose:** It is known that BPPV may be induced by head injury. This article is a retrospective study to determine whether there are differences to be identified between groups of patients who suffer from posttraumatic BPPV, regardless of the mechanism of injury, and groups of patients who suffer from idiopathic BPPV.

**Materials and Methods:** Patients in this study were observed in the Dizziness Clinic, from October 1973 to August 1997, and found to be positive for BPPV. Idiopathic group total = 1,490, with a mean age of 56. Posttraumatic group total = 154, with a mean age of 52. Patients with a history of an inner ear disorder or neurological disease were excluded from the study. Nystagmus was directly observed without the use of recording devices or Frenzel glasses. Clinical examination involved observing for nystagmus in the sitting position, then maneuvering patients into supine, with head rotation towards the side of the presumed provocative position. In this position, the eyes were observed first with gaze towards the lowermost ear, then in the opposite direction. The patient was then brought back up to the sitting position, in which the eyes were again observed, and then the opposite side was tested in the same manner. Patients were not examined for nystagmus in the straight supine position.

**Results/Discussion:** The differences summarized below between the idiopathic and the posttraumatic group show that these two groups are of dis-

similar populations, confirming the notion that head injury is one of the direct causes of BPPV.

1. The patients in the idiopathic group were older, so apparently aging may be one of the causes of idiopathic BPPV.
2. Benign paroxysmal positional vertigo was more prevalent in women (2.23:1) than in men in the idiopathic group, possibly due to hormonal differences, especially after menopause.
3. Men and women had the same prevalence in the posttraumatic group, possibly because men and women can be exposed to similar risky conditions in everyday life, such as driving, etc. Women and men were equally affected (1:1).
4. Benign paroxysmal positional vertigo was more prevalent in the PSC vs. HSC, this may be due to the anatomical location of the posterior canal being the most dependent in an upright position, thus making it easier for the calcium carbonate crystals to fall into this canal.
5. Head injury may equally affect both ears, thus bilateral involvement is expected to occur more frequently in the posttraumatic group.

**Summary:** The author points out that despite similarities, the two groups do differ in a number of parameters, and that the pathophysiology and course of idiopathic BPPV and posttraumatic BPPV may also be different. The author does hypothesize on some of the reasons for idiopathic BPPV, but does not offer any clinical reasoning into what may have caused posttraumatic BPPV. For instance, is it due to the force of impact, or the prolonged supine position with head stabilization (post surgical etc.)? Further research into this area may be beneficial.

### SO WHAT? NOW WHAT?

So what? I chose this case for discussion, because I am seeing a surprising number of patients who have undiagnosed BPPV post mild TBI (such as a concussion), a severe head injury, post brain surgery, or after another kind of TBI. These patients' primary complaints are usually dizziness and unsteady gait. Time frame postinjury and

vestibular therapy has ranged from 4 weeks to 6 months. The group includes men and women who range in age from 30 to 67.

Some of these patients with undiagnosed or unsuspected BPPV are able to independently walk into the department without an assistive device, while some depend on a cane. Not all patients with BPPV have observable imbalance with functional gait. The DHI is always scored high, and the ABC is usually in the low to moderate percentage range. The few questions that I specifically look at on the DHI (difficulty getting out of bed, looking up, bending over, and rolling in bed and head turns) for suspected BPPV are not always a yes. The patient may be avoiding those positions and so scores the question as a "no." Most avoid head movement when walking. Initially these patients' complaints of dizziness and unsteady gait may have been attributed to a central pathology, instead of a peripheral mechanical dysfunction such as BPPV, so a Dix-Hallpike or a Roll test may not have been considered.

The patient in my case study had bilateral BPPV, most likely caused by the fall. He had no previous history of BPPV or inner ear disorder. He was very difficult to treat because of the post concussion symptoms of headache, convergence spasm, personality changes, and vestibular hypofunction. Bilateral BPPV also recurred one month after being discharged, and he required an additional 6 PRM treatments.

I have also evaluated a patient 6 months post concussion, who was found to have right PC BPPV. Fortunately, he only required two canal repositioning maneuvers, and his balance, DHI, ABC, and gait scores all improved.

Another patient, with a self-inflicted gunshot wound, would experience dizziness while in the shower tilting his head back. He was found to have left PC BPPV (trauma side), and required two visits.

The authors of these 3 articles all agree that BPPV can be caused by a mild or severe head injury, and that it may be more difficult to treat than idiopathic BPPV, requiring repeated maneuvers. The authors also found that the posterior canal was most affected in both

types of BPPV, and there was a higher incidence of bilateral canal involvement in patients posttraumatic head injury. Assessment of BPPV was done using the Dix-Hallpike and/or Roll test.

Now what? In treating this type of patient population, we must be aware of not only central causes of dizziness but also any peripheral inner ear dysfunctions. It is important for us to ask the patient if he or she experiences dizziness or an abnormal feeling of "motion" while performing self-care, homemaking or other functional activities that involve a change in body and head position. The use of valid and reliable tests (ie, the DHI, ABC, TUG, DGI, etc.) is also extremely important in helping us further investigate an underlying cause of dizziness such as BPPV.

### DISCUSSION QUESTIONS

Do you agree that there may be an underlying peripheral vestibular disorder, like BPPV, in your patients posttraumatic brain injury? And if so, do you feel that it may be beneficial to screen for BPPV in these patients?

Do you think that physicians screen for BPPV in these patients?

Do you feel that most physical therapists treating patients post TBI feel confident in performing a Dix-Hallpike maneuver? And if so, would they be confident in assessment of nystagmus and canal involvement if present? And would they perform the proper particle repositioning maneuver?

If BPPV can be present in patients post-TBI, what about our adult and elderly population that complains of dizziness and imbalance post fall without any head injury? Could the force of the movement from the fall cause BPPV? Should this population also be screened?

There are contraindications and precautions to be considered when assessing for BPPV in addition to seeing a down beating nystagmus, so if you suspect your patient may have BPPV and if you do not feel confident in the assessment, do you have access to a health care professional that could? If not, what would you do?

## GLOSSARY

### Abbreviations

**ABC**=Activities-Specific Balance Confidence Scale (0 = no confidence, 100% = complete confidence)

**DHI**=Dizziness Handicap Index (0-30 = mild, 31-60 = moderate, 61-100 = severe handicap)

**PCSS**=Post Concussion Symptom Scale (0-22 number of symptoms, 0-6 symptom intensity)

**VOR/VORc**=Vestibular Ocular Reflex/Vestibular Ocular Reflex cancellation

**FGA**=Functional Gait Assessment (0-30)

**DGI**=Dynamic Gait Index (0-24, scores  $\leq 19$  is at risk for falls)

**BPPV**=Benign Paroxysmal Positional Vertigo

**PT**=Physical Therapist

**UE/LE**=upper extremity/lower extremity

**DTR**=deep tendon reflex

**STG/LTG**=short term goal/long term goal

**EO/EC**=eyes open/eyes closed

**ROM**=range of motion

### Definitions

**Benign Paroxysmal Positional Vertigo (BPPV)**—common cause of vertigo or “spinning,” which may be the result of “crystals” (small crystals of calcium carbonate) that have lodged within one of the semicircular canals within the inner ear called the labyrinth.

### Cover/Uncover Test

**Cover test**—While the patient focuses on a target (tip of your nose), cover one eye (you can use your hand or a Maddox Rod), then look for any “movement of redress” (adjustment) in the eye that is not covered. No movement = normal. Movement = may identify a tropia, which is movement inwards, outwards, upwards or downwards.

**Uncover test**—Same test as above only this time you are looking to see what happens in the eye that was just covered when you uncover it. No movement = normal. Movement = may identify a phoria.

**Tropia**—nerve weakness, deviation of the eye from the normal position.

**Phoria**—tendency for eyes to deviate from normal position when fu-

sional stimuli are absent or when fusion is prevented.

**Cross Cover Test**—For the alternate cross cover test, transfer the occluder (your hand or Maddox rod) from one eye to the other. Hold hand over eye at least for 5 seconds. This prevents binocular viewing. Do this multiple times, because you may not see any deviations initially. You are looking for any deviations inwards, outwards, upwards or downwards. No movement = normal.

**Dix-Hallpike Maneuver**—A diagnostic maneuver to identify BPPV in the posterior or anterior semi-circular canals.

**Head Thrust Test**—A test used to determine an abnormal vestibular function.

**Maddox Rod**—A tool with one end that is an occluder and the other end that is transparent with grooves. This tool is typically used with a penlight to perform a dissociating test that will reveal a phoria or tropia, or no fusion of vision. Many normals have a phoria, especially in horizontal direction, so abnormal would be indicated by a large deviation (1 inch or  $>$ ), or by vertical deviation. To test, hold the transparent end of the Maddox rod over the right eye with the grooves horizontal. From a distance of approximately 16 inches, shine the penlight through the transparent part of the Maddox Rod. The patient should see white light and a vertical red line. Ask the patient about the alignment of light and vertical line. Small deviations are normal.

**Near point convergence**—Test by having the patient fixate on a target brought slowly towards the nose. Have patient stop the target when and if they see “doubling” of the target. Measure from the tip of the patients’ nose to the target. Have patient do this at least 3 times to assess fatigue. Normal = 5cm or less. Abnormal =  $> 5$  cm, may indicate a convergence insufficiency.

**Post Concussion Syndrome**—Symptoms that a person may experience following a mild traumatic brain injury.

**Roll Test**—A diagnostic maneuver to identify BPPV in the horizontal canals.

**Saccades**—Fast and very accurate eye movements used to shift your gaze from one point to another, tested horizontally and vertically.

**Smooth Pursuits**—The ability to visually track a moving target smoothly, tested horizontally and vertically.

**Vestibular Hypofunction**—Condition in which a person experiences dizziness or disorientation due to dysfunction(s) within the inner ear.

**Vestibular Occular Reflex (VOR)**—A reflex eye movement that stabilizes images on the retina during head movement.

**VOR x 1**—A gaze stabilization exercise in which the target remains stable as the head is turned horizontally or vertically.

**Vestibular Occular Reflex cancellation (VORc)**—The ability to suppress (or cancel) the VOR for assessment of the central oculomotor pathways.



Carol Steiner is a full-time staff Physical Therapist at Centers for Rehab Services Cranberry. Carol works in the Cranberry Specialties Department treating

patients with a Neurological and/or Vestibular diagnosis. Ms. Steiner's other special interest is the rehabilitation of patients post concussion, after head trauma or sports related injury. Ms. Steiner is a member of the Physical Therapy Advisory Board at Duquesne University, and also an adjunct clinical instructor in the department of Physical Therapy. She acquired a certificate in Vestibular Rehabilitation from Emory University in Atlanta, Georgia in March of 2011. Carol is currently enrolled in the Doctorate in Physical Therapy program at Chatham University in Pittsburgh, Pennsylvania with an anticipated graduation this summer. She can be contacted at steinerca@upmc.edu.

## CASE REPORT: CLINICAL DECISION MAKING FOR A PATIENT WITH CALF PAIN AFTER A TOTAL KNEE REPLACEMENT

*April Barthuly, PT, DPT*

### BACKGROUND/PURPOSE

Calf pain can be a symptom of many conditions after an acute total knee replacement (TKR). The primary concern with calf pain after a TKR is whether it is indicative of a deep vein thrombosis (DVT). Patients that have undergone a TKR are at increased risk of having a DVT after surgery.<sup>1</sup> The Homan's sign has been a way to detect whether the individual may have a DVT or not. However, the literature has noted that using this test can actually be harmful for the patient and may not be as sensitive or specific as once thought.<sup>2</sup> The incidence of DVTs in the acute TKR population is higher than in the total hip replacement population.<sup>3</sup> According to Rasul,<sup>4</sup> the incidence of DVTs in patients without prophylaxis after a TKR is 50% to 84% and with prophylaxis it is 22% to 57%. Also, Rasul<sup>4</sup> notes that relying on signs and symptoms of a DVT has less than a 50% accuracy.

The importance of determining the cause and source of calf pain in patients who have undergone a TKR is of utmost importance due to its severity. For physical therapists, the Well's Clinical Decision rule for DVT and pulmonary embolism (PE) may be a more accurate predictor for DVTs than the Homan's sign.<sup>5</sup> A venography is the most accurate diagnostic test to diagnose a DVT other than relying on signs/symptoms and clinical tests;<sup>6</sup> although, the Doppler is a common device used to detect DVTs as well.<sup>6</sup>

Deep vein thrombosis may not be the only cause of calf pain in patients who are acutely post-op TKR. Electrolyte imbalances are another cause that can be the source of calf pain. Specifically, potassium imbalances can cause mus-

cle cramps and pain. Hypokalemia is a state of low potassium in the body.<sup>7</sup> The symptoms of hypokalemia are palpitations, skeletal muscle cramping/pain, paralysis/parathesias, constipation, nausea or vomiting, abdominal cramping, delirium, and fatigue.<sup>8</sup> The purpose of this case report is to increase awareness of different causes of calf pain other than a DVT in post-op TKR patient.

### CASE DESCRIPTION

Mrs. Caplan is a 69-year-old female with a past medical history that is significant for non-insulin dependent diabetes mellitus, hypertension, coronary artery disease, vertigo, anxiety, hypercholesterolemia, anemia, dermatitis, and severe bilateral knee osteoarthritis. The patient was admitted to the hospital for an elective right TKR surgery, due to her severe knee osteoarthritis. When she was medically stable after her surgery, she was transferred to a skilled nursing facility (SNF) for post-op TKR rehabilitation, in preparation for her return home. Current medications include: Lipitor, aspirin, Lasix, Plavix, Lovenox, Ativan, and Percocet. Mrs. Caplan denies any smoking or alcohol use.

Upon initial physical therapy evaluation in the SNF, Mrs. Caplan complained of right calf pain of 8/10. Upon examination, the patient presented with a red swollen right calf, with an increased skin temperature and pain. Her vital signs were as follows: blood pressure was 142/70 mmHG, heart rate 82 bpm, respiratory rate of 14 breaths per minute, pulse ox 98% on room air, and a body temperature of 98.4°. The patient presented with 2+ pitting edema in the right lower extremity and no swelling in the left lower extremity. Her anthropo-

metric measurement for her right calf was 42 cm, and her left calf was 30 cm. Her right calf presented with a moderate edema and ecchymosis on the lateral right knee. Her right knee had a clean anterior incision closed with 16 staples, with increased erythema, edema, and skin temperature around the incision site upon palpation. The patient was on Percocet every 6 hours for pain and Ativan for anxiety. The patient's functional mobility was a minimum assist of one for bed mobility, transfers with a rolling walker, and ambulation. Mrs. Caplan's social history consisted of living alone in a two-floor Cape-style house, with 5 steps to enter with one rail. Her bedroom and full-bath were on the second floor, reached via 13 steps with one rail. The first floor of her house could be arranged to be lived in if she could not negotiate stairs to the second floor of her home. Prior to surgery, she was independent without an assistive device for transfers and ambulation. She is a retired math teacher and is an active member of her church community. She drives short distances during the day and has an involved daughter who lives in a nearby town.

At the time of the physical therapy examination, the patient had increasing pain upon palpation of her right calf. She presented with a positive Homan's sign, and the Well's Clinical Prediction Rule for PE and DVT was a 5, which indicates that the patient is at moderate risk. A Doppler ultrasound was recommended before any further examination to rule out a possible DVT in the right leg. The Doppler results came back as negative. After another review of her medication and past medical history, the physical

therapist recommended a blood test and lab culture to rule out possible infection or electrolyte imbalance. The culture was negative for an infection. The patient's International Normalized Ratio (INR), 2.4, was well within therapeutic range (2-3) recommended by her doctor. The patient's hematocrit and hemoglobin were well within the normal ranges as well. However, her potassium level was 2.2 mEq/L (normal range is 3.5 to 5.3 mEq/L), indicating hypokalemia.<sup>7</sup>

After reviewing the results and discovering the hypokalemia, the doctor was contacted. The patient was on a diuretic (Lasix) that was depleting the concentrations of potassium in her body, which was the potential cause of pain in her right calf. The doctor changed her medication to provide a potassium supplement, took her off Lasix, and gave her a potassium-sparing diuretic drug to elevate her levels of potassium. After two days, her pain was resolved in her right leg and she was able to progress with her physical therapy. Mrs. Caplan returned home in two weeks being independent with a straight point cane for all functional mobility. She went to outpatient physical therapy after she was discharged to home.

## DISCUSSION/CONCLUSION

Calf pain can signify many things when working with the older adult population, especially after a surgery. This patient is a good example of trying to differentially diagnose the cause of her calf pain through clinical examination and diagnostic tests. Many patients who have undergone joint replacements will be prescribed a diuretic for their swelling; however, not all diuretics are potassium sparing. This patient was on a high dose of Lasix and ended up having a potassium deficiency. She presented with pains that mimicked a DVT; however, after the tests were negative, this physical therapist had to rule out other possible causes of her pain. Through the use of clinical tests such as the Homan's and Well's Clinical Decision Rule for PE and DVT, the recommendation for a DVT primarily was indicated. Also, by recommending a Doppler ultrasound,

the therapist could be sure there was no DVT. The recommendation of a blood test and lab culture were appropriate to rule out other causes of her calf pain.

In the subacute setting, one has to be aware of the many causes of muscular pain in the older adult postoperative population due to the high prevalence of life-threatening DVTs. Physical therapists must remain vigilant of the signs and symptoms of DVTs and electrolyte imbalances in the older adult population. Without a thorough clinical and diagnostic examination, this patient could have had severe repercussions of being in a prolonged hypokalemic state. Clinicians must rely on evidence-based clinical decision making and expertise to best serve the geriatric population.

## ACKNOWLEDGEMENT

The author would like to thank Walter Gorack, MSPT, GCS, for the clinical mentoring on this patient case and Karleen Cordeau, PT, for giving this author the opportunity to partake in the AllStar Geriatric Clinical Residency Program.

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# ALLSTAR GERIATRIC CLINICAL RESIDENCY PROGRAM

Director: Walter Gorack, MSPT, GCS

AllStar Therapy is a rehabilitation provider employing over 400 therapists throughout New England. Their mission of education and innovation is reflected through their dedicated and experienced staff and shared with the subacute, long term, and outpatient older adults they treat. The AllStar Geriatric Residency program was developed in 2010 and awarded credentialing by the American Board of Physical Therapy Residency and Fellowship Program on March 31, 2011. Our postprofessional residency program promotes the highest standards of quality and consistency in the teaching and practice of our residents within the geriatric population. Over the past year, we have found that the residency program is not only beneficial to the residents but has produced many positive outcomes for our company as well as our clinicians.

From a corporate standpoint, we have established our commitment towards the growth and progress of our profession. We have developed strong clinical affiliations with universities throughout the country, and established multiple residency research projects in collaboration with several Connecticut-based Physical Therapy programs. AllStar's involvement with these programs increases our name recognition among students, faculty, and the community. Our clinicians are undertaking greater responsibility in their own clinical development in the areas of mentoring and education, as our residents encourage their involvement in journal clubs, case studies, and research. The residency program creates an increased awareness of the GCS and has stimulated other clinicians to achieve the GCS as well.



Our residency program has a large research component that allows the resident to work with some of the most respected researchers in our profession. We are excited about the outcomes of our research collaborations in such a short period of time. Our first graduate, April Barthuly, DPT, recently received word that the project she worked so diligently on, under the guidance of Dr.

Richard Bohannon, has been accepted for publication in *Gait and Posture*. Her poster abstract was also accepted for presentation at the National Conference in Tampa. Our current resident, Sean Thomas, DPT, is currently teaming with Dr. Catherine Certo, Dr. Kevin Ball, and a group of DPT students from the University of Hartford in a research project involving our short-term care patients. This emphasis on research enables our residents and other clinicians to be exposed to an area that may not have been possible if our residency program did not exist.

The AllStar Geriatric Residency Program is not for all clinicians. However, if a clinician's goals over the next year include developing superior clinical skills, elevating their geriatric knowledge base, research, and teaching, and preparing for the GCS examination, then our residency program may be a perfect

choice. The resident will work primarily in a subacute setting but will have ample exposure to outpatient care as well. A majority of our facilities offer long-term, short-term, and outpatient services. As the director of AllStar's residency program, I am dedicated to offering the education and experiences necessary for the growth of advocates and leaders who will continue to advance our profession and expand our evidence-based practice for older adults.

Walt Gorack is the Senior Rehab Director for Apple Rehab Farmington Valley, in Plainville, CT, and the Director of the AllStar Geriatric Residency Program. He is also a Clinical Specialist for Career Advancement and Clinical Education for AllStar Therapy.

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## CLINICAL RESIDENCY IN GERIATRIC PHYSICAL THERAPY

The University of Minnesota Program in Physical Therapy is seeking applications for our expanding Geriatric Clinical Residency. This 12 month program (September – August) will provide residents extensive didactic education, clinical practice, service learning, and individual mentoring in the area of geriatric physical therapy and issues related to aging. Clinical Faculty are geriatric experts in a variety of disciplines. New graduates and experienced clinicians are encouraged to apply. Resident graduates will be prepared to sit for the GCS exam. Residents will earn a salary with benefits, 2 state conference registrations, CSM registration & travel assist, 230+ CEU credits, and pay minimal tuition. On-site housing is available.

For an application or further information, please contact  
 Residency Director,  
 Becky Olson-Kellogg, PT, DPT, GCS at  
 612-624-6591 or [olso0184@umn.edu](mailto:olso0184@umn.edu)

The University of Minnesota's Geriatric Clinical Residency is credentialed by the American Physical Therapy Association as a post professional residency program for physical therapists in geriatrics.

**Applications due March 31 each year**

## CSM 2012

*Sue Wenker, PT, MS, GCS  
Tiffany Hilton, PT, PhD*

CSM 2012... what an exciting time in the Windy City! With well over 10,000 attendees this was the biggest and best yet. Each CSM brings changes, and this year was no different; vouchers were provided for preconference attendees, the use of scanners was initiated for tracking attendance at educational sessions, and blocked programming was piloted. As we weathered the snow, bus-sing concerns, and lines for food, we all ended up having a great time and learned a ton that can be immediately applied in

the clinic and classroom! From successful preconference sessions to member meetings and alumni events, there was something for everyone. Technapalooza continues to grow and offers cutting edge technology used in the field of physical therapy; and the exhibit hall, with expanded hours, allowed the vendors to be successful in meeting thousands of attendees each day. Educational sessions provided variety and learning on topics from neuropathy to community collaboration. Thank you to all of our

members and volunteers for making this CSM a HUGE success. Start planning for CSM 2013, February 21-23, 2013! CSM will change your life! Don't forget that ScholarONE is now open for proposal submissions for education sessions and abstract submissions for posters and platforms.

*Respectfully submitted on behalf of the  
Geriatric Section Program Co-Chairs*

## PASSING THE TORCH

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

As CSM 2012 in the Windy City of Chicago comes to an end, along with my terms as program chair for the Section on Geriatrics, I thought a look back on all the changes that have occurred over the last 10 years would be interesting. When I first became Program Chair in 2003, the Program Committee discussed topics of interest and recruited speakers for the education sessions. Now anyone can submit their proposal/abstracts online through ScholarONE, and there is a peer review process for selection. In the early years of my term, handouts were printed and handed out at all sessions. The Section on Geriatrics would also pay to have our entire Section's program handouts bound and distributed to members at the Section booth. This cost a lot of time and money and resulted in many leftover handouts. Today, handouts for all education sessions (and even preconferences) are able to be downloaded by the attendees from the Section and APTA Web sites. This allows the speakers a longer time frame to

adequately prepare their programs and is more fiscally responsible for the Section. Along with changes in going paperless, there are no longer evaluation handouts given out at all sessions. These used to be distributed, collected, and tallied by room workers and Program Chairs/Committee members. The online evaluation has been an asset to obtaining data for future programming. Badge bar codes and scanners have eliminated the lines of attendees waiting to have their program books stamped for attendance at education sessions and also provides data to assist in future plans. Changes have also included: addition of the technapalooza in the exhibit hall for more hands on learning, expanded exhibit hall hours, block programming to enable less confusion regarding when any sessions begins/ends, downloading of the CSM Web site via mobile apps, and so much more as technology expands and ideas are generated. Future changes under consideration include online testing to meet the requirements of continuing

education certifying agency mandates, more collaboration between Sections to meet the growing needs of all levels and styles of learning by attendees, and individualized program planning for attendees using updated computer technology. All the changes have at their core the goal of making CSM the best for the individual attendee and APTA members.

As I step out of the role of Section on Geriatrics Program Chair, I know I am leaving the membership of our Section in great hands. Sue Wenker has been a great asset to me during this past year and will more than lead the way as Tiffany Hilton joins her to make CSM the one event no one wants to miss. I look forward to seeing their energy embrace and make new changes to keep moving CSM forward to achieve the goals of Vision 2020. Congratulations to these two wonderful people! Make sure you attend CSM 2013! If you have never been to CSM, or there have been many years since you attended, mark your calendars now for February 20-23, 2013!

# CSM 2012

Steve Chesbro accepting the Section on Geriatrics Award for Educator of the Year from outgoing Section President, John Barr.



Jane Okubo and her daughter, a GCS recipient, at the ABPTS recognition ceremony.

Timothy and Brenda Kauffman at the Section on Geriatrics member meeting and dinner.



L to R: Rita Wong, Jennifer Bottomley, John Barr, Michelle Lusardi, Anne Geers, Kathy Brewer, and Cathy Ciolek.



Robyn Kurilko, Jennifer Bottomley, and Melanie Sponholz.

Mary Thompson, recipient of the Joan Mills Award for outstanding service.



L to R: Tamara Gravano and Jill Heitzman celebrate with Sara Knox, who received her GCS at this year's ABPTS ceremony.



**The Section on Geriatrics would like to thank all of the students who came by our booth during CSM. The Student Assembly Director, Samantha E. Letizio, SPT, planned some fantastic activities including a Social Media Scavenger Hunt and a DSCVR Bingo Game that allowed our Section to meet some great students!**

Pictured left to right: Section on Geriatrics Vice President, Jill Heitzman, PT, DPT, GCS, CWS, CEEAA, FACCWS, students Andrew P. Oliver, Caitriona Hastings, Samantha Letizio, Leiselle Pilgrim, Emily Bliss, and Geena Difatta.

# RECOGNIZING CLINICAL EXCELLENCE



I would like to recognize the following Fox clinicians and express how proud we are of their accomplishments and contributions to the health and wellness of our nation's older adults.

At CSM 2012, eight Fox clinicians received their Board Certified Specialist Certificate in Geriatrics:

Eileen Vince, MS, PT, GCS

Elizabeth Olkowski, PT, DPT, GCS

Jamie Iwanczewski, PT, DPT, GCS

Laura Costello, DPT, GCS, CSCS

Mary Catoe, PT, GCS

Megan Valenzano, PT, DPT, GCS

Mindy Hillerman, PT, MPT, GCS

Travis King, PT, GCS

Additionally, ten Fox clinicians presented a poster, platform, or educational presentation:

Travis King, PT, DPT, GCS

Jeffrey Brook, PT, MPT

Andre Gomez, PT, DPT

Michelle Nell, PT, DPT

Melanie DeSumma, PT, MS

Christine Pendleton, PT, DPT, GCS

Jocelyn Cole, PT, DPT

Glenn Sloves, PT, MSPT

Heather Fletcher, PT, DPT

Matthew Weber, PT, DPT

In 2011, Fox graduated its second Geriatric Resident:

Heather Fletcher, PT, DPT

**SCHOLARSHIPS:** Fox is proud to announce up to ten \$10,000 scholarships to third year PT students interested in geriatrics. For more information, please visit [foxrehabcareers.org](http://foxrehabcareers.org).

Well done to all!



Tim Fox, PT, DPT, GCS

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# NEW YEAR. SAME ISSUES. NEW IDEAS?

Ellen R. Strunk, PT, MS, GCS, CEEAA

**New Year:** Every January I have the wonderful opportunity to speak to physical therapy students at the University of Alabama at Birmingham as they are preparing for their final clinical rotations. The topic? Regulatory guidelines, prospective payment systems, and outpatient payment updates for physical therapy. While I know it's not the most 'exciting' class, I am always excited to get to talk to students about something so important to their future and the future of patient care. I like to remind the students that understanding payment rules and guidelines is a professional responsibility. I also like to think of it as a form of advocacy. How? Well, if we don't understand our patient's physical therapy benefits, then we risk either squandering their ability to receive physical therapy or not providing the services they need because of a 'fear' of not getting paid for our work.

This year, I happened to follow a presentation to the students by our state's Medicare Administrative Contractor (MAC). So, as you are probably thinking, it was a really 'dry' afternoon for the students. After class, two PT students approached me with worried looks on their faces. They asked, "Is there still going to be a job for us when we get out? Did we waste our time, energy, and money getting this degree?"

I spent about 20 minutes, reassuring them that of course they didn't make a mistake and there would be ample job opportunities awaiting them, but as I drove home, I continued to think about our discussion. Payment for physical therapy services continues to be challenged in all settings and by all payers. Every year is a groundhog day--we are fighting the same issues, making similar arguments, and trying to justify why

our services are valuable to persons of all ages. Will it ever change? I hope so.

**Same Issues:** As I told the students, I do believe that physical therapy will continue to be a valuable and necessary benefit. But will payment look different? Yes. Will the Medicare benefit look different? Probably. Will the rules and regulations governing what we must do to get paid change? I hope so. Which brings me back to why I am so passionate about understanding the rules and regulations of payment: it is a form of advocacy. In 2012, we are going to have opportunities to influence and possibly shape what the rules and regulations of payment may look like in at least two settings where older adults are served: the skilled nursing facility and home health.

The Medicare Payment Advisory Commission (MedPAC) is an independent Congressional agency established by the balanced budget Act of 1997 to advise the U.S. Congress on issues affecting the Medicare program. Not only do they advise Congress on issues related to payment, but they also are tasked with analyzing access to care and quality of care. MedPAC's meeting agendas at the end of 2011 included discussions on the payment adequacy of both the skilled nursing facility (SNF) and home health agency (HHA) payment systems. MedPAC is concerned because the data continues to show SNF and HHA Medicare margins continue to be very high. This indicates to them that providers are getting paid more than they are actually spending to provide the care.

## Some highlights of the data for SNFs<sup>1</sup>:

- Lengths of stays have increased by 11% since 2007, but no correlation

between the length of stay and the complexity or severity of patients was found.

- Skilled nursing facilities with the highest increase in costs also had Medicare margins of over 14%.
- Low-cost therapy interventions have been used to maintain their profits.
- Skilled nursing facilities with the highest growth in revenues have almost twice as many patients who receive therapy in the Rehab Ultra High RUG but the overall case mix does not reflect a change in complexity or severity of patients.
- Lower re-hospitalization rates and successful discharge planning processes to community based settings were found in SNFs with lower costs and higher margins.

## Some highlights of the data for HHAs<sup>1</sup>:

- 99% of all Medicare beneficiaries live in an area served by at least one home health agency, and 98% of all beneficiaries live in an area served by two HHAs.
- The number of HHAs has almost doubled since 2002, and in 2010 was over 11,600.
- The growth in HHAs is concentrated in a relatively few geographic areas.
- The use of therapy services is higher in urban areas than it is in rural areas and may reflect payment system incentives.
- Urban and rural areas across states show similar variation in total utilization, but rural areas consistently show a different mix of services, eg, more nontherapy cases.

(continued to page 26)

What are the recommendations from MedPAC?

SNF	HHA
Rebase Medicare payments to better align payments with the costs of “efficient” providers.	Rebase Medicare payments to better align payments with actual costs of providing care.
Start with a 5% reduction in payments.	Add a beneficiary co-pay to encourage appropriate use of the benefit.
Revise the prospective payment system so therapy payments are not based on “minutes” of therapy provided but patient characteristics.	Eliminate the financial incentives that encourage providers to provide more therapy.

The recommendations for both SNFs and HHAs are very similar and place a big target on therapy utilization. Another similar recommendation for both SNF & HH providers was to expand program integrity efforts to address fraud and abuse.

One more major topic of discussion among SNF providers is the current lack of mandatory quality reporting measures. Every other acute and postacute care setting has mandatory quality reporting systems in place that are tied to either a bonus or a penalty.

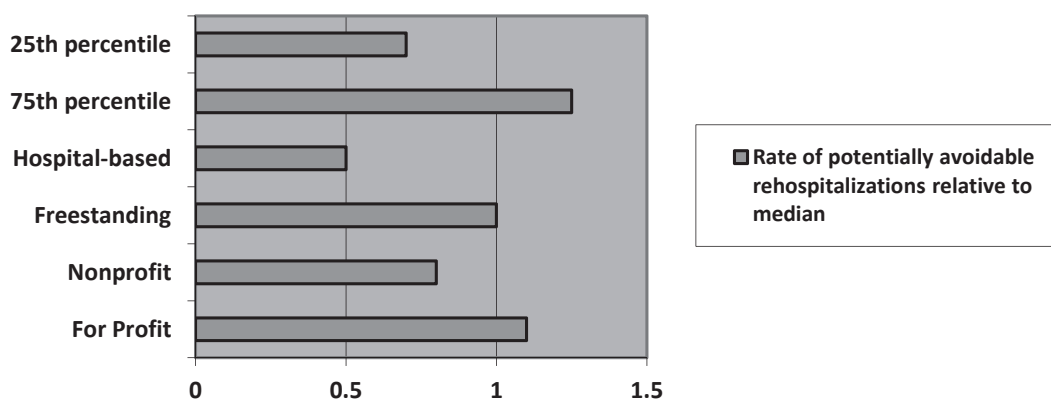
MedPAC recommended in its December meeting that a public reporting measure for SNFs be developed around avoiding re-hospitalization. A second recommendation was to align hospital and SNF policies to improve transitions in care. The MedPAC and other policy groups contend that SNFs have a financial incentive to rehospitalize high cost beneficiaries because it may trigger another 100 day Part A benefit period. Due to their data analysis that suggests there is a high variation in risk-adjusted

hospitalization rates, they believe there is an opportunity to lower this.

While MedPAC recognizes there are factors that influence rehospitalizations that are not within a provider’s control, they do believe it is critical to address this issue since many avoidable rehospitalizations are a result of poor quality of care and are costly to the Medicare system.

**New Ideas:** Payment for therapy services in skilled nursing facilities and home health agencies is likely to change

Setting	Quality Programs	Mandatory Reporting	Payment Incentive/Penalty *P4R = Pay for Reporting; *P4P = Pay for Performance
Inpatient (Acute Care Hospitals)	IQR, HAC, Readmissions & VBP	Yes	Yes; P4R & P4P in 2013
Inpatient Rehabilitation Facilities (IRF)	Beginning in 2014	Yes Beginning Q4 2012	Yes ; P4R Penalty 2% • Urinary Catheter Associated UTIs • % of patient with Pressure Ulcers new or worsened • 30 day Comprehensive All-Cause Risk-Standardized Readmission Measure
Skilled Nursing Facilities (SNF)	MDS 3.0	Yes	No
Home Health	OASIS	Yes	Yes ; P4R Penalty 2% • OASIS • ED use without hospitalization
Outpatient	Physician Quality Reporting System	Yes Beginning Q4 2013*	Yes P4R Incentive 0.5% until 2014; Penalty 1.5% in 2015*



Source: MedPAC analysis of 2009 data from DataPro. Data are preliminary and subject to change.

in the near future. What it will look like is the big unknown. The APTA and the Section on Geriatrics is heavily involved in this issue, via attending MedPAC meetings, submitting comments, facilitating discussions with CMS staff in the postacute care division, and involvement in other professional associations. We must remain proactive in the discussion since it is not unusual to see MedPAC's comments put into the proposed rules every summer.

However, these settings face a unique challenge, because physical therapy does not usually work in isolation of other therapy disciplines. In both skilled nursing and home health, we must collaborate and partner with not only occupational and speech therapists, but also nursing, nursing assistants, dietitians, and social workers. Therefore every therapist should set a 2012 goal to *communicate the value of rehab to a variety of constituencies: regulators, legislators, consumers, and other health care groups*. Our profession needs to develop a succinct and objective method of communicating not just the value of physical

therapy, but the interdisciplinary value of OT, PT, and SLP.

How do we do this? I'd like to suggest some questions to stimulate discussion. If you have thoughts or ideas, please share them! You can do this through the Section on Geriatrics listserve or individually to me at [ellen@rehabresourcesandconsulting.com](mailto:ellen@rehabresourcesandconsulting.com). All ideas are welcome as we set off in this New Year!

- At what level should outcomes be measured? At the individual practitioner level or the facility/agency level?
- What do you consider to be the top 3 measures of "mobility?"
- If you had to choose 3 measures that would capture the interdisciplinary value of PT, OT, and SLP in the SNF or HHA, what would they be?
- How do you participate in preventing rehospitalizations? Can it be translated into an objective measure?



Ellen Strunk is President and Owner of Rehab Resources & Consulting, Inc., a company providing consulting services and training to

providers in post-acute care settings with a focus on helping customers understand the CMS prospective payment systems. She also lectures nationally on the topics of pharmacology for rehabilitation professionals, exercise & wellness for older adults, and coding/billing/documentation to meet medical necessity guidelines and payer regulations.

# CERTIFIED EXERCISE EXPERTS FOR AGING ADULTS CLASS OF 2011

*Danille Parker, PT, DPT, GCS, CEEAA*

The SOG Certified Experts for Aging Adults (CEEAA) program continues to be a huge success. Since 2009, over 420 therapists have successfully completed the 3-course series, including the written and practical examinations to proudly use CEEAA after their name. The SOG would like to congratulate the following individuals who have completed series in 2011.



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Therapists with the CEEAA credential demonstrate expert clinical decision-making skills in designing and applying an effective examination and exercise prescription, as well as measuring the effectiveness of the prescription and reflecting the current evidence of exercise for all aging adults. Some of the top reasons, as stated by graduates, to obtain your CEEAA certification are to:

- Learn and practice tests and measures with strong psychometric properties that scientifically measure outcomes in the areas of aerobic capacity, anthropometric characteristics, atten-

tion and cognition, gait and locomotion, balance, motor function, muscle performance, posture, range of motion, sensory integrity, and vestibular.

- Be more likely to use functional tests and measures routinely in your practice.
- Expand your understanding of intensity, duration, frequency, and mode for exercise prescription based on science so that you know how to challenge your patients/clients to preclude them from sliding down the slippery slope of aging.
- Learn how to determine appropri-

ate and safe intensity for all categories of exercise for your patients/clients regardless of diagnosis and practice setting.

- Practice and learn how to teach hundreds of different aerobic conditioning/endurance, balance, body mechanics and postural stabilization, flexibility, gait and locomotion, and muscle performance training exercises that can be modified for any aging adult.
- Get back to the fundamentals of physical therapist practice with exercise.
- Have the latest evidence for how



## Florida Graduates

**Thank you to the Physical Therapy Department, Nova Southeastern University, Fort Lauderdale, FL**

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and why exercise helps with many conditions, including: cancer, cardiovascular, endocrine, musculoskeletal, neuromuscular, mental deterioration, obesity, pulmonary, and renal diseases, disorders, and conditions.

- Have experience with performing Yoga, Tai Chi, and Pilates exercises and postures to expand your intervention options.
- Develop an understanding of the interaction of medications with exercise performance.

- Have the knowledge and the assurance that physical therapists are the professionals, who are key in improving the health and fitness of our aging population.

The process to attain the CEEAA is to complete formal didactic education, and to participate in supervised and mentored skills development, home-based reflection, and critical thinking. Three two-day courses address 3 different and increasingly complex aspects of exercise design and delivery. The 3 courses are designed

to build on each other; however, courses 1 and 2 can be taken out of sequence.

We have had ***sold out*** crowds for each course held, so don't wait to sign up! We look forward to seeing you at any of the 2012 or 2013 scheduled series!

If you are a site interested in hosting this series, please contact Danille Parker, chair of the Regional Course Committee at [Danille.parker@marquette.edu](mailto:Danille.parker@marquette.edu) or 414-288-3179.

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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

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