

# GERI NOTES

Academy of Geriatric Physical Therapy

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## IN HONOR/MEMORIAM FUND

Each of us, as we pass through life, is supported, assisted and nurtured by others. There is no better way to make a lasting tribute to these individuals than by making a memorial or honorary contribution in the individual's name. The Academy of Geriatric Physical Therapy has established such a fund which supports geriatric research. Send contributions to:

**The Academy of Geriatric Physical Therapy | 3510 East Washington Avenue | Madison, WI 53704**

Also, when sending a contribution, please include the individual's name and any other person you would like notified about your contribution. If you are honoring someone, a letter will be sent to that person, and if you are memorializing someone, the surviving family will be notified of your contribution.

In the field of geriatric physical therapy, we receive many rewards from our patients, associates, and our mentors. A commemorative gift to the Academy of Geriatric Physical Therapy In Honor/Memorial Fund is a wonderful expressive memorial.

# President's Message: The 2017-2019 Strategic Plan

*William H. Staples, PT, DHSc, DPT, GCS, CEEAA*



In October, the Board of Directors (BoD) of the Academy of Geriatric Physical Therapy (AGPT) held our very productive and successful retreat in

Chicago to discuss current issues and plan our future course with our available resources. Thank you to all that participated in our on-line survey. Almost 700 members responded, which is more than 10% of our membership. This data was used to develop our strategic plan moving forward. Along with the new American Physical Therapy Association vision of “transforming society by optimizing movement to improve the human experience,” we also thought to look more outward than inward about our future. The Academy’s BoD has approved the document that also includes a revised vision, mission, and values statement. This document needs to be approved by the membership at CSM and will be presented at the membership meeting in San Antonio. Our new vision, mission, and values are listed below.

## VISION STATEMENT

The physical therapist will be the practitioner of choice for promoting optimal health and movement of the aging adult.

## MISSION STATEMENT

The mission of the Academy of Geriatric Physical Therapy is to promote physical therapist best practice and to advocate for optimal aging.

## VALUES STATEMENT

To respect the uniqueness and diversity of aging adults through compassion, caring, commitment, and excel-

lence in the provision of services, we value...

- Aging as a positive experience.
- The unique perspectives and contributions of all physical therapists, physical therapist assistants, and students to enhance the quality of life of older adults.
- Collaborative relationships based on respect with internal and external constituencies.
- Leadership’s communication and accountability to all stakeholders.

The terms physical therapist and physical therapist best practice are written to be inclusive of physical therapist assistants as they practice under the supervision of a physical therapist. We were specifically exclusive of the term physical therapy because it is used (unfortunately) by other health providers due to lack of specificity of some state laws. The following goals and objectives were also established as our strategic plan. The goal champion(s) are the Director(s) who will be working as the primary lead(s) in accomplishing our goals and objectives.

## GOALS/OBJECTIVES

**Goal 1:** Provide educational initiatives that advance physical therapist practice for the aging adult.

**Goal Champion:** Myles Quiben

1. Ensure that entry-level physical therapists and physical therapist assistants are prepared for contemporary practice with the aging adult.
2. Ensure that clinicians are current in knowledge of contemporary geriatric physical therapist practice.
3. Educate other health care professionals and associations about the role of the physical therapist with the aging adult.

**Goal 2:** Promote physical therapist practice that delivers value by utilizing evidence, best practice, and outcomes.

**Goal Champion:** Sue Wenker

1. Create evidence-based resources.
2. Disseminate evidence-based documents.
3. Promote advanced geriatric physical therapist practice.

**Goal 3:** AGPT will actively engage and inform internal and external stakeholders.

**Goal Champions:** Patty Brick and Lucy Jones

1. Enhance internal communication.
2. Establish communication with strategic external stakeholders to advance AGPT’s mission and vision.
3. Facilitate member engagement in AGPT.

Lastly, the Academy was chosen as the “Premier Partner in Research Award” recipient for 2017. The award will be officially presented by the Foundation for Physical Therapy at the Next Conference in Boston in June 2017. I look forward to seeing all of you at CSM in San Antonio in February.

# Editor's Message: Avoiding Plagiarism

Meri Goebbring, PT, PhD, GCS



As the *GeriNotes* Editor, it is my responsibility to insure that any article submitted to our publication has followed the author's instructions. These

include citing sources and using appropriate reference formatting. As I begin my third year as Editor, I want to raise an issue that readers and future writers must carefully consider: the issue of plagiarism. Offering someone else's work as one's own, or using language, ideas, graphs, photographs, sentences, paragraphs from books, periodicals, speeches, or writings of others is considered plagiarism. Even if you use an idea from one of your friends, you must give credit to that friend.

It is understandable that a new writer may not be familiar with the many specific rules regarding plagiarism. Writing skills take time and energy to develop, and most physical therapists and physical therapist assistants do not devote a lot of time to writing articles for publication once they graduate. However, for those who do write or are considering writing, please know that I am always happy to help an author develop his or her writing skills, as you all have much to offer. All of us certainly learned about plagiarism during our professional education. This article should serve as a short review for those who may need to refresh their memories.

Let's consider some specific issues. First, in some articles, it has been necessary for me to ask the author(s) if he or she has permission to use materials that were obviously taken from other sources. Most often, these articles have included some kind of table, graphic drawing, or figure that was reproduced from another article. Although these are typically cited, it is important to ask for permission from the original publisher

and author to use any such table, drawing, or figure. In these cases, citations alone are not enough. Getting permission to use tables, figures, or graphics takes time, but I find that most publishers and authors are willing to share when asked. However, if the article being used is copyrighted (as is most often the case), this can be more difficult. Sometimes permission is granted, but there may be an associated fee. Sometimes the process takes months.

On rare occasions, I find sentences or paragraphs that have not been properly cited, and/or the references are not in the proper format. Most often, this can easily be taken care of by the author of the article. In either case, the author of the article submitted to *GeriNotes* is contacted and is asked to revise the article, use proper citations, and ask for permission to reprint any photos, graphics, tables, or figures.

Asking for permission is not difficult. Generally, the publisher owns the copyright and can grant permission for use. Some publishers also have online copyright permission pages that can be used for this purpose. Some publishers can be contacted by phone. Some articles indicate that the author can be contacted regarding use of information, but it is best to contact the publisher, not just the author of the article.

Another issue is the use of photographs. Any author that uses photographs of individuals in his or her work must have those individuals' permission *in writing* stating that the photograph can be used for this purpose. Also, any other type of photograph used from another source requires permission from that source's publisher.

The 2017 author instructions for *GeriNotes* have been modified to include language that will help writers avoid plagiarism. I highly recommend writers consider consulting with a librarian to assist with this and other issues while you are writing. Additionally, please know that as Editor, I am happy to as-

sist with the writing process. If there are any questions regarding use of other materials, please let me know. I would gladly assist anyone in developing a permission letter to send to publishers and/or assist with contacting publishers or authors as needed. We all want *GeriNotes* to continue to be a source for helpful information, and gaining permission to use materials can help to provide readers with valuable material. But to do this, we must follow the rules.

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Academy  
of  
**Geriatric  
Physical  
Therapy**

# Bilateral Vestibular Hypofunction in Older Adults (Erratum)

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

The following correction is being made to the information that was published in the September issue (Volume 23, No. 5) entitled “Bilateral Vestibular Hypofunction in Older Adults” regarding the Romberg test:

The Romberg test is performed as follows<sup>1</sup>: the patient stands feet together on a firm surface with the eyes open and the eyes closed. The patient is observed for the amount of sway that occurs with eyes closed versus eyes open. According to Petersen, Straumann, and Weber,<sup>2</sup> the sensitivity for testing for bilateral vestibular hypofunction may then be enhanced by having the patient stand feet together on a compliant surface

with the eyes open and the eyes closed. Therefore, a more sensitive test for this condition may be the Modified Clinical Test of Sensory Integration, which entails 4 components, each timed for up to 30 seconds: firm surface eyes open, then closed, compliant foam eyes open, then closed.<sup>3</sup> A patient with bilateral vestibular dysfunction will usually be able to independently stand on a firm surface with the eyes open, on a firm surface with the eyes closed, and on a compliant surface with the eyes open. However, the patient will usually fall while standing on a compliant surface with the eyes closed.

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2. Petersen JA, Straumann D, Weber KP. Clinical diagnosis of bilateral vestibular loss: three simple bedside tests. *Ther Adv Neurol Disord*. 2013;6(1):41-45.
3. Rehabilitation Measures Database Modified Clinical Test of Sensory Interaction on Balance. <http://www.rehabmeasures.org/Lists/RehabMeasures/Admin.aspx>. Accessed October 24, 2016.

## Academy of Geriatric Physical Therapy STATE ADVOCATES

Did you know that AGPT has State Advocates working locally in many states, advocating for older adults, promoting geriatric-related issues, courses, meetings and AGPT SIGs and being a liaison between AGPT and state chapters?

**We are actively looking for new State Advocates in the following areas:**

Alaska, Colorado, DC, Indiana, Kansas, Louisiana,  
Massachusetts, New Mexico, New York co-chair,  
Ohio, Rhode Island, South Dakota, and Utah

***From another state than is listed above?***

Find out your State Advocate contact info at [www.geriaticspt.org](http://www.geriaticspt.org).  
Select “Members” tab, then “Contact Your State Advocate”

If you are interested in being your State Advocate, or want more info about the program, contact AGPT Advocate Coordinator  
**Beth Black, PT, GCS**, at [BBlackPT@gmail.com](mailto:BBlackPT@gmail.com).



# National Fall Prevention Awareness Day Around the Country

*Mariana Wingood, DPT, PT, GCS, CEEAA*

Fall Prevention Awareness Day (FPAD) occurs every year on the first day of fall, because leaves are supposed to fall but people are not. The 9th annual FPAD was held on September 22nd this year.

Throughout the year, the Balance and Falls Special Interest Group (SIG) helps individuals promote the event locally in their state. This is done by providing them with resources, ideas, and question/answer phone conferences. After the event is over, we collect and share information from members about their event in hopes to make next year's event even better. Here is a short summary of some of the efforts from around the country:

In Minnesota, therapists from Hennepin County Medical Center attended a downtown Farmer's Market. There they set up 5 stations: 4 square step test, 30 second chair rise test, hand grip strength assessment, single leg stance, and a 10 meter gait speed. Each station had educational information about each activity and the interpretation of the results. They involved their Public Relations team who helped them with posting event updates on social media.

Vermont's event called Stay Steady Vermont, included educational sessions, stopping elderly accidents, deaths and injuries (STEADI) screening, question and answer time, recommendations, a results sheet to bring to their medical doctor, and a guidebook of local community exercise groups. This year the Vermont American Physical Therapy Association (VTAPTA) and the Vermont Falls Free Coalition have teamed up for an increased interdisciplinary approach for fall prevention. With the help of 59 clinicians (including physical therapists, occupational therapists, and registered nurses) as well as 22 students, they were able to complete 35 events and screened 412 community-dwelling older adults all around Vermont.

In Iowa, the St. Ambrose University Physical Therapy Department, Center for Active Seniors Inc., Milestones Area Agency on Aging, and Iowa Falls Prevention Coalition collaborated to offer various events and screenings throughout the week. This involved a couple of speakers, including a senior engineer who discussed environmental hazards in and outside the home. Following his presentation, attendees learned about their personal fall risk, heard from a panel of professionals who discussed programs to reduce risk, and had the chance to interact with exhibitors. They also offered hearing screenings and pharmacists reviewed medications. This collaboration allowed for an amazing interdisciplinary approach for fall prevention.

In Indiana, a Community Hospital in Munster held an event called "Stop the Stumble." This event included physical and occupational therapists, ophthalmologists, prosthetist/orthotists, local contractors, and a pharmacist. At the event they had balance, vision, vestibular, and medication screenings, gait analysis, education about various fall prevention techniques, as well as contractors from ACE hardware to help older adults with ordering and planning grab bar installations in their homes. The event was so popular that they had to cap it at 277 people and had 50 people on a waiting list.

In New Mexico, they had several events, including rehab fairs with STEADI Fall Risk Screening and various full day events. One event included fall prevention activities: blood pressure screening, video presentation ("Don't Fall For It" and "Fall Myth Busters Challenge Game"), 30 minutes Tai Chi, and STEADI fall risk screening (TUG, 4 Stage Balance Test, and 30 Second Chair Stand). Another event included home safety education, proper use of canes and walkers, presentation of national and state fall data and promoted a local

falls survey, presentation of available balance focused exercise classes along with education on why integrated balance exercises are key to increasing communication between body and brain. They also disseminated fall prevention materials in the hospital lobby to patients, families, and staff. The game "Truth or Falls," was played with prizes to stimulate understanding of many myths about falls. Signs were posted throughout the hospital "Ready, Steady, Balance: Prevent Falls in 2016." Their hard work and dedication to FPAD really paid off.

Thank you to all those who participated. With all the states and interdisciplinary efforts, we can help decrease fall statistics and improve an older adult's quality of life. We could not do it without the many volunteers who helped make this event possible.

Now that your event is over, it is highly recommended that you perform some type of survey of participants and volunteers. It can be as informal as a survey monkey survey or as formal as a S.W.O.T. (strengths, weaknesses, opportunities, threats) analysis. Either method you use is fine, but this is the time to capitalize on all the energy around FPAD and begin planning for next year. If you have any questions regarding the event, how to be involved, or what to do better for next year, feel free to e-mail me at [mariana.wingood@outlook.com](mailto:mariana.wingood@outlook.com).



Mariana Wingood is a physical therapist at University of Vermont Inpatient Rehab Department. She is also the Balance and Falls SIG Chair who is very enthusiastic about fall prevention as well as knowledge translation and implementation.

# New International/Global Physical Therapy Special Interest Group

Lisa R. Dehner, PT, PhD, CEEAA  
IPTOP Liaison to AGPT (USA Representative)

Globalization is the process of developing increasingly integrated worldwide associations. In 1951, a group of physical therapists from 11 founding organizations recognized the power of globalizing physical therapy and formed the World Confederation of Physical Therapy (WCPT).<sup>1</sup> The principle that "...every individual is entitled to the highest possible standard of culturally appropriate healthcare delivered in an atmosphere of trust and respect for human dignity, and underpinned by sound clinical reasoning and scientific evidence..." is at the core of the creation of WCPT.<sup>1</sup> Now, representing more than 350,000 physical therapists through 112 member organizations, WCPT is "...committed to furthering the physical therapy profession and improving global health..."<sup>1</sup>

Recent political and social change has focused debate on the question of borders and boundaries. The Global Health Council stated "when it comes to global health, there is no them... only us."<sup>2</sup> At the heart of these incredibly complex issues (that is, not just us vs. them) is a need to reconcile respect for one's culture, values, and traditions with still being a citizen of a larger global community. There is a lot of tension in this duality and there are no easy solutions. One approach is to come together and talk to each other, one on one or in small groups so that listening can be respectful and thoughtful. This is why it is so important to have a group like WCPT that brings people, cultures, and nations together to unite as physical therapists dedicated to promoting the profession and improving the health of everyone-beyond borders.

The Academy of Geriatric Physical Therapy (AGPT) is a part of this global network of physical therapists dedicated to the care of our world's older adults. Like the American Physical Therapy Association (APTA) has special interest

sections or academies<sup>3</sup> to enable more focused networking, WCPT has 12 special interest subgroups. The International Association of Physical Therapists working with Older People (IPTOP)<sup>4</sup> is the subgroup focused on care of older adults. The AGPT pays yearly dues to be a part of this WCPT subgroup and appoints a liaison to attend meetings and represent the US perspective. The IPTOP liaison to AGPT (ie, the USA representative) keeps the Board and members apprised of WCPT/IPTOP activities and directs access to relevant documents, newsletters, and social media. But the liaison is only one person and one voice. The AGPT is over 5,800 members strong and there are many who have practiced or trained outside of the United States, or simply want to understand and learn about international/global physical therapy (PT) issues who would also like to have a voice. Because of this need, the AGPT Board of Directors unanimously approved the development of a new International/Global PT Special Interest Group (SIG). The AGPT/US representative to IPTOP will serve as the Chairperson (*ex officio*) for the International/Global PT SIG. Formation of such a SIG will hopefully encourage more AGPT members to get involved in international and global geriatric physical therapy issues.

My own experiences so far with IPTOP have been incredibly positive, both personally and professionally. I have learned about how geriatrics is practiced in other countries and have been excited to share the work we do here in the United States, including the APTA standards of practice<sup>5</sup> and the AGPT essential competencies.<sup>6</sup> I have met so many new people and learned about their varying experiences and perspectives into what physical therapy is and who physical therapists (or physiotherapists) are, far beyond what my constructs were before I was involved in

IPTOP. The networking I have done has also led to several collaborations in my job as a professor and as a scholar. I hope that this new International/Global PT SIG will allow more AGPT members to experience the same personal and professional development.

It is important to note that IPTOP is a subgroup of WCPT and this new US-based International/Global SIG does not replace or usurp IPTOP's role. Any AGPT member can be involved in IPTOP outside of becoming a member of this new SIG, as it has always been. The hope for this new SIG is that it will facilitate more US geriatric physical therapist involvement via the new SIG, IPTOP, or both. Ultimately, the new SIG should enable a more visible presence for international/global issues and an easier way for AGPT members to organize and share.

All AGPT members are welcome to contact me if you are interested in joining, visit the AGPT website for more information (Members → Special Interest Groups), and/or join me at the Combined Sections Meeting in San Antonio on Friday February 17, 2017, from 2:00 p.m. to 3:00 p.m. CST for the introductory meeting. Also, the next WCPT Congress is July 2-4, 2017, in Cape Town, South Africa<sup>7</sup> and as usual all AGPT members are invited to IPTOP events (check website and listserve for details closer to July). If interest is high, we will also have a meeting of the International/Global PT SIG at the Congress.

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Lisa R. Dehner is the IPTOP liaison to AGPT and Professor of Physical Therapy at Mount St. Joseph University in Cincinnati, OH. She teaches Neuroscience, Pathology and Pharmacology, and Geriatric Evaluation and Treatment. She practices clinically in long-term care. She can be reached at [lisa.dehner@msj.edu](mailto:lisa.dehner@msj.edu).

## The Academy of Geriatric Physical Therapy State Advocate Program: Maximizing Your Connection to the Geriatric Physical Therapy World

*Heidi Sue Moyer, PT, DPT*

### ABOUT THE PROGRAM

The Academy of Geriatric Physical Therapy (AGPT) State Advocate program is a unique model that functions within the AGPT, a Section of the American Physical Therapy Association (APTA). We satisfy many duties to keep the AGPT members within our state connected, informed, and professionally fulfilled. As State Advocates, we welcome new AGPT members from our state with an email or phone call in an attempt to get them immersed immediately in the passion we all share for the older adult population. Additionally, we perform many other duties, and serve as a valuable asset to the AGPT to enhance member involvement, retention, and professional success.

### STATE ADVOCATE-FACILITATED EVENTS

As recently appointed AGPT State Advocates, my co-chair, Jaime Fortier-

Jones, DPT, GCS, and I have several events in the planning and early execution stages.

First, we sent out an email to all current AGPT members in the state of Illinois to advertise our services, as well as to inform them of the resources we are able to offer and ask if there is anything we could do to facilitate their growth as an AGPT member in the state of Illinois. We had a wonderful response from people requesting information on falls prevention, networking with geriatric services, and continuing education. In addition to these requests, we also had several original ideas from members regarding resource availability and research projects and have been able to connect those individuals to others with similar interests in the process of facilitating success of their projects.

Next, we have been working on establishing a Facebook group for the state in order for members to more freely share

information with one another. We have seen this model be successful throughout other various subgroups of physical therapy professionals and students, and felt that it would be an essential tool to keep young professionals and student members connected to the AGPT. Since many students and young professionals are at a high risk of deferring their membership for a myriad of reasons, we wanted to give them at least one, if not more, motives to stay connected to the AGPT and the APTA as a whole.

In addition to these, we are in the process of establishing digital GCS study groups throughout the state via Google Drive. We have had several members express interest early on in participating in such a group. We sent out a survey to all members in the state in order to assess their learning needs. Items in the survey included ideal group size, distance willing to travel to meet the group in person, preferred format, and preferred learning

styles. We are currently in the process of matching people to different groups based on these preferences to help them in their endeavor to achieve GCS status. We also sent out a separate email to state members asking if anyone in the group who is already GCS certified is interested in mentoring one or more of these groups. While these groups will be autonomous in settings goals, delegating tasks, and managing their individual Google Drive spaces, we are still available to give direction and connect members to the appropriate resources. We are very fortunate to be mentored through this process by Bill Anderson, PT, DPT, GCS, CEEAA, who has been running successful GCS study groups during his term as the AGPT state advocate for Maine.

We are also assisting our members in individual projects as well. One member, Brenda Holman, a PTA at a skilled nursing facility in west Illinois developed the idea for a comprehensive program to combat falls within the Parkinson's disease population. We are working with Brenda to assist her in developing her program, as well as connecting her with other individuals in the state who would be willing to assist her in this ambitious, yet essential program to serve our older adult population.

Finally, Jaime initiated the paperwork for hosting a booth at the Illinois Physical Therapy Association *Revitalize* Conferences in April. She was able to successfully secure a prime spot on the exhibitor's floor in order to not only thank our current members for their attention, dedication, and service to the older adult population, but also to advertise our Section to the nonmembers in attendance to continue to grow our AGPT family. She will also be the CEU provider at the APTA Southern District meeting in the upcoming spring.

We have many more ideas in the works, but this is just a small taste of what Jaime and I have been able to get up and running in the past (very fast!) few months since appointment.

### LEARNING EXPERIENCES AS A STATE ADVOCATE

I became an APTA, as well as an AGPT, member in 2013 when I began my DPT program. As a student member

of the Section, now Academy, I used the research resources for my thesis on fall risk assessment in nursing homes, volunteered to assist in managing the booth for a short time during the APTA Next Conference in National Harbor, and have networked with several individuals tied to the AGPT both inside and outside of APTA events. Since becoming a State Advocate in July, I feel like I have learned more about the geriatric world than I have in the past 3 years. Many times, I find out the answers to questions alongside the member who presented the inquiry. I have met new people within the academy, such as Beth Black, who is a wealth of information about all things AGPT.

Furthermore, serving as co-chair with Jaime, who is a seasoned clinician, has been a great way to break into this world within this role. She is an incredibly encouraging spirit, and whether she knows it or not, she has been a great inspiration and mentor to me during this critical time in my career as I transition from student to professional. While I feel like our paths might have eventually crossed, I am happy that our connection occurred earlier rather than later.

As a new graduate physical therapist, it can be easy to become overwhelmed with being independent at work, meeting productivity, and ensuring best clinical practice care for your patients. However, the enthusiasm I have seen in the members I am serving is a great way for me to re-energize as I establish my clinical practice skills and routines. I originally volunteered to serve others within the group, but what I did not realize was that the members of the group and the academy are returning the favor to me. I feel more connected than ever and look forward to the great adventures and challenges this role will continue to present to me.

### GET CONNECTED!

If you are interested in contacting your state advocate to become more involved, please visit [geriatricspt.org](http://geriatricspt.org) and sign in to get access to the member's page. If your state does not have a State Advocate listed and you are interested in volunteering, please contact Beth Black at [bblackpt@gmail.com](mailto:bblackpt@gmail.com).



Heidi Moyer is a recent graduate from Angelo State University and currently works at Alexian Brothers Rehabilitation Hospital in Elk Grove Village, IL.

She serves in several roles such as co-chair for Illinois for the AGPT state advocacy program, a committee member for the GeriEdge Task Force, a member of the Awards Committee for the APTA Neurology Section, and also holds various commitments within the Gerontological Society of America. She can be reached for questions or further information on the AGPT State Advocacy program at [Heidi.Moyer@amitahealth.com](mailto:Heidi.Moyer@amitahealth.com).

# Highlighting Our Cognitive and Mental Health SIG's 2016-2017 Projects

Lise McCarthy, PT, DPT, GCS  
Cognitive and Mental Health SIG Founding Chair

## *Year 2: Great reasons to celebrate and be proud!*

### **PROJECTS: 2016 CMH SIG Sponsored Two Well-received National Conference Presentations**

- CSM: "Mission Cognition: Advancing the Role of the PT in Chronic Progressive Cognitive Impairment." Presenters: Mike Studer, Jennifer Nash, Christy Ross, and Lise McCarthy.
- NEXT: "Functional Outcomes in Individuals with Cognitive or Mental Health Impairments." Presenters: Michele Stanley and Danille Parker.
- Take-away: We have seasoned and emerging leaders with a lot of clinical expertise who are willing to work together and work hard for our profession!

### **PROJECT: Research Promotion**

- Background: Leaders of our Cognitive and Mental Health (CMH) SIG want to promote pertinent information about cognitive and mental issues from a variety of sources to a wide audience via posts on the geriatric-spt listserv and on our CMH SIG webpage. Informational notices on a single research study or area of interest are made monthly, with large research reviews occurring 1 to 2 times a year.
- Project leaders: Jan Bays, Marissa Cruz, Sue Wenker, and Christy Ross
- Take away: The physical therapy perspective in research is needed and growing!

### **PROJECT: Dementia Measure Work Group Contributions**

- Background: This project is ongoing, and led by the American Academy of

Neurology and the American Psychiatry Associations. This group informs the Centers of Medicare and Medicaid (and the world) about needed quality dementia measures specifically targeting clinicians who are working hard to care for people impacted by dementia.

The American Physical Therapy Association (APTA) has participated in the last two joint committee sessions. A few years ago, Academy of Geriatric Physical Therapy's President Dr. William Staples was elected and represented the APTA. He recommended measuring function in people with dementia. This measure was accepted and is now referenced in The World Alzheimer Report 2016 on pages 8, 14-17. This is solid proof that the APTA and AGPT are having a global impact on world health policies.

As the current elected AGPT/APTA representative for the Dementia Measure Work Group, Dr. Lise McCarthy recently submitted the "Pain Assessment and Follow-Up Measure" along with recommendations for language modification to be more inclusive in all measures (eg, involve caregivers), and for additional safety measures (eg, safe sex). All 3 recommendations were accepted and will be incorporated into a future World Alzheimer Report.

- Take-away: Amazing interprofessional enlightenment, and powerful national and global policy transformation can happen when physical therapists are at the decision-making table!

### **PROJECT: GeriNotes November CEU focus issue "Cognitive Issues in Aging"**

- Background: Selected speakers at the 2016 CSM and NEXT conferences were invited to translate their lecture

topics into CEU articles for a themed *GeriNotes* focus issue on "Cognitive Issues in Aging" to help them reach a larger audience. The following individuals formed our *GeriNotes* Author Group and made this CMH SIG sponsored project a huge success:

- Michelle Criss, PT, DPT, GCS
- Margaret Danilovich, PT, DPT, PhD, GCS
- Mary G. Fischer, PT, DPT, GCS
- Jena Harb, PT, DPT, GCS
- Julie Hardy, PT, MS, COS-C
- Jill Heitzman, PT, DPT, PhD, GCS, NCS, CWS, CEEAA, FACCWS
- Kristine L. Josef, PT, DPT, NCS
- Lise McCarthy, PT, DPT, GCS
- Nicole A. Morgan, OTR, CAPS, CSA, CHAMP
- Jennifer Nash, PT, DPT, NCS, MSCS, CEEAA
- Christy Ross, PT, DPT, GCS, CDP, MSCS
- Mike Studer, PT, MHS, NCS, CEEAA, CWT, CSST
- Rodney Weir, PT, MPT, DHS, NCS
- Mary Ann Wharton, PT, MS

NOTE: If you know these spectacular authors, and even if you do not know them, please consider reaching out to them at work or if you meet them at your next conference. When you have the opportunity, please express your appreciation to them for sharing their precious time and valuable expertise! They worked hard to craft these CEU articles for you!

- Take-away: We are only as strong as you are vocal, so if you like the content and variety of topics written by these seasoned and emerging writers, please speak up and let your SIG Chairs and/or State Advocates know. Also, please share with them your interests so we can consider how we can help promote topics for the next No-

member *GeriNotes* CEU issue! We are looking for ways to be useful to you.

### **PROJECT: AGPT 2017 Calendar Project**

- Topic: Cognitive Health
- Topic: Brain Health
- Take-away: the 12-month calendar is available for purchase through AGPT, and these two CMH SIG topics are also available as fliers (for free) on the CMH SIG webpage if you go here: [www.geriaticspt.org/members/special-interest-groups](http://www.geriaticspt.org/members/special-interest-groups).

### **PROJECT: SIG Inter-collaboration**

- Background: At CSM 2016, AGPT SIG leaders were tasked with reaching out and collaborating with members from other SIGs. In September 2016, members of the CMH SIG participated in the Balance and Falls SIG's Journal Club discussion. In November 2016, the CMH SIG and BF Chairs co-presented the BF SIG Journal Club discussion. The article entitled "The interplay between gait, falls and cognition: can cognitive therapy reduce fall risk?" can be found here: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3163836/>
- Project Leaders: Lise McCarthy and Mariana Wingood
- Take-away: There is a lot we have to learn from and share with each other....thank goodness we are really good at sharing and supporting one another!

### **PROJECT: November is National Caregiver Awareness Month**

- Background: Recognizing the very important work of caregivers, CMH SIG leaders identified good caregiver resources and shared them in a November email blast to all AGPT members to encourage wide promotion and support for caregivers.
- Project leaders: Jan Bays, Margaret Danilovich, Jill Heitzman, and Lise McCarthy
- Take-away: The work we do is mostly not about us; rather, it is mostly about how useful our work can be to others in our communities.

## ***Year 3: More amazing transformative projects are underway!***

### **PROJECT: 2017 CSM Conference**

- 2-day Preconference course entitled: "Working with Cognitive/Mental Health Issues Across the Care Continuum."
- Date: Tuesday (2/14/2017) and Wednesday (2/15/2017)

We have 4 teams:

- The Academic Team = Laura White and Nicole Dawson
- The Hospital Team = Michele Stanley and Betsy Ross
- The SNF/LTC/HHA Team = Grace Knott, Missy Criss, and Jean Miles
- The Outpatient Team = Christy Ross and Lynn Steffes

CMH SIG sponsorship of 2 other courses at CSM 2017:

- Topic: "Rehabilitation for Individuals with Dementia: Let's Elevate Our Expectations!" Date: Thursday, 2/16 @ 3:00 p.m.-5:00 p.m.
- Room Monitors: Jean Miles and Grace Knott
- Topic: "Emerging Strategies to Address Behavioral & Psychological Symptoms of Dementia." Date: Friday, 2/17 @ 11:00 p.m.-1:00 p.m.
- Room Monitors: Michele Stanley and Christy Ross
- Take-away: If you want to learn more about our CMH SIG, reach out to our presenters and room monitors!

### **PROJECT: Clinical Summary on Delirium**

- Background: Over the summer of 2016, we developed a task force and engaged Greg Hartley, AGPT Practice Committee Chair, to help us understand how interested CMH SIG leaders could contribute their expertise to help our profession at large. After several rounds of discussions, we decided there was significant interest and need for us to develop a clinical summary on delirium. The outline on delirium has been completed. Submission of this clinical summary is planned before/during summer 2017.

- Project Leaders: Laura White, Christy Ross, Betsy Ross, and Lise McCarthy
- Take away: Each of us may have big ideas, but we are more effective when we ask our leaders how we can be helpful to our organization!

### **PROJECT: PTNOW Tests and Measures**

- Background: In September 2016, we started working with DPT Students from Slippery Rock University in Pennsylvania to develop cognitive and mental health tests for publication on the PTNOW website; the tests will be published in 2017 and will include:
  - ◆ Global Deterioration Scale (GDS)
  - ◆ Confusion Assessment Method (CAM)
  - ◆ Functional Assessment Staging Tool (FAST)
  - ◆ Mini-Cog test
  - ◆ Quality of Life in Alzheimer's Disease (QOLAD scale)
  - ◆ Alzheimer's Disease Related Quality of Life scale (ADRQL scale)
  - ◆ Dementia Quality of Life (Dementia QOL scale)
- Project Leaders: Evan Prost, Anne Reicherter (PTNow Senior Practice Specialist, APTA), Mary Ann Holbein-Jenny (Professor, Slippery Rock University), Margaret Danilovich, Michele Stanley, Mary Fischer, Jena Harb, Kristine Josef, and Lise McCarthy
- Take-away: Sometimes we may not be sure there is help...and then there is...when you ask for it.

### **PROJECT: 2017 Dementia Action Alliance Partnership and International Dementia Conference**

- Background: At CSM 2016, AGPT SIG leaders were tasked with reaching out and partnering with other professions and groups. To that end, CMH SIG leadership sought to partner with DAA. With unanimous support from AGPT's Board of Directors, the CMH SIG – DAA partnership was formed in October 2016. Efforts are now underway to strengthen this partnership which include:
  - ◆ Participating in the North American Conference on Dementia. A

formal invitation from DAA has been extended to all AGPT members, and especially CMH SIG active members, to present and/or join the DAA's first international dementia conference in Atlanta, GA.

- ◆ Researching funding opportunities for a collaborative CEU project specifically aimed at helping physical therapists and physical therapist assistants understand person-centered dementia care management best practices.
- Project Leaders: Jan Bays, Lise McCarthy, and Jill Heitzman
- Take-away: Sometimes when we dream in big ways, we need to step back to see what we can do together to really act in big ways!

We have laid solid foundations these first two years with the help of many hands and minds. Our CMH SIG will continue in 2017 to promote cognitive and mental health issues related to physical therapy evaluation and care management services for people impact-

ed by dementia, depression, delirium, and pain. In this third year, our newly elected Officers and our Liaisons will also help develop and promote projects that engage our interests and expand our collective knowledge of cognitive and mental health domains. New project development areas under consideration so far are:

- Quality of Life issues for our patients and our profession
- Intellectual developmental disabilities and aging
- Homelessness and aging
- Mental health conditions (eg, personality disorders)
- Mental health care parity issues in older age
- Bringing cognitive therapy more fully into physical therapy practice
- Take-away: As of the writing of this report, a little over 3% of you have actually taken the step to become members of our CMH SIG. If you sign up to be a member of a SIG, it shows SIG leaders and AGPT that

you like what we are doing. Please go here to let us know you appreciate our work to date: [www.geriaticsppt.org/members/special-interest-groups](http://www.geriaticsppt.org/members/special-interest-groups).

I hope you will join me in showing deep gratitude and thanks to the remarkable people listed above who have contributed their vision, ideas, expertise, energy, and time to develop and lead all these incredible Cognitive and Mental Health SIG projects in 2016-2017.

This CMH SIG is a wonder because of their wonderful work and yours!! Keep it up!!

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Lise McCarthy has a private gerogeriatric (population age 80+ years) practice in San Francisco, CA. She is an Assistant Clinical Professor, Volunteer, at the University of California at San Francisco. She is the Founding Chair of the Cognitive and Mental Health Special Interest Group of the Academy of Geriatric Physical Therapy.



## Academy of Geriatric Physical Therapy

### CSM 2017 Preconference Courses

#### **Working with Cognitive/Mental Health Issues Across the Care Continuum - 1.6 CEUs**

**Tuesday, February 14 and Wednesday, February 15, 2017**

**Presenters: Michele Stanley, PT, DPT, Laura White, PT, DScPT, Nicole Dawson, PT, Betsy Ross, DPT, Grace Knott, PT, Missy Criss, PT, DPT, Christy Ross, PT, DPT Jean Miles, PT, DPT, and Lynn Steffes, PT, DPT**  
Brought to you by the Cognitive and Mental Health SIG



#### **Tai Chi Fundamentals® Training Program: Levels 1 and 2 - 1.6 CEUs**

**Tuesday, February 14 and Wednesday, February 15, 2017**

**Presenter: Kristi Hallisy, PT**



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# You Have Spoken! We are Listening

*Myles Quiben, PT, PhD, DPT, MS, GCS, NCS  
Director of Education, AGPT*

The Academy of Geriatric Physical Therapy (AGPT) continues to grow and board certified clinical specialists in geriatrics remain as one of the top specializations in physical therapy. Needless to say, we are overjoyed with AGPT's growth and the interest in geriatric care.

To ensure that we respond to changes within and external to the Academy, the Board of Directors (BOD) has been constantly at work and has recently completed the Strategic Plan, a map of what we envision for AGPT in the next two years. Critical to the planning process is the Membership Survey, which provided the BOD with a snapshot of the current pulse of the membership. To all those who completed the September survey, many thanks for your input! You have spoken and we are listening!

We heard what your wants and needs are. With the goal of pursuing the best physical therapist practice for optimal aging, you have identified educational and practice resources as your primary 'wants' from the Academy. Specifically, members want more educational resources in the form of webinars, regional courses, and a wider

range of continuing education topics, including practice issues. In addition, you have asked for more resources for educators who teach geriatric content, for clinicians who are in the frontline treating older adults, and for therapists embarking on their GCS journey. We are listening!

The AGPT Strategic Plan, which will be presented to the membership at CSM 2017, includes plans on boosting our educational offerings. We have so much work to do! As your Director of Education, I will be your champion in ensuring that we respond to the requests and I will continue to work on our goal of making AGPT a premier resource for education on issues and topics relevant to physical therapists in geriatric care. We have many plans in development and your input on specific topics of interest will be critical as we map our steps moving forward.

Know that we are listening...and we will be responding to your needs. Now, we want to hear from you again!

What topics are important to you? I, and the rest of the Board of Directors, look forward to connecting with you

at the CSM Member's Meeting in San Antonio. Shoot me an email and let me know how we can better serve your educational needs. And keep watch over the AGPT news about our future endeavors. It's going to be quite the ride!



Myles Quiben is an Associate Professor at the University of North Texas Health Science Center and practices at Baylor Institute of Rehabilitation in Fort

Worth, TX. She has served the Academy of Geriatric Physical Therapy, American Board of Physical Therapy Specialties, and the Federation of State Boards of Physical Therapy. With a passion for teaching, she has presented nationally and internationally on geriatric and neurologic physical therapy. Myles is a Fellow of the APTA Educational Leadership Institute (ELI) and is a Tom Waugh Leadership Fellow of the Texas Physical Therapy Association. You may reach her at [MylesQuiben@gmail.com](mailto:MylesQuiben@gmail.com).

## Election Results

**Congratulations to the following candidates who will take office  
at the Member Meeting at CSM 2017 in San Antonio**

**Secretary: Ann Medley | Director: Tamara Gravano  
Delegate: Ellen Strunk | Nominating Committee: Carleen Lindsey**

Full election results can be found at <http://geriatricspt.org/?7ycl>

*Thank you to everyone who participated in the 2016 election!*

# Physical Therapy for a Geriatric Individual with Early Parkinson's Disease

Staci Shearin, PT, NCS

## INTRODUCTION

Aging often brings about challenges as there are often changes in muscle strength, overall flexibility, and a resultant decline in function often accompany the passing years.<sup>1</sup> In the United States, the process of aging has become complicated by increasing incidence of chronic diseases such as diabetes, osteoarthritis, Parkinson's disease (PD), and Alzheimer's disease.<sup>2</sup> It has been suggested that PD reflects an accelerated form of the normal aging process<sup>3</sup> and causes limitations that encompass physical impairments, deficits in functional mobility, and prevention of participation in life roles.<sup>4</sup> Any illness, like PD, can bring their own set of complications that must be addressed in addition to the normal aging process. In the realm of physical therapy (PT), there is much literature to guide wellness education and treatment to impact physical changes related to both aging and chronic diseases such as PD. Physical therapist training allows for movement analysis, exercise prescription, and overall education for wellness that can be beneficial for normal aging as well as complications of chronic diseases.<sup>5</sup> This case study will examine the impact of interventions in order to restore functional mobility followed by overall health and wellness topics for an older individual who was recently diagnosed with PD.

## CASE HISTORY

Mr. M was a healthy 69-year-old man, who was still working, until he lost his balance while reaching and consequently had a fall. This started a cascade of events that began with a right acetabular fracture and led to the diagnosis of diabetes, idiopathic peripheral neuropathy, and PD upon admission for surgical correction of the hip fracture. After Mr. M finished his initial round of PT, he was still living with significant

gait impairments, mild depression, and fatigue. Mr. M's lingering issues were in line with the current literature as it has been found that as many as 29% to 50% of individuals post hip fracture do not return to their preinjury functional status.<sup>6,7</sup> As Mr. M's generation continues to age with a significant rise in the geriatric population,<sup>8</sup> preventing and treating falls will be critical as it is currently the leading cause of death and disability among older adults.<sup>9</sup> For Mr. M, his hip fracture started his medical problems that continued to impact him daily after his initial hospital course and outpatient PT. Therefore, he began a second bout of therapy at an outpatient clinic, 8 months after his initial injury, in hopes of improving his walking and balance. The initial focus was on improving his current state of mobility and strength while preparing him to begin an exercise routine to support health and wellness as he continues to age.<sup>10</sup>

On his initial evaluation, Mr. M stated that he had been previously healthy with no functional mobility issues excluding acid reflux and seasonal allergies. He was now on multiple medications: Sinemet, Lipitor, Nexium, Neurontin, Claritin, and Glucophage. He also complained of poor sleep and significant fatigue. Mr. M presented with lower extremity weakness (Table

1), decreased balance, sensory deficits (vibration and proprioception) in both ankles (right > left) mild ankle range of motion deficit, and gait abnormality. He was unable to assume his balance without upper extremity support when standing on 1 leg. He reports that the fatigue and balance impairments prevent him from playing golf, working, and being active in general. Mr. M used a single tip cane intermittently for his balance with ambulation but was significantly self-limiting himself.

Per observational gait,<sup>11,12</sup> Mr. M demonstrated his right foot externally rotated, step length differential, and he dragged his right foot intermittently (Table 2). Overall he ambulated with decreased velocity and did not maintain hip extension during stance on the right lower extremity (Table 3). The asymmetry in his step length, a wide base of support, and shortened step lengths may have been impacting his gait efficiency. A Six Minute Walk Test (6MWT),<sup>13</sup> Timed Up and Go (TUG) Test,<sup>14</sup> and a 5 Times Sit to Stand Test (5 TSST)<sup>15</sup> were performed on initial evaluation and at his re-evaluation (Table 4).

## INTERVENTIONS

### Plan of Care

The plan of care for Mr. M focuses on his goals of improved balance and

Table 1. Initial Strength

LOWER EXTREMITY	Right	Left
Hip flexors	4/5	5/5
Hip extensors*	3/5	4/5
Hip abductors	3/5	4/5
Knee extensors	5/5	5/5
Knee flexors	4/5	4+/5
Ankle dorsiflexors (through available range)	4/5	5/5
Ankle plantar flexors	2+/5	3/5

Comments: 3 partial heel raises in single limb stance on the right and 9 full heel raises on the left

\*Supine Hip Extensor Manual Muscle Test

functional mobility. These areas of focus are critical as the special tests performed for Mr. M indicated he is at a risk for falls compared to the age-matched normative values. With his complicated medical history including a hip fracture

combined with a diagnosis of peripheral neuropathy and PD, it is difficult to attribute each of the listed impairments to a specific cause. However, the clinician decided it was imperative to address his lower extremity weakness,

sensory impairments, and ankle range of motion first. By intervening for these basic impairments, the environment for task specific practice (walking) can be primed. Mr. M was seen 8 times over his course of care. Two initially in December and then the other 6 were after he received an ankle foot orthosis (AFO) in February.

**Table 2.** Gait Deviations<sup>12</sup>

Gait Phase	Initial Gait Deficit	Final Gait Changes
Weight acceptance	Foot flat initial contact Decreased heel rocker	Heel first initial contact
Single limb support	Intermittent right knee hyperextension Decreased single limb stance on the right	Decreased single limb stance on right
Swing limb advancement	Decreased dorsiflexion, knee and hip flexion on right	No deviations
Other	Right arm held against body Significant, decreased weight shift to right, wide base of support	Decreased arm swing Mild decreased weight shift to right, appropriate base of support

### Home Exercise Program

Physical activity has been found to improve social outcomes, reduce anxiety and depression, prevent chronic diseases, and improve functional status.<sup>16</sup> Mr. M was provided a home exercise program to address his weakness, balance problems, and ankle range of motion. As he was not able to drive to the clinic frequently, he was provided a more robust home exercise program. His home exercise program included (in standing): sit

**Table 3.** GAITRite

Parameters	Initial Eval 12/07/15	2/18/16 Brace, No Assistive Device	3/3/16 With STC and Brace	4/4/16 Without Brace With Forearm Crutch	4/4/16 With Brace With Forearm Crutch	Norms
Velocity (cm/sec)	83.2	77.9	85.0	91.00	95.2	120-150
Cadence (steps/minute)	95.7	80.2	76.7	83.3	81.3	90-120
Step Length (cm): L= R=	57.5 46.1	60.7 54.9	67.1 65.5	66.5 64.3	69.2 71.4	58-85
Step length differential (cm)	11.1	6.7	1.6	2.2	2.3	—
Double limb support average (% gait cycle)	28.9	33.2	29.9	31.2	28.7	16-24
Single limb support (% gait cycle): L= R=	37.8 32.9	36.0 29.9	37.3 31.3	35.8 32.4	37.1 33.4	38-42
Toe in/out (degrees): L= R=	2 16	5 12	5 14	4 14	5 13	5-10
Base of support average (cm)	15.6	13.5	12.8	12.1	11.6	8-12

**Abbreviations:** L, left; R, right; STC, single tip cane

**Table 4.** Functional Tests

Test	Initial Evaluation	When Received Braces	Re-evaluation (2 months after receiving AFO)	Normative Values
Six Minute Walk	1234 feet	1058 feet	1352 feet MDC: 190 feet <sup>34</sup>	60-69: 1877 feet <sup>13</sup>
Timed Up and Go	17.2 seconds	18.2 seconds	12.0 seconds MDC: 4.89 <sup>35</sup>	11.5 seconds is predictive of falls <sup>14</sup>
5 Times Sit to Stand	20.8 seconds	16.0 seconds	12.9 seconds MDC: Not established	> 16.0 seconds indicates falls risk <sup>15</sup>

**Abbreviations:** MDC, minimal detectable change; AFO, ankle foot orthosis

to/from standing, hip abduction, marching, heel cord stretching on a wedge, rows, single leg stance, step ups on a 6 inch step, and tandem stance. At his last visit, walking backwards, tandem, with high knees, and sidestepping was added to his home exercise program to focus on his dynamic balance at home. He was instructed to use the Borg Scale of Perceived Exertion (0-10) to monitor his intensity at a moderate level of 5-6 to guide his repetitions of 2 sets of each exercise 4 times a week.<sup>17</sup> The Borg has been found to correlate<sup>18</sup> with heart rate and blood lactose.

### Bracing

Mr. M was also fitted for a custom fabricated carbon fiber AFO. Carbon fiber AFOs are beneficial in a neurological patient population due to the energy storing capacity and lightweight nature of the material.<sup>19,20</sup> Additionally, these AFOs typically have higher satisfaction rates because of their more modern appearance.<sup>20</sup> Ankle foot orthoses are frequently prescribed to minimize the consequences of gait dysfunction for those with neurologic impairments including individuals with spinal cord injuries, multiple sclerosis, and post stroke.<sup>21-23</sup> Lower extremity AFOs have been found to improve mediolateral ankle stability and foot position, increase walking speed, and decrease energy expenditure.<sup>24-26</sup> There are a variety of orthotic designs that are used in the neurologic population. A brace was chosen for Mr. M to improve his foot position during swing, at initial contact allowing preservation of forward momentum, and overall stability during stance. The brace chosen for Mr. M was a simple posterior leaf spring AFO (Figure 1) designed to position his foot at initial contact, provide proprioceptive feedback, and provide overall stability at his ankle and knee.

### Gait Interventions

The gait interventions chosen for Mr. M were designed with the concept of neuroplasticity at the forefront of importance. The principles considered included saliency, repetition, task-specificity, and timing.<sup>27</sup> To support the first 3 principles, a home walking program was chosen to allow him an activity that he found important (salient and task-specific) and automatically allowed for



**Figure 1.** Carbon fiber brace. Photo reprinted with permission from Baker Orthotics.

maximal repetitions of a task-specific activity. The walking practice was structured to include 2 bouts of 10 to 15 minutes of moderate intensity (5-6 on the Borg Scale) walking as directed by the American College of Sports Medicine.<sup>17</sup> Mr. M was encouraged to work towards one bout of 30 minutes. As Mr. M is early in the disease process for both his peripheral neuropathy and PD, this was a critical time to intervene according to the timing principle of neuroplasticity. On top of a progressive walking program, Mr. M also performed gait on a tape ladder to address his step length differential and allow him to purposefully focus on slowly increasing his step length bilaterally.<sup>28</sup> The above walking interventions were performed using a forearm crutch and AFO in order to provide practice with optimal gait mechanics and safety.

### WELLNESS

Individual wellness in the geriatric population involves a complicated combination of multiple factors described by the International Council on Active Aging (ICAA). These factors include the following dimensions: physical, emotional, environmental, occupational, intellectual, social, and spiritual. The ICAA believes the concept of wellness “moves the definition of health and well-being away from a mindset based in the management of disease and into

the areas of prevention and proactive strategies.” For Mr. M, this is critical as he is just entering his older years and may benefit from some direction as he ages. Some factors were not directly addressed but may have been indirectly impacted through other interventions. Community activities such as the Area Parkinsonism Society, The Voice Project, and Dance for PD were suggested to impact social and emotional well-being as well as to stimulate his intellect through learning new activities. Also discussed were the benefits of volunteering and engaging his spiritual outlet of choice.

Finally, his exercise program was designed to impact his emotional, physical, and intellectual capacities. Exercise training was found to be as effective as antidepressants for older individuals<sup>29</sup> and thus might be beneficial for Mr. M. Exercise has been found to increase factors in the blood in healthy individuals and in those with active diseases,<sup>30,31</sup> which can improve spatial memory, decrease depression, and improve overall cognitive function.<sup>32,33</sup> There is a growing body of literature to promote the use of exercise to impact neuroprotection to influence disease progression and symptomatology in persons with PD, although specific parameters have not been sufficiently tested.<sup>18,19</sup> Overall, Mr. M has been equipped, should he choose, to begin to impact the various dimensions of wellness and age to the best of his ability.

### Outcomes

The purpose of this case report was to illustrate mobility interventions and wellness education for an older adult. Initially, it was important to assist him in improving the safety and efficiency of his mobility. After that, it was possible to help him modify the possible factors that could positively impact his cognition, mobility, and quality of life (QOL) over time. During the 2 months after he obtained his brace, he made good gains in gait velocity and his functional testing (see Table 3 & 4).

Mr. M showed excellent improvements on his 6 MWT,<sup>34</sup> TUG,<sup>35</sup> and 5 TSTS showing a significant trend toward decreased falls risk. He made excellent gains in his step length (>15 cm bilaterally) and step symmetry (from 11.4 to 2.3 cm) as well as an increase in gait velocity on the 6 MWT. Increased step length and symmetry is associated

with improved gait efficiency.<sup>36</sup> These changes were also evident without the brace as seen in Table 3. Finally, observational gait analysis revealed improvement in all phases of the gait cycle lending to improved forward momentum, safety, and efficiency (see Table 2). He was reporting improved sleep but only minor changes in his fatigue. The improvements in his mobility were critical, as it allowed Mr. M to move forward and participate safely in a wellness program. He was able to reach the 30-minute goal most days of the week. As he continues to focus on his home exercise and walking programs, he may continue to see gains in his gait and mobility.

## CONCLUSION

One out of every 5 people in the United States will be 65 years or older by 2030. Like Mr. M, these individuals will require PT interventions secondary to falls, the impacts of aging, and associated chronic diseases.<sup>37</sup> Physical therapists should have an active role in the prevention of falls as well as functional recovery after. Exercise and wellness will be critical interventions to impact functional mobility, falls, and QOL.<sup>38,39</sup> Exercise also impacts gait mechanics, QOL, strength, and balance for those with PD.<sup>40</sup> For Mr. M, his therapeutic interventions allowed him to ambulate with a faster gait velocity, improved symmetry, and longer steps as well as decrease his falls risk. As a result, his gait is more efficient and safe and should allow for him to exercise at a higher intensity safely. With increased safety, Mr. M can now engage in regular exercise and community activities to impact his QOL and overall wellness. Physical activity has been found to decrease inflammation that plays a role in aging in general as well as chronic diseases.<sup>41</sup> Through regular exercise, Mr. M may have the ability to impact his functional mobility and the financial burdens associated with PD and aging. Early PT intervention (with a small number of sessions) in conjunction with wellness education, might positively impact an individual's functional mobility and QOL as they age.

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# The Effects of Transcranial Direct Current Electrical Stimulation on Gait in Those with Parkinson's Disease: A Literature Review

*Rashelle Hoffman, PT, DPT*

## INTRODUCTION

Parkinson's disease (PD) is the second most common neurodegenerative disease, affecting about 1% of the population over the age of 50.<sup>1</sup> The disease process involves progressive loss of dopaminergic neurons in an area of the basal ganglia known as the substantia nigra pars compacta.<sup>2,3</sup> Over time, the loss of these neurons results in the cardinal features of bradykinesia, rigidity, resting tremor, and postural instability. These features can severely impact a person's ability to ambulate. Consequently, people with PD are 9 times more likely to fall compared to healthy older adults.<sup>4</sup>

One of the most common approaches to manage the signs and symptoms of PD include dopaminergic medications that increase dopamine levels in the brain. Initially, these medications are very effective, but over time, they lose their effectiveness and can cause adverse side effects such as dyskinesias.<sup>5</sup> Deep brain stimulation is another approach in which electrical stimulation is applied to the basal ganglia to facilitate greater dopamine levels. The device is surgically implanted with leads running down through the neck and a battery pack placed typically under the skin in the upper chest region.<sup>6</sup> This is an invasive surgery and excludes several people with PD due to various qualification criteria.

Transcranial direct current stimulation (tDCS) is an older intervention that has been used for well over a decade to enhance learning, picture naming, working memory, and executive planning.<sup>7-10</sup> There has been extensive research and clinical use reported for tDCS in the treatment of depression<sup>11</sup> and motor recovery.<sup>12,13</sup> Recently, tDCS has been explored as a treatment option for those with PD, but little research has been conducted relevant to effects on gait.<sup>14</sup>

Transcranial direct current stimulation involves placement of electrodes to the scalp and when activated, modulates excitability in the cortical and subcortical tissues associated with the benefits previously mentioned.<sup>15</sup> In people with PD, the areas of the brain such as the supplementary area motor cortex, and prefrontal areas have shown reduced activity compared to healthy adults during ambulation.<sup>16,17</sup> Anodal stimulation increases excitability and firing of active neurons<sup>18</sup> improving connectivity of the cortico-striatal and thalamo-cortical circuits<sup>19</sup> and supposedly reverses decreased activity in motor and prefrontal cortices.<sup>20, 21</sup> Based on this theory, it is hypothesized that tDCS will reduce PD associated gait impairments. Transcranial direct current stimulation is a feasible option as it is fairly inexpensive (\$100-\$800 roughly depending on brand) and can be utilized in a person's home independently after proper training. Research has also supported a minimum carryover of increased cortical activity for 90 minutes following a 15-minute application for those with PD.<sup>22</sup> Currently there is not adequate research to solidify if tDCS does cause meaningful improvement in gait impairments associated with PD. The purpose of this literature review is to explore the impact of tDCS on gait with those that have PD.

## METHODS

### Search Strategy

The literature published over the last 10 years on the use of tDCS stimulation in PD was reviewed in June 2016. Electronic databases searched included PubMed, Cochrane Reviews, MEDLINE, CINAHL, Pedro Database, and Scopus. The following search terms were used and combined to select the

most relevant article: Parkinson's disease, gait, and tDCS.

### Selection Criteria

A study was included if it met the following criteria: (1) tDCS as the intervention of interest, (2) included gait related outcomes, and (3) participants with PD. Studies were excluded when tDCS was combined with other electrical interventions or when the study was not available in English. Review articles and studies published in abstract form only were also excluded.

## RESULTS

A total of 18 relevant references were identified through the search strategy. After eliminating duplicate entries, the number of papers were reduced to 12, and 3 references were excluded by screening titles and abstracts. Finally, after assessing full-text papers of the remaining studies, 8 randomized controlled trials<sup>23-26,28-31</sup> and one case study<sup>27</sup> were included in this review.

### Study Participants

The total number of participants combining all studies was 132 of which 65% were male participants. The highest number of participants in one study<sup>28</sup> was 25. The age of the participants ranged from 40 to 81 years old and Hoehn and Yahr stage ranging from 1-4.

### tDCS Parameters

A variety of protocols were utilized in the studies reviewed. Each study at the minimum included one active and one sham tDCS intervention and a maximum of 10 sessions.<sup>24,31</sup> Location of stimulation varied with placement over the prefrontal cortex<sup>23,28,30,31</sup> and motor cortices.<sup>24-29</sup> Current level varied from 1 mA<sup>29</sup> to 2 mA<sup>23-28, 30-31</sup> with length

of application ranging from 5 to 20 minutes. Six studies<sup>23-24,26,28,30-31</sup> applied tDCS prior to gait outcome measures and 3 studies<sup>25,27,29</sup> applied it during gait related outcome measures. Refer to Table 1 for each study's tDCS protocol.

### Gait-related Outcome Measures

#### Timed up and go

Six studies<sup>23-25,27,29-30</sup> completed the timed up and go (TUG) as part of the gait outcome measures. Swank et al<sup>23</sup> reported that the time to complete the TUG decreased with tDCS compared to sham tDCS but did not reach statistical significance ( $p=0.40$ ). There were positive gains noted in the study by Costa-Ribeiro et al<sup>24</sup> ( $F=2.21$ ,  $p=0.123$ , power =0.424). Both the tDCS and sham tDCS showed improvement during the study. No statically significant differences existed between groups. Upon follow-up, improvements with the TUG were only maintained for patients in the experimental group compared to baseline ( $p=0.05$ ).

Verheyden et al<sup>29</sup> recorded TUG results prior to tDCS application, during tDCS application, and post application.

Data was reported as an estimated difference between groups. Results included a decrease in the TUG by 0.238 seconds comparing tDCS during activity versus tDCS prior to activity and a decreased in the TUG by 0.076 seconds comparing post-stimulation gait parameters versus pre-stimulation. These results indicate small to no improvement in functional mobility. No results were recorded for each group independently.

Kaski et al<sup>25</sup> found tDCS with physical training (tDCS+ physical training) resulted in statistically significant improvements compared to tDCS alone ( $p=0.04$ ). There was no isolated effect of tDCS ( $p=0.52$ ) nor physical training ( $p=0.31$ ). Sub-analysis of the turn phase of the TUG also revealed significant improvements with tDCS+ physical training but not with tDCS or physical training alone. The case study<sup>27</sup> included in this review also utilized the TUG as an outcome measure with decreased time reaching statically significant ( $p=0.02$ ) compared to sham tDCS.

Manenti et al<sup>30</sup> found a significant decrease in TUG records for groups receiving tDCS. Stimulation to the right

dorsolateral prefrontal cortex (DLPFC) resulted in an average  $1.4 \pm 2.1$  second decrease and stimulation to left DLPFC resulted in an average decrease of  $0.5 \pm 1.3$  seconds. A statistically significant decrease in the TUG time was noted for the right DLPFC tDCS group vs the placebo group ( $p=0.010$ ). No statistically significant difference comparing the left DLPFC group vs the placebo group ( $p=0.173$ ) or right vs left DLPFC stimulation groups ( $p=0.503$ ). Refer to Table 2 for overall TUG outcome measure results.

#### 10-meter walk test

Three studies<sup>24,28,29</sup> assessed gait speed through completion of the 10-meter walk test (10 MWT). There were significant changes for the gait velocity compared from baseline, intervention, and postintervention in the study by Costa-Ribeiro et al<sup>24</sup> ( $F=13.54$ ,  $p<0.0001$ , power =0.991). Upon follow-up, gains were only maintained for participants in the experimental group compared to baseline ( $p=0.05$ ).

**Table 1.** tDCS Protocols

	Anode Electrode Placement	Current	Time Length	Applied Prior To or During Activity	Number of Sessions
Swank et al <sup>23</sup>	Dorsolateral pre-frontal cortices	2mA	20 minutes	PT	2 sessions with 1 tDCS session and 1 sham session (1 week wash out)
Costa-Ribeiro, et al <sup>24</sup>	Supplementary Motor Area	2mA	13 minutes	PT	10 sessions of either tDCS or sham
Kaski et al <sup>25</sup>	Premotor and primary motor cortices	2mA	15 minutes	DA	2 sessions with 1 tDCS session and 1 sham session (1 week wash out)
Valentino et al <sup>26</sup>	Primary motor cortex	2mA	20 minutes	PT	5 consecutive days of either tDCS or sham then cross over (3 month wash out period)
Kaski et al <sup>27</sup>	Primary motor cortex	2mA	5 minutes	DA	Sham first, 2 hour break, tDCS. Repeated again a week later
Benninger et al <sup>28</sup>	Premotor and motor or prefrontal cortices	2mA	20 minutes	PT	8 sessions over 2.5 weeks with alternating location of stimulation for each session so that each area was stimulated 4 times over 8 sessions
Verheyden et al <sup>29</sup>	Motor cortex	1mA	15 minutes	DA	1 session with washout period (unspecified) between
Manenti et al <sup>30</sup>	DLPFC	2mA	7 minutes	PT	Sham first, trailed right DLPFC. Another day sham first, trailed left DLPFC
Doruk et al <sup>31</sup>	DLPFC	2mA	20 minutes	PT	10 consecutive sessions. Sham group. L DLPFC and R DLPFC

**Abbreviations:** PT, prior to; DA, during activity; tDCS, transcranial direct current stimulation; DLPFC, dorsolateral prefrontal cortex; L, left; R, right

**Table 2.** Timed Up and Go Results

	Baseline	Acute Effects	Follow-up
Swank et al <sup>23</sup>	N/A	Sham: 10.24±3.26 tDCS: 9.62±2.62	N/A
Costa-Ribeiro, et al <sup>24</sup>	Sham tDCS group: 12.0±5.5	9.0±2.2	1 month: 12.7±11.5
	tDCS group: 12.5±5.0	10.2±5.4	1 month: 10.7±5.1
Kaski et al <sup>25</sup>	Sham tDCS: 11.24±3.3	11.17±2.6	N/A
	tDCS alone: 11.24±3.3	11.17±2.6	N/A
	tDCS+physical training: 11.43±3.7	9.50±3.1	N/A
	Physical training: 11.02±2.4	9.37±1.5	N/A

**Abbreviations:** N/A, not available; tDSC, transcranial direct current stimulation

Notes: N/A-not available; all results recorded in seconds

\*Met Minimal Detectable Change (3.5 seconds)

In the study by Benninger et al,<sup>28</sup> tDCS was applied for a longer period of time (20 minutes) with significant positive benefits noted in the sham tDCS and tDCS groups compared to baseline during the “on” phase of dopaminergic medication ( $p=0.03$ ). This study applied sham and tDCS to participants while “off” dopaminergic medication with gains only noted in tDCS group that did not reach statistical significance.

The last study<sup>29</sup> that utilized the 10 MWT applied tDCS during the test and assessed afterwards without tDCS application. Improvement was noted but no statistically significant difference

between active and sham tDCS was recorded. Data was reported as estimated differences between group averages. Results included a decrease in gait velocity of 0.015 seconds comparing during versus pre-stimulation and a decrease in gait velocity of 0.025 comparing post-versus pre-stimulation. No results reported for each group individually and no statistically significant gains or losses attained. Results of these studies are recorded in Table 3.

#### Cadence

One article<sup>24</sup> assessed cadence. The sham tDCS group at baseline reported

114.3 ± 16.2 steps per minute (spm) at baseline. After 10 sessions with visual cues and gait training, cadence improved to 121.3 ± 15.8 spm, and at 1 month follow-up 121.3 ± 15.8 spm. The tDCS group at baseline reported 113.0 ± 15.8 spm. After 10 sessions with visual cues and gait training, cadence improved to 124 ± 11.9 spm, and at 1 month follow-up 122.3 ± 13.2 spm. This demonstrated a statistically significant improvement ( $p=0.003$ ) compared to baseline. Although greater gains were noted in tDCS group, no statistically significant improvement was noted when comparing the sham to tDCS group.

**Table 3.** 10-Meter Walk Test Results

	Baseline	Acute Effects	1 Month Follow-up	3 Month Follow-up
Costa-Ribeiro, et al <sup>24</sup>	Sham tDCS group: 1.38±0.3	Immediately following intervention: 1.60±0.2*^	1.52±0.3*^	N/A
	tDCS group: 1.39±0.3	Immediately following intervention: 1.60±0.3*^	1.5±0.3*^	N/A
Benninger et al <sup>28</sup>	Sham tDCS group: On: 1.16±2.6 Off: 1.05±4.1	One day post-intervention: 1.31±1.5*^ 1.02±4.7	1.15±3.7 0.92±7.3	1.14±4.2 1.03±4.6
	tDCS group: On: 1.15±2.4 Off: 1.03±3.6	One day post-intervention: 1.39±1.6*^ 1.33±1.5*^	1.43±1.2*^ 1.32±1.4*^	1.39±1.5*^ 1.11±4.8*^

**Abbreviations:** N/A, not available; tDSC, transcranial direct current stimulation

Notes: all numbers recorded in meters/second; on= on phase of dopaminergic medication; off=off phase of ≥12 hours of last dopaminergic medication

\*Met Minimal Detectable Change (0.18 m/sec) compared to baseline for improving gait speed

^Met Minimal Clinical Importance Difference (0.13 m/sec) compared to baseline for improving gait speed

## Stride length

Two articles assessed stride length.<sup>24,25</sup> Both studies demonstrated improvement in stride length with tDCS and with the control group. In the study by Costa-Ribeiro et al<sup>24</sup> no significant change was noted compared to baseline ( $F=2.47$ ,  $p=0.113$ , power =0.438). Kaski et al<sup>25</sup> recorded a statistically significant increase in stride length between baseline and final assessment with combined tDCS+physical training compared with tDCS alone ( $p=0.01$ ). There was no isolate effect of tDCS stimulation ( $p=0.33$ ), but physical training alone significantly increased stride length ( $p=0.03$ ). The effects of tDCS+physical training were nevertheless greater than physical training alone ( $p=0.03$ ). Refer to Table 4 for study results.

## Gait velocity

Kaski et al<sup>25</sup> measured gait velocity during their study by recording velocity during the middle 4 minutes of the 6-minute walk test. The tDCS+ physical training group increased gait velocity compared with tDCS alone demonstrating statistical significance ( $p<0.001$ ). There was an isolated effect of physical training ( $p=0.03$ ) but no overall effect of tDCS alone (baseline:  $0.63\pm0.11$  meters/second [m/s]; final:  $0.72\pm0.12$  m/s  $p=0.12$ ). Percentage increase was greater for patients receiving a combination of tDCS+ physical training (baseline:  $0.63\pm0.15$  m/s; final:  $0.86\pm0.25$  m/s) compared to physical training alone (baseline:  $0.65\pm0.14$  m/s; final:  $0.81\pm0.14$  m/s) but did not reach statistical significance. Doruk et al<sup>31</sup> examined what they classified as “walking time,” which showed no significant changes ( $p>0.05$ ) with their tDCS protocol.

In the case study,<sup>27</sup> gait velocity was measured over a 6-meter distance. There was a statistically significant increase in gait velocity ( $p=0.01$ ) compared to sham tDCS. No specific gait velocity recording was presented in this article.

## 6-minute walk test

Kaski et al<sup>25</sup> was the only study to record the 6-minute walk test. The tDCS+ physical training group decreased walking time compared with tDCS alone ( $p=0.01$ ), but tDCS had no effect in isolation ( $p=0.48$ ). There was a significant effect on physical training alone ( $p=0.042$ ), but this was comparatively less than the tDCS+physical training group ( $p=0.05$ ).

## Stand walk sit test

The stand walk sit (SWS) test was performed in one study.<sup>26</sup> This test is similar to the TUG with the difference being the distance walked during the test. The SWS test requires participants to walk 7m before turning to return to sit in a chair<sup>32</sup> (TUG requires 3m). This study focused on people with PD with freezing of gait episodes during the “on” phase of dopaminergic medication. Participants received tDCS or sham tDCS prior to completing the SWS test. In the tDCS group, significant reduction in number of steps ( $p < 0.002$ ) and duration of freezing episodes ( $p < 0.02$ ) noted during the SWS test.

## DISCUSSION

Overall, the studies included in this literature review demonstrated positive or no effects compared to baseline and/or sham tDCS gait measures. The 9 articles in this literature review included several outcome measures. There were 11 statistically significant improvements

noted and 5 reports of no improvements or improvement not reaching statistical significance.

The TUG is a valuable assessment of gait for those with PD. It captures the sit to stand and stand to sit transfer, walking a short distance, and turning which all can be very challenging for this population. Two out of the 6 studies that completed the TUG reported statically significant improvement compared to sham tDCS. The TUG minimal detectable change (MDC) for those with PD is 3.5 seconds.<sup>33</sup> The minimal clinically important difference (MCID) statistics are unavailable for this outcome measure. Several studies met statistical significance compared to baseline but none met the MDC demonstrating potential lack of meaningful gains for participants.

Two of the 3 studies that utilized the 10 MWT reached statistical significance compared to baseline measures and no statistical significance compared to the sham tDCS group. Minimal detectable change for those with PD is 0.18 m/s.<sup>34</sup> No data was found for MCID for those with PD but for the geriatric population, which includes most of the study participants, a substantial clinically important change is 0.13 m/s.<sup>35</sup> Two studies<sup>24,28</sup> did meet MDC and MCID demonstrating important and meaningful improvements.

The parameters of tDCS greatly varied between studies. Greater current level was associated with greater functional gains. Application during activity seemed to have greater benefit compared to prior to activity that has been noted previously in the literature.<sup>13,36,37</sup> Application on the contralateral hemisphere of lower extremity most involved was associated with better functional outcomes as compared to the ipsilateral hemi-

**Table 4.** Stride Length Results

	Baseline	Acute Effects	1 Month Follow-up
Costa-Ribeiro, et al <sup>24</sup>	Sham tDCS group: 99.9±13.0	109.7±16.3	1 month: 104.4±13.9
	tDCS group: 106.8±14.7	115.1±8.0	1 month: 111.3± 26.8
Kaski et al <sup>25</sup>	Sham tDCS group: 89.4±17.6	90.6±16.1	N/A
	tDCS alone: 90.68±16.1	95.2±16.1	N/A
	tDCS + physical training: 90.0±18.9	127±17.7	N/A
	Physical training alone: 91.4±21.7	120±22.6	N/A

Abbreviations: N/A, not available; tDSC, transcranial direct current stimulation  
Notes: all lengths recorded in centimeters

sphere.<sup>26,29,38,39,40</sup> Lastly, pairing tDCS with physical training,<sup>25</sup> dancing,<sup>26</sup> or external cueing<sup>24</sup> was more beneficial compared to tDCS alone.<sup>25</sup>

There were a limited number of studies that examined the long-term effects of tDCS. Two studies<sup>24,28</sup> within this review did examine effects at 1 month and/or 3 months postintervention and noted sustained functional gains that were not sustained in the placebo groups. This implies potential carryover well outside the tDCS application time.

All the studies except one<sup>28</sup> had all participants during the “on” phase of dopaminergic medication. Benninger et al<sup>28</sup> compared participants both in the “on” and “off” phases and noted improvement acutely in both groups but less long-term carryover of benefits when tested “off” dopaminergic medications. This demonstrates a potential positive effect of pairing dopaminergic medications with tDCS as compared to the “off” phase and tDCS.

Transcranial direct current stimulation is a fairly low risk intervention. Although, one study<sup>28</sup> noted that one participant sustained a small first degree burn likely caused by accidental malpositioning of an electrode over the mastoid causing a reduction in surface area. Different models, such as those produced by Fisher-Wallace, have a safety mechanism in place that senses contact of the electrode. If full contact of the electrode is not sensed, the machine will shut off reducing possibilities of burns.

There were many limitations to the studies that were included in this literature review. The studies had small study populations that did not allow the researcher to draw conclusive results. But most studies did have a large enough population for a pilot “proof-of-principle study.” The variability of location, duration, and current of the studies’ tDCS protocols made it challenging to compare effects. There were also a wide variety of gait outcome measures and variable reporting methods that made it challenging to compare results.

## CONCLUSION

Overall, the studies did show positive effects of tDCS associated with some gait outcome measures with some carryover noted. No conclusions can be drawn about ideal protocol or place-

ment of electrodes based on limitations of this literature review. More research is needed to conclude optimal parameters of tDCS for decreasing gait impairments in those with PD. Some recommendations for further research would be to attempt higher current levels, focus stimulation on the contralateral hemisphere associated with the most impaired lower extremity, apply application during activity, and continue researching comparison between “on” and “off” phases of dopaminergic medication.

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# Policy Talk: Can Productivity Be Saved in a Value-based World?

Peter R. Kovacek, PT, DPT, MSA

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At the Combined Sections Meeting in February 2016, there was a lot of discussion about productivity standards in the various settings where older adults are treated, and the challenges that it poses for clinicians, businesses, and the patients we treat. There were some goals and objectives that were developed as a result of that meeting, and one of those was to provide resources to our members for understanding their roles in managing productivity expectations as well as integrating new models of productivity into their practices.

**Fast forward to NEXT 2016, and Peter Kovacek spoke on this very subject. The topic was summarized in an article in PT in Motion and APTA has given the AGPT permission to reprint it here.**

“If you think productivity is threatening, as in, ‘How much do you do?’ then think about accountability, as in, ‘Are you any good?’”

These 2 aspects of performance—productivity and accountability—will continue to play off each other in the shift from fee-for-service-based payment to value-based payment in health care. The move toward value-based models, however, makes it a challenge for physical therapists (PTs) and physical therapist assistants (PTAs) to know what productivity expectations are, much less how to meet them. **Peter R. Kovacek, PT, DPT, MSA**, offered insights for both determining and meeting productivity expectations now and in the future in his June 11 NEXT presentation, “Productivity 2016: What We Know and What We Thought We Knew.”

Kovacek warned that productivity, also considered as return on investment (ROI), isn’t perceived the same universally—and so it should be viewed

at individual, group, organizational, and societal levels. What’s more, these different levels often are at odds with each other. An individual clinician may consider a positive ROI as helping patients while making a good salary. Asking for a raise, though, affects the ROI for the group and the organization when the facility’s sources of revenue are finite. Within society, policies or research that boost use of physical therapy come at the expense of other health care treatments that are not used, even when overall there is better care at lower cost.

The implication? The most-desired ROI at any level may have to be tempered by compromise and collaboration. “Failure to consider other perspectives puts you at risk for increased conflict,” Kovacek said, “reducing your chance of success.”

After explaining different clinical revenue models and the varied nature of the risk involved with them, Kovacek walked attendees through several facets of payment for clinical services in terms of “then” vs “now” vs “coming soon.” The recurring theme throughout was the shift from volume to value: unit and revenue volume vs case volume and mix; fee for service vs value based; full schedules vs patient and clinician accountability; and more patients vs the best patients for a particular practice. The indication is that productivity is still essential to a successful physical therapy practice, but the ways it is measured are changing.

One area that is not changing, Kovacek noted, is within ethical discussions on productivity—the challenge and potential conflict was, is, and will be between the clinic and the PT’s patient-based decision making.

So, what highly productive behaviors should PTs and PTAs adopt?

- A project management mindset, with a defined critical pathway for activities
- Studying productivity as a discipline, using a common vocabulary among peers, developing a culture of experimentation and discovery, and sharing found knowledge
- Accountability
- Understanding of environmental demands
- Management practices such as meetings, communication, and organizational knowledge and memory

Kovacek’s presentation included steps for developing a personal clinical productivity action plan:

- Organizational gap analysis on current systems and structures.
- Gap analysis on current clinical productivity behaviors.
- Selection of 2-3 actions to take to narrow the gaps.
- Determine what systems are interfering.
- Determine who can provide help.
- Determine what other resources are needed.
- Set a timeframe for improvement.
- Set goals to identify when improvements have been achieved.
- Share gained knowledge and skills with staff colleagues.
- Repeat.

# Challenged and Changed in Acute Care Through Evidence-based Practice

*Rick Ward, PT, GCS, CWS*

When you have been a therapist for any length of time, it is very easy to become complacent and settle into practice patterns that are comfortable and predictable. This can happen in any setting, but I have found that to be especially true in my 21 years of acute care practice. Busy patient loads, documentation demands, case management issues, staff supervision, and student supervision can affect your personal professional development and limit your growth as a therapist.

Despite being an effective therapist providing quality care, I have always thought I could be better and incorporate the evidence-based strategies I have seen in my continuing education classes and in the literature. While I have used my continuing education over the years to further my knowledge of geriatric physical therapy, the implementation of those things I learned was difficult and I would find myself returning to my comfortable prior practice patterns. However, this past year while taking the CEEAA (Certified Exercise Expert for Aging Adults) course through the Academy of Geriatric Physical Therapy of the APTA it all clicked. I realized that thinking in terms of evidence-based practice is not only possible but can change the entire way you practice.

The CEEAA course is a 3-week-end course focusing on the literature evidence related to functional outcome measures and exercise prescription for geriatric patients. While it is impossible to condense 6 days of information into simple concepts, my take home messages from the course were: (1) the use of functional outcome measures is essential for quality patient care, and (2) as therapists we do not exercise our geriatric patients at a high enough intensity to see significant changes in muscle performance and aerobic capacity.

The use of functional outcome measures in the acute care setting can be challenging given the patient popu-

lation, length of stay, and finding an appropriate measure. But I realized that even using simple measures like gait speed, 5 Times Sit to Stand, and Single Leg Stance Test can provide a wealth of information that objectifies my assessment and discharge plan, guides my treatment strategies, and provides baseline information for other therapists as the patient progresses in the continuum of care.

I recently evaluated a patient in the hospital who was admitted with pneumonia and debility. This patient is a 75-year-old female who lives by herself but has family that lives nearby and checks on her daily. She reported that she had been feeling weaker over the past few weeks and has been using a rolling walker since that time, although she did not previously use any assistive device. She denied any incident of falls in the past 3 months but stated she did not feel confident without her walker at this time. The results of the evaluation were: independent bed mobility, modified independent transfers, gait distance 250 feet with a rolling walker with O<sub>2</sub> saturation at 98% on room air, gait speed= 0.5 m/s, 5 Times Sit to Stand= 20 seconds, Single Leg Stance Test = 10 seconds on the right and 8 seconds on the left. Although her mobility assessment showed minimal deficits, the functional outcome measures reveal significant deficits in community ambulation ability (slow gait speed), functional strength (5 Times Sit to Stand), and balance (Single Leg Stance Test) that make her a high fall risk. I now have objective, evidence-based data that can be used in conjunction with my subjective clinical judgement to provide treatment in the acute care setting as well as providing justification for further physical therapy treatment with home health or outpatient on discharge from the hospital.

By focusing on functional measures my practice has improved in significant ways, impacting efficacy and outcomes.

My documentation has changed to include specific evidence-based justification for my clinical decisions. My treatments are now guided by measurable data from functional tests that validate the interventions needed to enhance patient function, independence, and safety. My patient education includes explanations of normative data from these same functional tests that help the patient better understand the risks and benefits related to their function and lifestyle.

My practice has also changed by the realization that as physical therapists we can have a greater impact on our patient's function, strength, and balance than we often expect. The evidence is clear that our geriatric patients can see significant improvements in all of these areas, but it is also clear that the intensity of our prescription must be high enough to stimulate those changes. The common phrase used throughout the CEEAA course was "you can't change a system if you don't challenge a system." We are the experts in exercise prescription for balance, flexibility, gait training, muscle performance training, and aerobic capacity training. I have become more committed to the use of prescriptive resistance for strength training, designing targeted system challenges for balance training, and providing sufficient intensities for aerobic capacity training so that the patient is challenged effectively to result in significant functional gains.

So just as our patients can make significant changes in function when therapists provide the appropriate challenge, the same changes can happen to us as our careers progress. By focusing my practice on evidence-based patterns, I have challenged my skills as a therapist and I have seen significant improvements in the way I practice. I would encourage all of us who work with geriatric clients to task ourselves in optimizing our resources available through the literature, the internet, and continuing

education to provide the most effective and appropriate treatment to our patients. We are the experts in movement and exercise. As we continue to become more proficient and efficacious in the care we deliver, our role, and contribution to the health care community is strengthened.



Rick Ward is a graduate of Texas Woman's University and has been practicing in the acute care setting for 21 years. He

is currently a senior acute care PT at Wise Health Systems in Decatur, TX. He can be reached at [rward@wisehealth-system.com](mailto:rward@wisehealth-system.com).

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## State Advocate Activities: Spotlight on Pennsylvania

*Jennifer C. Sidelinker PT, DPT, GCS; Rebecca J. Tarbert PT, DPT, CLT, GCS*

As volunteer advocates on behalf of the Academy of Geriatric Physical Therapy (AGPT) in the Commonwealth of Pennsylvania, one of our primary objectives is to highlight events and share meaningful resources pertinent to AGPT members who practice and reside in the state. As co-advocates, we are able to collaborate and to share the workload. As a team, we are productive and successful, despite the crunch of our busy lives. We are dedicated to remaining unified and consistent in our messaging and focus to achieve this primary objective.

Each month, we welcome the newest members of the AGPT who live in Pennsylvania with a personalized "Welcome email." This communication provides new members with information on recent AGPT events, education, and resources specific to Pennsylvania, as well as reminders about the benefits of AGPT membership. Included in this email is an "ask" that they share any resources or upcoming events they would like to communicate, as well as an invitation to reach out if we can help support them in any way.

On a quarterly basis, we provide an electronic newsletter that is shared with all current members of the AGPT who live in Pennsylvania. This newsletter serves to update our colleagues about state-specific legislative activity, events, and education pertinent to the practice of geriatric physical therapy.

Our advocacy for older adult rehabilitation in Pennsylvania includes the

annual national observance of Falls Prevention Awareness Day, occurring on the first day of fall. This year, not only did we share Pennsylvania specific fall facts and resources from the National Council on Aging (NCOA) via our quarterly newsletter, but we partnered with our state chapter, the Pennsylvania Physical Therapy Association (PPTA), to promote physical therapy's lead role in fall prevention efforts through safe and ongoing physical activity. A toolkit comprised of AGPT, APTA, and NCOA resources was developed and posted to the PPTA website, to give members "grab and go" resources to provide education, to promote regular physical activity/exercise programs, and to screen older adults at risk across the state: <http://www.ppta.org/ProfessionalDevelopment/falls-prevention-awareness-day>. Champions from each district were identified, and successfully facilitated a great variety of successful activities and events across the state on or around September 22nd, Falls Prevention Awareness Day. One example of a collaborative effort was an outreach and education event at our State Capitol in partnership with the Pennsylvania Department of Aging. Overall, we reached more than 500 community members, and over 120 care providers, health care professionals, and allied health students. District champions and facilitators met at our State Conference in late October to celebrate our successes and make

plans for continued success and growth of the outreach and advocacy movement in the future.

As co-advocates for Pennsylvania members of the AGPT, we support our state chapter by attending the annual PPTA conference and hosting an AGPT booth. Our booth provides literature about the benefits of AGPT membership, upcoming CEEAA courses, resources to support successful pursuit of geriatric specialization (GCS), promotional items, a drawing for a prize, and other information regarding upcoming AGPT educational events. We use an eye-catching upright tri-fold table display that illustrates the mission, goals, and many benefits of membership. We entice members with AGPT giveaways, candy, and a book raffle. This year we raffled off the popular book, *The Longevity Project*.

A highlight of the annual state conference is being able to learn, network, and celebrate with our colleagues. This year, many Pennsylvania chapter members who are also members of the AGPT were honored with awards.

### **Congratulations to the following awardees:**

- Service Award: Mary Ann Hoffman, PT
- Geriatric Special Interest Group's Award of Excellence: Judith B. Bowman, PT

- Neurologic Special Interest Group's Award of Excellence: Anne Galgon, PT, PhD, NCS

**Congratulations to Pennsylvania AGPT members recognized for specialization in Geriatrics:**

- Erin Boyle, PT, GCS
- Andrew Harnish, PT, DPT, GCS
- Emily Houseknecht, PT, DPT, CEEAA, GCS
- Colin Hunsberger, PT, DPT, CEEAA, GCS
- Dana Rose Maida, PT, GCS
- Michelle Lynn McCandless, PT, DPT, GCS
- Kaitlyn Marie McCormick, PT, GCS
- Kelly A. Musti, PT, DPT, GCS
- Ranie Patterson, PT, DPT, GCS
- Stephen G. Sillhart, PT, GCS
- Zachary J. Smicker, PT, GCS
- Melissa J. Swatchick, PT, GCS
- Kelly A. Vitti, PT, GCS

It is exciting and inspiring to be a part of geriatric physical therapy practice in the great state of Pennsylvania. We are fortunate to serve as Pennsylvania

State Advocates for the AGPT. Please feel free to contact us with ideas, important information, or if we can assist you in any way! Thanks for all you do to transform society by optimizing movement for older adults and helping them and our profession move forward!



Rebecca J. Tarbert graduated with her Master's degree in Physical Therapy from the University of the Sciences in 1999 and with a transitional doctorate of Physical Therapy in August 2013. Rebecca has 15 years of experience working with older adults in multiple settings, and is a Clinical Director for Genesis Rehab Services' Vitality to You service line. Rebecca currently serves as one of the two AGPT state advocates in Pennsylvania and can be reached at [rebecca.tarbert@genesishcc.com](mailto:rebecca.tarbert@genesishcc.com).



Jennifer Sidelinker is the Senior Director of Physical Therapy for Genesis Rehab Services, a national rehab company addressing the needs of older adults in multiple care settings

and across the continuum of care. Jennifer has worked in clinical leadership roles with Genesis for over 20 years and directs multiple clinical projects promoting value-based care delivery for older adults. Jennifer currently serves as one of the two AGPT state advocates in Pennsylvania and can be reached at [jennifer.sidelinker@genesishcc.com](mailto:jennifer.sidelinker@genesishcc.com).



## Academy of Geriatric Physical Therapy Certified Exercise Experts for Aging Adults 3 COURSE SERIES

As part of our commitment to empowering PTs and to advance physical therapy for the aging adult, the Academy is proud to offer a full range of outstanding continuing education, created by leaders in the field, including the CEEAA course series.

### Dates & Locations

# 2017

#### Fargo, ND

Course 1: April 1-2, 2017 • Course 2: May 20-21, 2017 • Course 3: July 15-16, 2017

#### Winchester, VA

Course 1: March 11-12, 2017 • Course 2: June 10-11, 2017 • Course 3: August 19-20, 2017

### NEW COURSE LOCATION ADDED!

#### Portland, OR

Course 1: July 29-30, 2017 • Course 2: Sept. 30-Oct. 1, 2017 • Course 3: October 28-29, 2017

For more information and to register visit

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SAN ANTONIO • February 15–18, 2017

## Important Academy Dates to Remember at CSM 2017 in San Antonio, TX

### **GCS breakfast**

*February 16<sup>th</sup>, 6:30-8am, Convention Center*

### **Board of Directors Meeting #1**

*February 16<sup>th</sup>, 8-10am, Grand Hyatt*

*AGPT Member Meeting/Awards Ceremony*

*February 16<sup>th</sup>, 6:30-9:00pm, Grand Hyatt*

### **Board of Directors Meeting #2**

*February 18<sup>th</sup>, 6:30-8am, Grand Hyatt*

The Academy Board of Directors met October 14-16, 2016 in Chicago with Facilitator Janet Bezner and had a very productive meeting in which the AGPT strategic plan was updated and several new initiatives for members were identified. The Mission, Vision and Value Statements were also revised. Members will vote on approving the new Strategic Plan at the Member Meeting on Thursday, February 16<sup>th</sup>. The new plan is shown below.

## Academy of Geriatric Physical Therapy 2017– 2018 Strategic Plan

### **Vision Statement**

The physical therapist will be the practitioner of choice for promoting optimal health and movement of the aging adult.

### **Mission Statement**

The mission of the Academy of Geriatric Physical Therapy is to promote physical therapist best practice and to advocate for optimal aging.

### **Values Statement**

To respect the uniqueness and diversity of aging adults through compassion, caring, commitment, and excellence in the provision of services, we value...

- ▶ Aging as a positive experience.
- ▶ The unique perspectives and contributions of all physical therapists, physical therapist assistants, and students to enhance the quality of life of older adults.
- ▶ Collaborative relationships based on respect with internal and external constituencies.
- ▶ Leadership's communication and accountability to all stakeholders.

### Goals/Objectives

**Goal: Provide educational initiatives that advance physical therapist practice for the aging adult.**

1. Ensure that entry-level physical therapists and physical therapist assistants are prepared for contemporary practice with the aging adult.
2. Ensure that clinicians are current in knowledge of contemporary geriatric physical therapist practice.
3. Educate other health care professionals and associations about the role of the physical therapist with the aging adult.

**Goal: Promote physical therapist practice that delivers value by utilizing evidence, best practice, and outcomes.**

1. Create evidence-based resources.
2. Disseminate evidence-based documents.
3. Promote advanced geriatric physical therapist practice.

**Goal: AGPT will actively engage and inform internal and external stakeholders.**

1. Enhance internal communication.
2. Establish communication with strategic external stakeholders to advance AGPT's mission and vision
3. Facilitate member engagement in AGPT.

We look forward to seeing you in San Antonio at the Member Meeting where will also provide an update on Academy activities, thank our outgoing leaders, welcome our newly elected officers and celebrate our Award winners! Please consider volunteering at the Academy booth in the Exhibit Hall. All volunteers are entered into a drawing to win a free one year membership and it's a great way to meet and share information with your fellow members. Visit the Academy website at [www.geriaticsppt.org](http://www.geriaticsppt.org) to sign up.

Submitted by Karen Curran, CAE, Executive Director

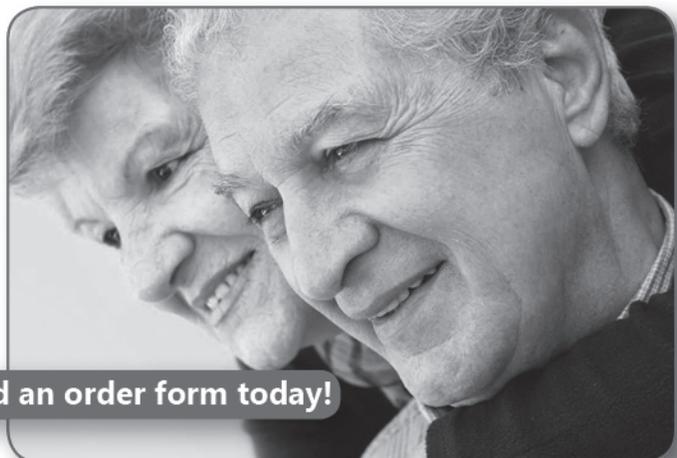
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