

GERINOTES

Academy of Geriatric Physical Therapy, American Physical Therapy Association

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Motor Imagery and Action Observation as an
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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: PREPARING FOR CSM/THE UNVEILING

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



I thought I would take the time to pre-welcome all the Academy members to Indianapolis for the upcoming 2015 Combined Sections Meeting

February 4th through the 7th. The Indianapolis area has been my home since 1990 and I thoroughly love everything about it. Even if you can't make it to CSM, it is a great place to visit! The downtown area of the "Circle City" is very walkable to the Indianapolis Zoo, and don't miss the newly, opened orangutan exhibit; the Indiana State Museum; the NCAA headquarters with their Hall of Fame museum; the Botanical gardens (at least the indoor part); the Eiteljorg Museum of American Indian and Western Art; Kurt Vonnegut Memorial Library; the Indiana Statehouse for you architectural fans, which was built in the Renaissance revival style and constructed in 1888; the Indiana World War Memorial and the Soldiers and Sailors War Memorial on Monument Circle. For you shopaholics, the Circle Center Mall is just 4 blocks away. The Children's Museum of Indianapolis (voted the best children's museum in the country), the Indianapolis Motor

Speedway, or the Indianapolis Museum of Art are all just very short cab rides away. Lucas Oil stadium, home of the Colts, is next to the Convention Center and Banker's Life Fieldhouse where the Pacers play is a short walk down Georgia Street, which has many bars and restaurants. The Pacers have home games on February 4th against the Pistons, and the 6th against Cavaliers (that may already sold out). I will plug two restaurants as Indianapolis standouts and those are St. Elmo's Steak House and its sister facility, Harry and Izzy's for their famous shrimp cocktail. Warning, do not attempt to eat this appetizer without a glass of water or other beverage in hand. Both of the restaurants are on the high end, but is worth the trip to order one from the bar. Downtown Indianapolis has continued to grow and thrive with art displays, the Cultural Trail, unique restaurants (a must for foodies) and shops on "Mass Ave" (I suggest a cab), and the ever-changing exhibits at the museums I already mentioned. The one big knock on Indianapolis is that public transportation is lacking, so bring your walking shoes or perhaps boots. The canal walk, yes, Indianapolis has a downtown canal, is a good place to walk or jog away from cars, but it is February.

Speaking of February, how is the weather in Indy that time of year? A very good question, but I can only give

you an ambiguous answer. Two years ago when the Super Bowl was played here, it was in the high 50s and sunny. Last year, with the polar vortex, it was in the single digits with snow. The Farmer's Almanac says bad winter ahead and the National Oceanic and Atmospheric Administration lists a "normal" winter, which is an average of the last two years.

The CSM Program Committee has done a fantastic job of putting together a great educational experience for everyone. We start with pre-conference courses on Tai Chi and interventions for bladder control. The opening reception on Wednesday is where all the newly certified specialists walk across the stage and the Academy has the most ever! The following morning we will honor all those new GCSs with a breakfast, which is always a great place to meet and greet. Regular programming starts later on Thursday and runs through Saturday with topics that run the gamut from bone health to diabetic neuropathy to fall risk and even to healthy sexual aging. This will be a great conference and if you need a restaurant idea, just catch me at the Academy booth. Don't forget, we will be having the grand unveiling of our new Academy of Geriatric Physical Therapy logo! Officially, this will happen at the Member's Meeting and Awards Ceremony on Thursday evening. See you there!

WANTED: ARTICLES FOR GERINOTES

TOPICS: Anything related to older adults

STUDENTS AT ANY LEVEL: Send me papers you wrote for class

CLINICIANS: Send me an article or an idea

EDUCATORS: Send me student papers

Everyone loves to publish and it is easy! Contact Meri Goehring, GeriNotes Editor, at goehrinm@gvsu.edu

EDITOR'S MESSAGE

WRITING FOR GERINOTES: A STEP TOWARDS PROFESSIONAL FULFILLMENT

Meri Goehring, PT, PhD, GCS



This message is written from my heart. It is a plea for each of you to consider writing an article for *GeriNotes*. Yes, I have pleaded in the

past, and yes, my recruitment efforts are slowly resulting in more and more copy coming in for review, but there is still a need for additional articles. Some of you who have turned in copy may need to wait a few months for your article to be published, but this is a good problem for any journal, newsletter, or magazine. But, I am concerned for the coming months, so felt the need to reach out during this opportunity to communicate to members.

Writing need not be a chore. You do not need to consider yourself a professional writer or an academic. As Editor, I am willing to work with any member who wishes to begin the writing process. Typically, scientific writing is preferred, but other forms of writing such as student reflections, your own reflections, and case reports are welcome. Perhaps you have some expertise in an area that you would like to share. Maybe you have had a patient that just sticks in your brain. Writing about the treatment of that individual may help others! Perhaps you have had an experience that you would like to share. *GeriNotes* welcomes your thoughtful input. Here are some tips to get you started:

1. Try to find a quiet environment free from distractions. This may be the most challenging step of all for a busy clinician. In today's world of productivity demands, not many clinicians will be able to find this time in the work environment. Speak to your friends and/or family and

let them know your goal is to write and get an article published, and that you need some time alone to get this done.

2. Think about a topic that interests you in the field of geriatric physical therapy. You'll find that you already know a lot. Decide how you want to start an article, and what message you would like your readers to take home. The middle will come much more easily if you do this first.
3. Give yourself some motivation. Perhaps you can reward yourself with a night out to a movie or a restaurant, or attend a musical or sporting event if you get the article completed and submitted by a self-selected deadline. It is a lot easier to write if you have an incentive.
4. Brainstorm ideas during your workday. Talk to your peers about your efforts to write and let them help you brainstorm. Jot down ideas for articles as you go. You will be surprised how many ideas you and your co-workers can think of once you begin this process. Do not lose your list of ideas as you may decide that one idea might work better than another once you begin writing. You have got your list of ideas to work from at all times. Is there something you would like to know better? Is there something you think works well?
5. Recognize how hard it is just to start writing and be proud of your efforts to begin. That does not mean rest, or take your reward early. Just know you have done the most difficult part by getting started. Ask for help as you go if needed! I am always ready to help new writers to succeed.
6. Spell check, edit, and follow the *GeriNotes* Instructions for Authors. This will save you time revising and is more likely to result in timely publication.

And, voila! You have submitted your article and it will be considered for publication. Getting published can take you places that you may not have anticipated. One of the writers that I mentored has gone on to become a supervisor of her area and has informed me that she thinks that getting published in *GeriNotes* may have helped her to get a promotion. Another writer I mentored has started her own consulting agency that relates directly to her *GeriNotes* publication. Students are always excited to see their writings in print, and can use these on a resume. All of the writers like to see their name in print and often ask for extra copies of *GeriNotes* so that they can share the article at work and at home.

Consider the benefits that may come if you do the very hardest thing of all; get started writing for *GeriNotes*. You might just find the time you spend writing is wonderful way to share and to get some important time alone for reflection on your profession. The writing gets easier with practice. It can help you get out of a professional 'rut' and help you to communicate better every day. So, why not begin brainstorming for your next *GeriNotes* article today?

Meri Goehring is an Assistant Professor in the Physical Therapy program at Grand Valley State University and works as a clinician at Spectrum Center for Acute Rehabilitation at Blodgett Hospital in Grand Rapids, Michigan.

PRACTICE COMMITTEE UPDATE

Chair: Greg Hartley, PT, DPT, GCS, CEEAA

The following initiatives and updates come from the APTA Practice Department. The Academy of Geriatric Physical Therapy (AGPT) works closely with APTA on each of these initiatives. If you have any questions, please visit the links listed under each heading. In ad-

dition to the important national initiatives outlined below, the AGPT Practice Committee was instrumental in forming a Special Interest Group (SIG) for Residency/Fellowship Education. This SIG, now in formation, will hold its first meeting at CSM 2015 to elect officers

and have its first meeting. The meeting is scheduled for February 6, 2015, from 1:00 p.m. to 2:00 p.m. in the “Bonus Room.” Look in the onsite program for more information and watch for more announcements from the Academy.

1. IMPROVING MEDICARE POST-ACUTE CARE TRANSFORMATION (IMPACT) ACT

The Improving Medicare Post-Acute Care Transformation (IMPACT) Act signed by President Barack Obama on October 6th directs the US Department of Health and Human Services (HHS) to standardize patient assessment data, quality, and resource use measures for PAC providers including home health agencies (HHAs), skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs).

The IMPACT Act will:

- Require PAC providers to begin reporting standardized patient assessment data at times of admission and discharge by October 1, 2018, for SNFs, IRFs, and LTCHs, and by January 1, 2019, for HHAs.
- Require new quality measures on domains beginning October 1, 2016, through January 1, 2019, including functional status, skin integrity, medication reconciliation, incidence of major falls, and patient preference regarding treatment and discharge.
- Require resource use measures by October 1, 2016, including Medicare spending per beneficiary, discharge to community, and hospitalization rates of potentially preventable readmissions.
- Require the Secretary of HHS to provide confidential feedback reports to providers. The Secretary will make PAC performance available to the public in future years.
- Require MedPAC and HHS to study alternative PAC payment models, with reports due to Congress in 2016 for MedPAC and 2021-2022 for HHS.
- Require the Secretary to develop processes using data to assist providers and beneficiaries with discharge planning from inpatient or PAC settings.

The APTA has convened a post-acute care member expert group to examine quality measures and assessment items that address function. In addition, with the help of this group, APTA has drafted its own principles for post-acute care reform that are closely aligned with the objectives of IMPACT. The association will work with HHS as quality measures are developed as well as with MedPAC on how to design a new Medicare post-acute care payment system.

For more information, please visit APTA's website: <http://www.apta.org/PTinMotion/News/2014/10/7/IMPACTSigned/>.

2. ANNUAL CHECKUP

The 2011 APTA House of Delegates charged APTA to support the implementation and promotion of an annual visit with a physical therapist (PT), to include developing standardized elements of an annual physical therapist examination that would meet the needs of all individuals and provide resources and tools to support the PT in tracking outcomes across the lifespan. This website, in part, represents the results of the work to address that charge, based on input from a staff work group and other member experts. Member education will be ongoing, and marketing to the public will start in 2015.

An annual checkup by you as a PT allows you to determine health status and identify health risks for members of your community—they might be individuals you have seen as patients, patients' family members, or individuals who have never been to

your clinic. Many consumers visit their doctor or dentist annually to screen for problems and monitor their health over time, separate from seeing that provider for a specific problem such as flu-like symptoms or a painful tooth. It is the same with an annual physical therapist checkup. This routine visit enables you to collect data on key elements to determine health status and identify risk factors, and, at times, for a specific problem, to refer an individual either for a PT evaluation or to another provider or program.

For more information, please visit APTA's website: <http://www.apta.org/annualexamination/>.

3. INTEGRITY IN PRACTICE/CHOOSING WISELY CAMPAIGN

APTA's "Integrity in Practice" campaign is designed to position the profession as a leader and partner in the effort to eliminate fraud, abuse, and waste from health care and strengthen the good reputation of physical therapy in the health care system. The campaign highlights the profession's hard-earned reputation for excellence and outlines the work needed to honor and protect it.

A new microsite has been created at <http://integrity.apta.org> to consolidate important information and resources for members and non-members related to integrity in practice to help combat fraud, abuse, and waste in physical therapy practice.

As part of a partnership with the American Board of Internal Medicine (ABIM) Foundation's Choosing Wisely® campaign, APTA asked for member input to help create a list of "5 Things Physical Therapists and Patients Should Question." APTA's list was developed this year through a process that was inclusive, rigorous, and transparent. The list was released to the profession and the public on September 15. APTA's list of "5 Things" along with information about how the list was developed is available at the microsite.

A free CE course titled "Navigating the Regulatory Environment: Ensuring Compliance While Promoting Professional Integrity" is available through APTA's Learning Center. Over 2500, individuals have successfully completed this course since it was launched earlier this year.

"Preventing Fraud, Abuse, and Waste: A Primer for Physical Therapists" is now available as a PDF through the microsite. It is being developed as a course for the Learning Center with CEUs available. It is also available as a slide presentation with speaker notes and test questions for use in educational settings and for presentations to physical therapists in practice settings and chapter and district meetings.

For more information, please visit APTA's website: <http://integrity.apta.org> and <http://www.choosingwisely.org/>.

4. PHYSICAL THERAPY CLASSIFICATION AND PAYMENT SYSTEM

APTA's goal is to reform payment for outpatient physical therapy services to improve quality of care, recognize and promote the clinical judgment of the physical therapist, and provide policymakers and payers with an accurate payment system that ensures the integrity of medically necessary services.

APTA is working to develop a classification and payment system that is based on the clinical judgment of the physical therapist. Pilot testing has been completed.

Factors in payment will include the severity/complexity of the patient's presentation with the added dimension of the required intensity/complexity of the therapist's clinical decision making and skill/expertise of techniques.

A final Code Change Proposal is being prepared for submission to AMA CPT Editorial Panel by February 2015.

For more information, please visit APTA's website, <http://www.apta.org/PTCPS/>, or contact Carmen Elliott at carmenelliott@apta.org.

5. UTILIZATION MANAGEMENT

Utilization Management is a set of varied activities/assessments employed by payers to render determinations regarding approval of physical therapy services. Increased physical therapy spending and a provision of the Affordable Care Act are facilitating insurer interest in outsourcing utilization management (UM) for rehabilitation services. Insurer goals are to control costs, reduce utilization, and address outliers.

UM vendor challenges for physical therapy providers include:

- Policy: definition medical necessity, assessment of function, method visit approval
- Systems: failed/untested technology, delayed approvals, administrative burden
- Patient access: interrupted treatment, denied/delayed approval medical necessary service

Over the last 9 months, APTA has been working with 8 state chapters affected by two separate UM vendor agreements. The APTA is in the process of developing member resources and collaborating with the payers in an effort to address adverse physical therapy practice impacts.

For more information, please contact Elise Latawiec, MPH, PT, at eliselatawiec@apta.org.

6. PHYSICAL THERAPY OUTCOME REGISTRY

The Physical Therapy Outcome Registry is an organized system to collect data across the continuum of care to evaluate patient function and other clinically relevant measures for the population of patients receiving physical therapy services. The registry will serve to inform reimbursement, improve practice, support quality improvement initiatives, and promote research.

Registry participants will be able to use data to benchmark performance at individual PT and practice levels, enhance patient care, justify services to payers, and fulfill regulatory requirements.

The APTA is currently conducting pilot testing of the Registry, with a limited number of slots remaining for participation. Pilot participants will be fully funded through 2015. For information on how to participate in the pilot, please email registry@apta.org.

For more information, please visit APTA's website: <http://www.apta.org/registry>.

7. PRODUCTIVITY AND PERFORMANCE MOTION FROM APTA 2014 HOD

During the 2014 APTA House of Delegates, RC 16-14 TOOLS TO NEGOTIATE PRODUCTIVITY AND PERFORMANCE STANDARDS IN PHYSICAL THERAPIST was passed.

This motion stated the following: That the American Physical Therapy Association identify and develop resources that equip physical therapists and physical therapist assistants to negotiate successfully in establishing an agreed upon conceptual framework of productivity and performance that ensures the provision of quality physical therapy care with a report to the 2015 House of Delegates.

A staff selected work group is being assembled to develop resources as outlined by RC 16-14. A report to the 2015 House of Delegates will be provided about the work of the work group and the resources developed.

For more information, please contact mattelrod@apta.org.



Greg Hartley is the Director of Rehabilitation and Assistant Hospital Administrator as well as Program Director of the Geriatric Physical Therapy Residency program at St. Catherine's Rehabilitation Hospitals & Villa Maria Nursing Centers, Miami, Florida. He also serves as the Chair of the Practice Committee

for the Academy of Geriatric Physical Therapy.



Matt Elrod is presently a Senior Specialist in the Practice Department of the American Physical Therapy Association. In this position, he provides consultation to other APTA departments and

members; liaisons with various external organizations; and contributes to policy development to advance the practice of physical therapy. These duties include developing member resources in evidence-based practice and clinical practice guidelines, ICD10 transition, telehealth, and adoption of electronic health records.

HIGHLIGHTS FROM THE 2014 HOUSE OF DELEGATES

Steven B. Chesbro, PT, DPT, EdD, GCS
Delegate, Academy of Geriatric Physical Therapy

The 70th Annual Session of the House of Delegates, held June 9-11, 2014, in Charlotte, NC, could be characterized as a fairly calm meeting. House delegates considered 21 motions, congratulated outgoing members of the Board of Directors and welcomed new ones, and celebrated the achievements of our colleagues, components, and sections.

The motions passed at this year's House included:

- rescinding *Cover the Uninsured Campaign: Awareness and Promotion*;
- amending policies related to *Access to, Admission to, and Patient/Client Rights within Physical Therapy Services* and *Non-discrimination* to include gender expression and gender identity;
- amending *Entry Point into Health Care* to state that physical therapists are entry point providers;
- adopting *Telehealth* as a way to provide and deliver physical therapy services;
- *Pursuit of DPT as Regulatory Designation of Physical Therapists* by 2025;
- adopting *Consumer Protection through Licensure of PTs and PTAs* that clustered concepts allowing 11 different policies to be rescinded;
- developing a plan to increase *Membership Value for the Physical Therapist Assistant*;
- adopting the *Promotion of Excellence in Physical Therapist Professional Education*;
- collaborating with others to identify *Best Practice for Physical Therapist Clinical Education*;
- adopting a *Definition of Underrepresented Minority Populations in Physical Therapy Education*;
- exploring new and innovative ways to increase *Membership Retention of Early-Career Individuals*;
- identifying and developing *Tools to Negotiate Productivity and Performance Standards in Physical Therapist Practice*;

- adopting *Physical Therapists as Qualified to Determine Mobility Status for Patients and Clients Applying for Disability Placards, Disability License Plates, or Paratransit Services*;
- adopting an *Endorsement of Interprofessional Education Collaborative Core Competencies*;
- electing Michael J. Axe, MD, to *Honorary Membership in the APTA*;
- amending the *Bylaws* of the APTA to allow newly elected officers of the Student Assembly to serve their terms regardless of graduation status;
- referring to the APTA Board of Directors *Efforts to Curb Fraud, Waste, and Abuse*;
- rescinding *Physical Therapist Responsibility and Accountability for Delivery of Care*; and
- adopting *Use of APTA Positions, Standards, Guidelines, Policies, and Procedures* with the intent to communicate best practice for physical therapist practice.

Individuals elected to the Board of Directors at this year's House were Elmer Platz, Treasurer; Susan Griffin, Speaker; Matthew Hyland, Kathy Mairella, and Sheila Nicholson, Directors; and Secili DeStefano and Linda Eargle, Nominating Committee.

Reviewing the actions of the House of Delegates is one way of appreciating the role that the Association plays in the development of physical therapy. Members who are interested in reviewing the minutes of the 2014 House of Delegates may do so at: <http://www.apta.org/PTinMotion/News/2014/8/26/2014Minutes/>.



Steven Chesbro is Dean, College of Health Sciences and Professor of Physical Therapy at Alabama State University in Montgomery, Alabama.

Election Results!

Please congratulate the following Academy of Geriatric Physical Therapy members who will take office at the Member's Meeting in Indianapolis on February 5, 2015:

President

William Staples, PT, DPT, DHSc, GCS, CEEAA

Vice President

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

Director

Lucy Jones, PT, DPT, MHA, GCS, CEEAA

Nominating Committee

Laurie Page, PT, DPT

The Nominating Committee wishes to greatly thank those who voted, and all candidates for their willingness to run and their strong interest in taking part in the future success of the Academy of Geriatric Physical Therapy.

MESSAGE FROM YOUR PTA ADVOCATE

Ann Lowrey, PTA

Who are physical therapist assistants? What is their role? How long have physical therapist assistants (PTAs) been part of the PT/PTA team? How did PTAs get started?

An estimated 88,000 PTAs have an incredibly important role in the profession of physical therapy serving as the eyes, ears, and hands of an evaluating and supervising physical therapist. Physical therapist assistants engage in listening to and educating patients of all ages, assist patients in therapeutic exercises and activities that will improve and regain function, and keep the physical therapy clinic running smoothly. Many have chosen to be PTAs as a second, third, or fourth career bringing a wealth of knowledge and skill from previous experience in management or labor. The PTAs often hold additional degrees that were earned prior to or after the entry-level associate degree PTA education.

The history of the PTA began in 1964 when APTA's House of Delegates (House) voted to develop an ad hoc committee to explore the development of nonprofessional assistants for the physical therapist. The ad hoc committee was formed, and in 1967 submitted a report to the House on the utilization and training of the nonprofessional assistants. The House voted to implement the recommendations and develop the physical therapist assistant. In 1969, the first PTAs (15 total) graduated from two associate degree programs, one at Miami Dade College in Florida and the other at St Mary's Campus of the College of St Catherine in Minnesota. In 1971, CAPTE developed criteria and began to accredit PTA programs. The APTA granted temporary membership to the PTA in 1970 and membership as an affiliate member in 1973 (<http://www.apta.org/PTA/History/>).

Physical therapist assistants have made a few changes over the years. In 1989 the Affiliate Assembly was formed, thanks to the efforts of Cheryl Carpenter-Davis, PTA, Med, Virginia (Bunny) May, PT, MS, PCS, and Tricia Garrison, PTA.

The Affiliate Assembly continued until 1998. The structure changed to the National Assembly, which further unified the voice of the PTA. The current structure, the Physical Therapist Assistant Caucus, first met in 2005. The PTA Caucus is comprised of one PTA representative from each state, 5 delegates elected by the representatives, and 3 nominating committee members, also elected by the representatives. The PTA Caucus conducts an annual meeting every year just prior to the House to discuss issues of concern to the PTA and the motions and reports that will come before the House.

During the June 2014 PTA Caucus Business Meeting, the PTA Caucus adopted a more comprehensive description of the PTA as follows:

Physical therapist assistants (PTAs) are the only licensed/certified health care providers that deliver physical therapy services under the direction and supervision of physical therapists (PTs) as part of the PT/PTA team. PTAs are responsible for providing, progressing, and, where appropriate, modifying physical therapy interventions to maximize patient/client safety, comfort, and response within the plan of care established by the physical therapist. PTAs are clinical problem solvers who use data collection methods to measure the patient's response to the interventions provided. Additionally, PTAs use value-based behaviors in carrying out the plan of care, including communicating with the physical therapist regarding patient status, treatment outcomes, and any other information that may impact the plan of care. PTAs are graduates of education programs accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) and must pass the

PTA National Physical Therapy Examination (NPTE) as a minimum requirement for licensure/certification in all jurisdictions. PTAs comply with all legal requirements of jurisdictions regulating the practice of physical therapy and with the American Physical Therapy Association's Standards of Ethical Conduct for the Physical Therapist Assistant.

The year 2015 marks the 46th anniversary of the establishment of the Physical Therapist Assistant in the physical therapy profession. Over the course of these 46 years, the requirements established for attaining the title of Physical Therapist Assistant have become more rigorous and encompassing. Every day, PTAs play an integral part in improving the outcomes for many patients. The PTAs have proven that they are observant, proactive, accountable, and good communicators when working towards achieving favorable outcomes for the patients. The PTAs are prepared to continue their contributions to achieving the vision of transforming society by optimizing movement to improve the human experience.



Ann Lowrey is a full-time physical therapist assistant at West Park Rehab in Franklin, PA, and per diem for Aegis Therapies. She is currently the PTA Caucus Representative for Pennsylvania and the Communications Committee Chair for the PTA Caucus. Her focus of treatment is geriatrics and orthopedics.

CERTIFIED EXERCISE EXPERT FOR AGING ADULT COURSE GRADUATES 3 MORE CLASSES IN 2014

The year 2014 brought 3 more classes of graduates of the CEEAA course program. This brings our total of course graduates to 16 courses and over 960 graduates! Lives and practices are being changed by therapists taking these courses. Comments from attendees have included:

Patients are asking for me to see them since I began taking these courses.

I can really tell the difference in the outcomes of my patients now.

I have held several community screening programs and we are now developing community exercise programs; all using information I learned from these courses.

I have learned a lot from this course and it has given me a different perspective on how I can make a difference with the lives of the patients that I work with.

The instructors of these courses are very knowledgeable and willing to share their knowledge with the participants. They were all supportive of my learning the information and skills.

The year 2015 promises to be an exciting time for this course program. We will be offering the courses in New Hampshire, California, and Missouri. Look to the Academy website for further details. Come to the courses prepared to actually participate in all lab sessions to learn how to use the tests and measures (Course 1), prescribe exercise principles with the aging adults (Course 2), and apply all the material to special populations (Course 3). These courses will change not only your practice, but your life.

Other happenings that are just beginning are the development of advance courses for graduates of the CEEAA. Look for information on these courses in the future.

We also would like to thank our facility hosts:

John C. Lincoln North Mountain Hospital, Phoenix, AZ

Fox Rehabilitation, Cherry Hill, NJ

Marquette University, Milwaukee, WI



Enjoying Tai Chi

Phoenix Group



New Jersey Group



Wisconsin Group



STUDENT PHYSICAL THERAPISTS CAN PLAY A POSITIVE ROLE IN THE HEALTH AND WELL-BEING OF COMMUNITY DWELLING OLDER ADULTS: A CASE REPORT

Noriko Yamaguchi, PT, DPT, GCS, CSCS; Ryan Trautz, SPT

INTRODUCTION

The Service Learning Experience

The Service Learning Experience (SLE) was developed in 2010 at the University of Southern California (USC) to provide educational opportunities for students in the Doctor of Physical Therapy (DPT) program to learn about social responsibility, advocacy, and the importance of life-long civic engagement through active participation in purposeful volunteer community service. All USC DPT students complete at least 12 hours of community service as part of their SLE, which is required for fulfillment of the DPT degree. The SLE also fulfills the Practice Management Expectations of the Commission on Accreditation in Physical Therapy Education (CAPTE), in particular “Social Responsibility and Advocacy,” “Advocate for the Health and Wellness Needs of Society,” and “Participate and Show Leadership in Community Organizations and Volunteer Service.”¹

This case study summarizes one student physical therapist’s experience working with a community-dwelling older adult with a complex health and social history. We believe the case highlights how service learning provides a meaningful and relevant clinical experience that augments a DPT student’s didactic and clinical education. Additionally, the benefits to the patient extended beyond the traditional role physical therapists play in optimizing movement and improving quality of life. Through home visits and community outings with the patient, the student physical therapist was able to provide emotional and social support that was lacking in this patient’s home life. This case demonstrates the positive impact student

physical therapists can play in the health and well-being of community-dwelling older adults.

Case Background

AV is an 88-year-old male who was originally referred to outpatient physical therapy in 2010 by his neurologist under a medical diagnosis of “dizziness.” His physical therapist at the time concluded that his dizziness was likely secondary to orthostatic hypotension and polypharmacy, as opposed to any true vestibular dysfunction. Physical therapy services were provided for 6 visits with a focus on balance activities, leg strengthening exercises, and home exercise prescription. The patient self-discharged after 6 visits, with no reason given.

He returned to physical therapy in 2012 under the same referral diagnosis of “dizziness,” but this time from his ear-nose-throat (ENT) specialist. He was also referred to physical therapy later in the same year under the referral of “C5/6, C6/7 DDD, left arm pain” from his internist. He was seen for a total of 30 visits in 2012 before his Medicare Part B benefits were exhausted. His physical therapy plan of care included therapeutic exercises for muscular conditioning and flexibility, balance and coordination activities, gaze stabilization and vestibular rehabilitation exercises, and aerobic endurance training. He made gains on multiple outcomes measures, including his balance confidence, gait velocity, and Berg Balance Score (Tables 1 and 2). He was instructed on a home exercise program that he could safely and independently perform and was advised to return to physical therapy the following year to reassess his functional status and mobility.

AV returned to physical therapy, as planned, in January 2013 under the continued medical referral of his ENT. Although he reported his dizziness was not “as bad as it was before,” he reported increased tripping and “feeling wobbly” at home. His balance confidence and single leg standing balance had declined, and his dizziness and gait velocity trended towards decline as well (Tables 1 and 2). His physical therapy plan of care was re-established to address his falls risk, complaints of dizziness, continued complaints of neck and back pain, and concerns with tripping and imbalance, particularly with walking.

In May 2013, AV fell at the hospital while walking to a follow-up medical appointment. He reports he was helped off the floor and was admitted to the hospital for monitoring. He was discharged the next day and received home health care for one month for strengthening and balance and gait training. He returned to outpatient physical therapy in June 2013. At time of re-evaluation, AV reported feeling more tired and weaker than before his hospitalization, particularly in his right leg. He also reported that his right leg would “buckle” when walking, and therefore his physical therapist recommended that he use a Rollator-style 4-wheeled walker for community mobility greater than approximately 20 feet. His single point cane, which was his primary assistive device for all ambulation prior to hospitalization, was used at home and for short distances only. His subjective measures indicated no clinically significant change compared to pre-hospitalization, but his gait velocity was markedly slower. He resumed his physical therapy plan of care with the primary goal of returning him

Table 1. Subjective Questionnaires of AV's Balance Confidence and Dizziness Handicap Prior to SPT Home Visits

	Activities Specific Balance Confidence Scale (ABC)*	Dizziness Handicap Inventory (DHI)**
October 2010	50.0%	Not administered
June 2012	32.5%	76/100
November 2012	58.1%	64/100
January 2013	46.2%	81/100
June 2013	38.0%	74/100
October 2013	44.0%	76/100

* MCD is not established for community-dwelling older adults.² MCD only established for patients with Parkinson's (11.12%³ or 13.00%⁴).

MCID not established.²

**MCID = 18 points.⁵

Table 2. Selected Objective Measures of AV's Functional Status and Balance Prior to SPT Home Visits

	10-m walk (comfortable pace)*	10-m walk (fast pace)*	Berg Balance Scale**	Single Leg Balance ***
October 2010	0.94 m/s (no AD)	1.33 m/s (no AD)	48/56	< 3 s bilaterally
June 2012	0.70 m/s (SPC)	1.19 m/s (SPC)	46/56	< 5 s bilaterally
November 2012	0.93 m/s (SPC)	1.39 m/s (SPC)	51/56	5 s right, 3 s left
January 2013	0.96 m/s (SPC)	1.27 m/s (SPC)	Not tested	0 s right, 3 s left
June 2013	0.83 m/s (4-WW) 0.89 m/s (SPC)	0.87 m/s (4-WW) 0.87 m/s (SPC)	46/56	5 s right, < 3 s left
October 2013	0.63 m/s (4-WW) 0.74 m/s (SPC)	1.11 m/s (4-WW) 1.16 m/s (SPC)	42/56	8 s right, 7 s left

Abbreviations: AD, assistive device; SPC, single point cane; 4-WW, four-wheeled walker

* For geriatrics, mmall meaningful change = 0.05m/s and substantial meaningful change = 0.13m/s.⁶

**MCD 3.3 for elderly.⁷ MCID not established.⁸

***MCD/MCID not established,⁹ but normal for patient's age is 8.7s ± 12.6.¹⁰

to his pre-hospitalization levels of function and mobility.

STUDENT PHYSICAL THERAPIST'S PATIENT CASE PROFILE USING THE WORLD HEALTH ORGANIZATION (WHO) ICF-MODEL OF HEALTH AND DISABILITY

Health Condition

AV's health conditions include open heart surgery (1992), L3-L4 laminectomy (2003), hypertension, dyslipidemia, osteoarthritis, lumbar radiculopathy, benign prostate hyperplasia, depression, hearing loss, and anemia. AV's lumbar MRI revealed severe disc desiccation from L1-L5, diffuse osteophytes, and facet disease, resulting in mild to moderate spinal stenosis throughout the lumbar spine and severe bilateral neural

foraminal stenosis at L3-5. He has a history of alcoholism, but reports he no longer drinks alcohol.

Based on his medications list, his complaints of memory loss, and his performance of 18/30 on the Montreal Cognitive Assessment (MoCA), we also include cognitive impairment/early dementia on his health conditions list. A normal score on the MoCA is ≥ 26/30.¹¹ He is currently not being followed by a neurologist for his cognitive deficits.

AV's daily medications include: Nexium, Zetia, Ranexa, Namenda, Darvocet, allopurinol, WelChol, Beta-Glucan, baby aspirin, Optivar, Flector patch, tramadol, Ventolin, albuterol, Voltaren gel, Jalyn, Livalo, Astepro, ProAir, Mentax, ofloxacin as well as Omega-3 and vitamin D supplements. He keeps a list of his medications and writes the date next to the medication name when he takes his prescribed dose. Nevertheless, he reports significant difficulty remember-

ing to take all of his medications daily. He has worked with an occupational therapist to improve his medications compliance, but he has yet to implement a new strategy to improve compliance.

Body Functions and Structure

AV's body functions and structure impairments are directly linked to his health conditions. His history of osteoarthritis and stenosis have led to chronic neck and low back pain, bilateral shoulder pain, bilateral knee pain, and postural deficits. He presents with global limitations in active range of motion, most significantly in the neck, shoulders, and trunk. Flexibility restrictions in hamstrings, hip flexors, and triceps surae, as well as limited tibial and sural nerve mobility and joint mobility deficits in his cervical through lumbar spine all likely contribute to his complaints of pain.

AV's functional lower body strength appeared to be age appropriate, as his 5x sit-to-stand time of 11.2 s fell within normal ranges for his age¹² Manual muscle testing of the lower extremities, however, ranged from 3+/5 in bilateral hip extensors and abductors to 5/5 in bilateral quadriceps. Decreased strength and performance of his hip musculature likely contribute to poor stance limb stability in walking and with single leg balance activities.

Activity Limitations

AV reports his gait instability is due to intermittent "buckling" of his right knee, and he requires the use of an assistive device for safe ambulation. Each trial of the 10-m walk test in October 2013 had at least one instance of knee buckling. He was able to independently and safely recover his steps with each episode, however. His slower gait velocity was primarily due to the time required to recover his balance.

In addition to difficulty walking and gait instability, AV reports difficulty performing activities of daily living (ADLs), such as dressing and performing household chores, such as cleaning.

Participation Restrictions

AV reports that he has difficulty participating in weekly church meetings due to his activity limitations. Due to poor sleep, hygiene, depression, and polypharmacy, AV also struggles to remain awake during the day, and he reports drinking coffee throughout the day in order to stay awake. His constant fatigue, drowsiness, and dizziness negatively impacts his ability to care for himself and his home. He also reports that he feels unable to adequately help his adult son, who lives at home and is unemployed.

Personal Contextual Factors

AV's complex multisystem impairments are further complicated by his social isolation, lower socioeconomic status, his son's drug and alcohol use, lack of familial support, poor home safety, polypharmacy, and depression. The passing of his wife in 2010 has likely contributed to AV's declining functional status since that time. AV lives alone with his adult son, who, despite being able-bodied, does not help or contribute to the household chores or finances. He

reports increased stress and worry about his son's future, and expresses concerns that his son suffers from post-traumatic stress disorder. AV has been in unsafe situations at home due to his son, such as when he had to intervene when his son and his friends argued. Social workers from Adult Protective Services have visited his home two times in the past two years, but no action was taken after their visits due to inconclusive evidence of elder abuse or neglect.

Environmental Contextual Factors

AV's home environment increases his falls risk and poses a health concern. Trash and clutter narrow the hallways, and broken or unused appliances take up extra space in each room. Dishes are piled in the kitchen sink, and the home is unsanitary.

Transportation is also a factor that negatively affects his quality of life. AV relies on Access Paratransit services in Los Angeles County. The 20-mile one-way trip to his medical appointments can take up to two hours, and he often waits 1 to 2 hours before he is picked up after his appointments. Arranging Access services also requires advance reservations, which adds an additional barrier due to his memory problems. To attend his medical appointments in Orange County, AV must drive, as Access services only cover Los Angeles County. This poses another risk, as AV's hearing impairment, cognitive deficits, and fatigue decrease his safety as a driver.

Student Physical Therapist Involvement

By October 2013, AV's functional status remained unchanged despite regular physical therapy visits (Tables 1 and 2). AV expressed increased difficulty at home with his son and reported increased difficulty remembering to do his home exercises. In addition, his Medicare Part B benefits were reaching their cap. We discussed alternative ways to help AV stay safe and remain independent, and I recruited a second year DPT student, Ryan, to work with AV both at the clinic and at AV's home as part of the student's Service Learning Experience (SLE). The student initially met and assessed AV's functional status in the clinic under my direct supervision. AV, Ryan, and I were all a part of AV's goal setting and planning, and Ryan

independently scheduled home visits to help AV exercise safely at home. His physical therapy treatment frequency was decreased to one visit every 2 weeks for the first 6 weeks, with the primary goal of the sessions to monitor his progress working with Ryan at his home and to continue his in-clinic physical therapy plan of care. He was discharged from outpatient physical therapy in November 2013, with instructions to continue working with Ryan on his home exercise program and return to outpatient physical therapy to reassess his function and mobility in the next calendar year.

Outcomes

Ryan saw AV at the clinic and at home for a total of 13 visits over the course of 4 months, with a break in December due to final exams and the university winter holiday recess. Ryan kept daily notes and an exercise log for his own reference. He updated me on AV's progress and consulted with me via email and in person monthly (ie, approximately every 3 to 4 visits). At the end of Ryan's Service Learning Experience (SLE), the following goals were achieved: (1) AV's home environment was de-cluttered so that walkways in his bedroom were clear of obstacles. (2) A consistent exercise program was established that AV could remember to do independently, including a walking program 5 times per week. (3) Meaningful activities at home were identified, including the patient writing his "life story," as a way for AV to stay motivated and awake during the day.

When AV returned to outpatient physical therapy in March 2014, his overall reported functional status, DHI, and ABC Scale scores remained unchanged. He had no significant changes in gait velocity (ie, 0.63 m/s with FWW comfortable, 1.16 m/s with FWW fast), but he demonstrated decreased performance with single leg balance (ie, 2 s on right, 0 s on left). We hypothesized that his gait velocity remained stable due to adequate adherence to his walking program and leg exercises, but that his balance performance decreased as a result of inadequate adherence to a home balance exercise program. He also reported that he was "feeling more melancholy" due to increased stress at home and increased isolation over the holiday season. We therefore also hypothesized that his motivation and memory to practice balance

on his own may have been limited due to these personal contextual factors.

STUDENT PHYSICAL THERAPIST PERSPECTIVES ON THE SERVICE LEARNING EXPERIENCE

I was initially interested in working with AV for my Service Learning Experience (SLE), because I wanted to gain experience working with an older adult with a long medical history and complicated home life. By spending one hour a week with AV, I saw potential to create positive change in his life. I thoroughly enjoyed building a treatment plan for AV, and my experience with him has been invaluable. His complex medical and social history challenged me to be thoughtful and creative. I used familiar clinical skills such as recording objective measures, checking vitals, and prescribing home exercises. However, I gained a greater appreciation for the skill involved in developing a reasonable and successful home exercise program by having the opportunity to do home visits. I learned that the information gathered from the subjective evaluation in the clinic can be misleading or fall short, particularly when the patient does not realize the extent or impact of the barriers they face or if they are unable to clearly describe their home situation.

The therapeutic home exercise program I developed for AV required review and modification at every session. The first barrier was AV's inability to remember the technique of the exercises and to perform them regularly. He taped home exercise handouts on his bathroom and bedroom walls, but he continued to struggle to remember to do them on a regular basis. To solve this problem, we tried new strategies, such as scheduling daily exercises in his planner. I also simplified his home exercise program to 3 stretches and a 30-minute walk daily. I asked him to start a daily activity log so we could develop a better picture of his daily activities and schedule. I realized from this experience that AV requires a multidisciplinary team to help him organize his home and personal life in order to prevent further functional declines. This experience was a great lesson in the importance of individualizing exercise plans and considering the long-term sustainability of a patient's home exercise program.

In addition to strengthening familiar clinical skills, I also practiced clinical skills less familiar to me, including home safety assessment and counseling. I learned about his home life in the subjective interview performed in the clinic during my first visit. However, I could not appreciate the extent to which these contextual factors negatively influenced his overall well-being until I visited his home. Seeing AV in his home highlighted how difficult it would be to attain his physical therapy goal of reducing falls risk. I spent over an hour with AV making adjustments to his house on the first home visit, and even after the tenth visit, there were still areas of his home that required organization and cleaning to improve safety. I had not planned on spending such an extensive amount of time on home organization and safety education, but I believe it is one area where I made the most direct impact on AV's safety at home.

Spending time with AV at his home gave me personal and intimate knowledge of his life, which is a dimension of the patient that is often glossed over during school case discussions, where we focus on the patient's appropriateness for physical therapy, differential diagnosis, objective evaluation measures, and manual therapy techniques. Not having visitors that care about your living situation is a challenge that I had not taken into consideration prior to this experience. I believe I am the only person outside of AV's son and his son's friends to spend time inside his home. I realized most of AV's social participation is through the interactions with his health care providers, and I gained a greater appreciation for the role that health care providers can play in patients who do not have family or community support.

I learned physical therapy is more than a time to work on balance and to decrease pain. It is also an opportunity for patients to engage in meaningful conversation and to interact with people who care about their well-being. In AV's case, our visits each week bolstered his motivation to improve his physical function. I observed a marked improvement in AV's mood, outlook, and spirits during our interactions, especially when I made the effort to get to know AV and learn about his past. He expressed his desire to continue working with occupational and physical therapy to reverse his

progressive decline over the last 4 years. I was able to provide important clinical insight about AV's home and personal situation to his physical therapist, who used this information to develop physical therapy goals that were more meaningful, individualized, and realistic.

My initial goal for this SLE was to provide a progressive resistance-training program to improve all of AV's activity limitations. I believed that a well-designed strengthening program would allow AV to complete his house chores on his own and would decrease his falls risk. Through this experience, however, I realized I had an overly simplistic view of his clinical profile. Improving function and decreasing falls risk is more complicated than simply addressing a patient's physical impairments, such as weakness. After getting to know AV, I no longer see him as a patient with spinal stenosis, weakness, dementia, and cardiovascular disease. Rather, I see him as a person whose home life, medical history, and poor social network all contribute to his risk of falls, declining functional status, and poor quality of life.

During my SLE, my role as a student physical therapist became that of an exercise coach, motivator, and "buddy" who provided social, emotional, and physical support to AV at home. I offered guidance, advice, and structure to improve his safety and physical function. This experience helped me to see the importance of factoring all dimensions of wellbeing into a patient's treatment plan and highlighted to me the value of the World Health Organization's (WHO) definition of health: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

PATIENT PERSPECTIVES ON THE SERVICE LEARNING EXPERIENCE

We interviewed AV after his experience working with Ryan. Although he had difficulty reflecting on his perspective of the experience, he expressed that simply having Ryan come to his home was helpful. He also reported that Ryan "saved me a little planning and a little working... He helped me with what I was doing, trying to pick up things. He helped me with everything."

Specific to his home exercise program, AV reported that Ryan "reminded me of

the exercises to do, and he went through them with me.” AV reported that regular participation in exercise “keeps me more awake and helps me get motivated to do other things. [Exercise helps me be...] more alert on what I am doing and what I need to do.”

At the conclusion of our interview with AV, we asked him if he would like to have regular help from future student physical therapists. He replied that even as little as one to two times per month would “help me move and get things done.” His comments appear consistent with studies that have shown emotional and social support is particularly important in maintaining physical function in patients with chronic conditions¹³ and that the subjective value of social support perceived by the patient is more important than the size of social network.¹⁴

CONCLUSION

AV is a case example of how a student physical therapist, through the USC Service Learning Experience (SLE), had a positive impact on the life of a community-dwelling older adult while gaining valuable clinical skills. Although we were unable to show gains in balance and mobility outcomes measures after the SLE, we believe that AV’s falls risk factors were reduced by the student physical therapist, who was able to provide supervision and instruction of balance activities and improve the safety of AV’s home environment. In addition, AV received emotional and social support from the student physical therapist, which increased his alertness and motivation. This case exemplifies how the SLE is an avenue through which community-dwelling elderly can receive free social support and physical wellness counseling from student physical therapists. We hope that this case encourages other PT and PTA programs to consider implementing service learning as part of their program requirements and utilize service learning as a way to provide additional care and support for community-dwelling older adults in need.

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MOTOR IMAGERY AND ACTION OBSERVATION AS AN ALTERNATIVE GAIT TRAINING INTERVENTION FOR OLDER ADULTS

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BACKGROUND

Falls among older adults constitute a serious problem. Accidents are the 5th leading cause of death in older adults and falls make up two-thirds of such deaths.¹ Nearly 30% of people aged 65 and over fall per year, with one-fifth of such incidents requiring medical attention.² As the elderly population continues to grow there has been a focus in the geriatric field to determine the risk factors for falls in order to implement preventative measures.³ Among the focus of many such studies has been how gait can be a valid predictor for falls.⁴⁻⁶

As individuals age, their fall risk and time to ambulate between two destinations significantly increases.⁷ Quach et al demonstrated that a decline in gait speed by 15 m/s every year would increase the risk of falls both indoors and outdoors.⁸ One trial by White et al even concluded that as a healthy individuals' gait speed declined, their mortality rate increased.⁹ While gait has been a focal point among various studies as a prognosticator for falls, it is still unclear as to what the best method for improving gait is and whether or not gait training is even the best intervention to prevent falls.¹⁰ The studies that do examine gait interventions in the older adults are mainly related to different forms of physical exercise.¹¹

Motor imagery (MI) is the mental representation of movement without any body movement.¹² Neurophysiological and cerebral imaging studies examining similarities between real and simulated locomotor activities have demonstrated that locomotor activities, either performed physically or imagined, are subject to common laws and principles. Physiological responses such as heart rate and respiratory rate increases were observed to be similar in healthy individuals when they would walk on a

treadmill and then later imagine walking on the treadmill.¹³ Another neurological study showed similar cortical activity in the brain of healthy individuals with active walking and imaginary walking.¹⁴ Fadiga and Craighero has shown that the motor cortex is involved whenever the idea of an action is evoked.¹⁵ Regional blood flow has been seen to increase in various cortical motor areas and the cerebellum during imagery tasks.^{16,17}

The involvement of the motor system during motor imagery training was speculated to be due to unspecific factors, such as intention or readiness to move rather than to a true internal dynamic simulation of movement.¹⁵ Recent studies have dismissed this notion via the use of transcranial magnetic stimulation (TMS) to measure the level of excitation and inhibition in the corticospinal system. Tremblay showed increased motor-evoked potentials specific to the targeted muscle during motor imagery,¹⁸ supporting similar findings in previous studies.^{19,20} Facchini further elaborated on these findings and indicated that motor imagery during unilateral tasks are associated with increased contralateral primary cortex excitability, mirroring motor movement cortical activity.²¹

There is a wealth of literature regarding the use of motor imagery training and its application as a training tool. Studies of healthy individuals utilizing motor imagery techniques have demonstrated enhanced performance of various aspects of motor control including strength gains, improved speed, increased range of motion, and improved postural control.²² The majority of research on healthy individuals utilizing MI, however, is in younger populations, especially as a tool for athletes.^{23,24} Sidaway and Trzaska demonstrated that 20 year olds without impairment increased ankle dorsiflexion strength via mental

practice.²⁵ Ankle dorsiflexion strength was chosen because of its importance in gait and stair climbing. Another trial of healthy 20 year olds demonstrated that motor imagery training improved dynamic balance similarly to physically training balance.²⁶ Motor imagery in older adults has an intense focus as a rehabilitation tool post-stroke, but the exploration of MI in healthy elderly populations is minimal. In a study by Deutsch with patients recovering from stroke, motor imagery training resulted in improvements with gait (walking) and balance ability and when compared with on-site manual therapy. This motor imagery training protocol resulted in less therapist travel time and cost, as well as shorter therapy sessions.²⁷ A randomized control trial by Cho et al. showed that motor imagery training with gait training was more effective than sole gait training to enhance balance and gait in chronic stroke patients.²⁸ Another case study suggested the usefulness of MI to enhance the walking abilities of a patient post stroke.²⁹

An additional finding during earlier MI studies was the thought that observing the actions of someone else or oneself facilitated the same corticospinal areas during the physical execution of the observed movements.³⁰ This concept is defined as action observation (AO). Action observation (AO) is another non-physical method of training in which the learner observes the action of another individual.³¹ Patuzzo et al., proposed the specific motor facilitation during action observation showed no differences when participants observed actions performed by themselves or others.³² The most recent literature has revealed a "mirror-neuron system," a class of neurons in the ventral pre-motor cortex and inferior parietal lobule that respond during the execution and the observation of goal-

directed motor acts.³³ Interestingly, the initial beliefs that the mirror neuron system simply “mirrors” observation activity and execution activity may not be true. Baldissera et al., demonstrated that not only are the same cortical areas active during AO and physical movement, but there is also an opposing signal generated in the spinal cord during AO not present in MI or movement.³⁴ Vigneswaran et al produced evidence that within the mirror neuron system, facilitating neurons were only half as active for action observation as for action execution, and that suppression neurons reversed their activity pattern and were also facilitated during execution of observation.³⁵ This is believed to be an inhibitory mechanism preventing execution of the observed actions and explained by Fadiga and Craighero to leave free the cortical motor system to ‘react’ the observed action without the risk of overt movement generation.¹⁵ There is an ongoing debate in regards to these findings and their implications on motor learning.

The majority of research in action observation’s use as a motor learning tool has been in relation to its ability to be used as a teaching technique, especially in an academic or work environment in which a teacher or employer demonstrates proper techniques.³⁶ Considering that motor training requires a learning process, the theory that action observation has clinical benefits in a rehab setting and to society as a whole is a useful proposal that has yet to be explored in detail versus physically practicing the observed techniques.

It is important to note that not all individuals are candidates for motor imagery or action observation. A study of patients with a right hemisphere stroke resulting in unilateral neglect revealed they were less capable of performing visual and mental tasks, impairing the potential benefits of such training techniques.³⁷ Other studies have demonstrated that action observation did not necessarily correlate to the learning of motor skills.³⁸

An expanded Timed Up and Go test (TUG) that accounts for speed and smoothness of ambulation was used as the basis for grading the improvements of each experimental group. Botolfson et al demonstrated the usefulness to analyze subtasks of the traditional

TUG and higher reliability and validity than traditional TUG to identify impaired mobility.³⁹ Van Swearingen et al indicated in a randomized control trial that improvements in gait speed led to functional gains in other areas and also increased physical activity and function.¹¹ To test if training in the TUG would lead to improved speed in another walking task, a Figure-8 Walk (F8W) test, in which participants walk in a figure 8 pattern around 2 cones, also was included without practice. Hess et al showed that walking skill in older adults could be assessed validly via the F8W.⁴⁰ Our goal was to determine if similar improvements in walking speed and smoothness in both the motor imagery and passive observation group are found in comparison with the physically practicing group. The scale for grading smoothness of gait uses the same criteria as a previous study by Brach et al.⁴¹ Motor practice and observation are a much more practical means of training that can be utilized at any moment of the day regardless of the presence of a healthcare assistant. With many of the aforementioned articles mentioning gait training as a way to decrease fall risk, both MI & AO may have the potential additional benefit of reducing the occurrence of falls, injury and death among older adult populations similar to the way physical practice appears to.

METHODS

Twenty participants between the ages of 60-80 participated in this study. Of these participants, 2 were men and 18 were women. All participants were residents of Shore Road Facility of the Lutheran Medical Center in Brooklyn, NY. All testing took place in the recreation room. Participants were included if they were ≥ 60 years old, a resident of Shore Road Facility of Lutheran Medical Center, they ambulated with either no assistive device or a unilateral assistive device such as a cane, and scored > 24 score on Mini Mental State Exam (MMSE). The MMSE is a brief 30-question test that focuses on mathematics, memory and orientation to screen for cognitive impairment. Participants were excluded if they had a previous diagnosis of Diabetes Mellitus, hypertension, any neurological disorders including stroke or Parkinson’s disease, used a walker, 2 canes or 2 crutches for ambulation or

were receiving physical therapy for any reason. Each participant was given a detailed oral and written explanation of the study, and each signed an informed consent form. The experimental protocol was approved by the Institutional Review Board (IRB) committees of the City University of the New York and Lutheran Medical Center. A translator was present for Chinese-speaking participants.

Participants were interviewed for inclusion/exclusion criteria. All participants were assessed with the Expanded TUG test and Figure-8-Walk (F8W) test. The Expanded TUG has 6 components. They were to stand up from a chair, walk 10 meters, turn around, walk another 10 meters, and sit down in the chair. The stopwatch was started on the word ‘go’ and times were recorded at the 6 following stages: sit-to-stand, as the subject passed the 2 meter mark (gait initiation), as the subject passed the 8 meter mark (walk 1), as the subject passed the 8 meter mark when returning (Turn), as the subject reached the chair again (walk 2), and stand-to-sit. The 10-meter course was measured using the same meter stick at each session and a marker was placed at each point to delineate each measurement. A black cone was placed at the end of the course which participants used to walk around. The TUG test was measured by 3 skilled movement components; speed (time to complete the course), amplitude (the number of steps taken to complete the course) and smoothness (3-item component scale). The 3-item smoothness component scale included the participants’ ability to complete the course without stopping, hesitation, and changing pace. A grade of 0 or 1 was given for each test; 0 indicating any difficulty or 1 indicating no difficulty. This gives a total smoothness scale of 0 (not smooth) to 3 (smooth).

In the F8W, the subject starts between cones placed 5 feet apart from each other. The F8W test was shown and verbally explained to the participants prior to them starting the course. The participants were to begin to walk in a figure 8 pattern around the cones in whichever direction they choose. The same measurements used for the TUG were applied to measure the F8W test (speed, amplitude and smoothness).

Participants were randomly assigned by the research team into three training groups: motor imagery, active observation and motor training by drawing playing cards. Separate investigators performed the training and the assessments, effectively blinding them to the subject's training protocol. The motor imagery training consisted of the subject relaxed, seated and eyes closed while one of our team members recited from a script a step-by-step walkthrough of the TUG. This was then followed by the subject imagining themselves performing the TUG for however long it took them to go through the course. There were no time constraints for this, however some did it faster than others. This was performed for 3 cycles and once the subject was done imagining themselves performing the course, the next cycle began. The action observation group consisted of the participant relaxed and seated while viewing a video of one of our team members from the camera screen performing the TUG at a fast and smooth pace. Participants were advised to actively watch the tape with no verbal cues. Verbal cues were not given to ensure the subject was not biased as to where they focused. Concentration on the 'particulars' of the TUG was freely determined by the subject. This video was viewed 3 times with a 15 second rest period between cycles, which was used to rewind the videotape. The motor training group practiced navigating the TUG course 3 times with a 2-minute rest period in-between cycles.

The intervention lasted 3 weeks. On day 1, all participants performed the TUG and F8W tests to assess baseline values for speed, amplitude and smoothness. Each subject trained for 2 weeks (4 consecutive days per week). On the final day (10) in week 3, the participants were assessed on the TUG and F8W tests. Only 18 participants (2 participants were unavailable for personal reasons) were reassessed again with the TUG and F8W tests 6 months later without treatment. This was used to compare the participants to themselves to determine if any improvements were made with training. Participants were paid \$30 in cash and signed a confirmation form that they received \$30 cash for their full participation in our study. This study was supported by the Doctoral Student Research Grant (DSRG) via the CUNY

Graduate Center in competition round #8. There were no adverse effects during the performance of this research.

DATA ANALYSIS

SPSS version 20.0 was utilized for data analysis. The threshold for significance for p-values was set at < 0.05. A 2-level repeated measures ANOVA was used to analyze all the factors of the data. The within subject levels were (sit to stand, initiation, walk 1, turn, walk 2, stand to sit, smoothness, number of steps, and figure-8 time) control and treatment. The between factor (motor, imagery, observation) aspect of the ANOVA was for the whole group. In addition, the Bonferroni post-hoc test was run to evaluate any interaction between groups. There was no statistical difference between groups in age, gender Mini Mental State Exam, or baseline TUG results. In order to determine the change in time of each variable, the Post-test times were subtracted from the pre-test time. Therefore, a positive number indicates improved speed after training. A negative number indicates a slower speed after training.

RESULTS

Figure 1 indicates the difference (Pre/Post) of the total TUG time (in seconds) for each group (Imagery, Observation, Motor) tested. For each group, a significant improvement in speed after training was found Imagery $p = 0.033$ ($F_{1,6} = 7.66, p < .05$); Observation $p = 0.030$ ($F_{1,4} = 40.43, p < .05$); Motor $p = 0.038$ ($F_{1,5} = 7.85, p < .05$).

Figure 2 indicates the difference in Sit-to-Stand time for each group (Imag-

ery, Observation, Motor). Imagery $p = 0.014$ ($F_{1,6} = 11.57, p < .05$) and Motor $p = 0.04$ ($F_{1,5} = 25.91, p < .05$) demonstrated significant improvement in speed after training. When the groups were compared against each other, the Imagery group demonstrated a significant improvement when compared with Observation group ($p = 0.004$) and the motor training group demonstrated a significant improvement when compared with Observation group ($p = 0.01$).

Figure 3 represents the values of difference in Turn times for each group (Imagery, Observation, Motor). Motor $p = 0.046$ ($F_{1,5} = 6.95, p < .05$) demonstrated significant improvement in speed after training.

Figure 4 represents the values of Cadence for each group (Imagery, Observation, Motor). Imagery $p = 0.014$ ($F_{1,6} = 11.56, p < .05$) and Motor $p = 0.019$ ($F_{1,5} = 11.55, p < .05$) showed significant improvement in speed after training. No significant change was found in Initiation, Walk1, Walk2, or Sit when comparing Post-test times compared with the Pre-test times. In addition there were no significant changes in F8W, step number, or smoothness.

DISCUSSION

All 3 training interventions: motor imagery, action observation and physical practice, led to significantly improved total TUG times compared to the control condition. This is consistent with findings from previous studies including Cho et al, who found that gait training with motor imagery significantly improves the balance and gait abilities in stroke patients compared to gait training

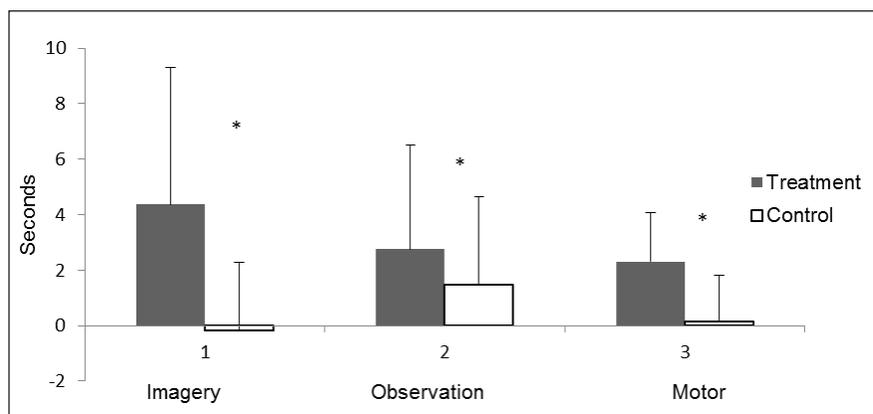


Figure 1. Difference in Total TUG time. A significant improvement in speed was demonstrated by all three groups after training.

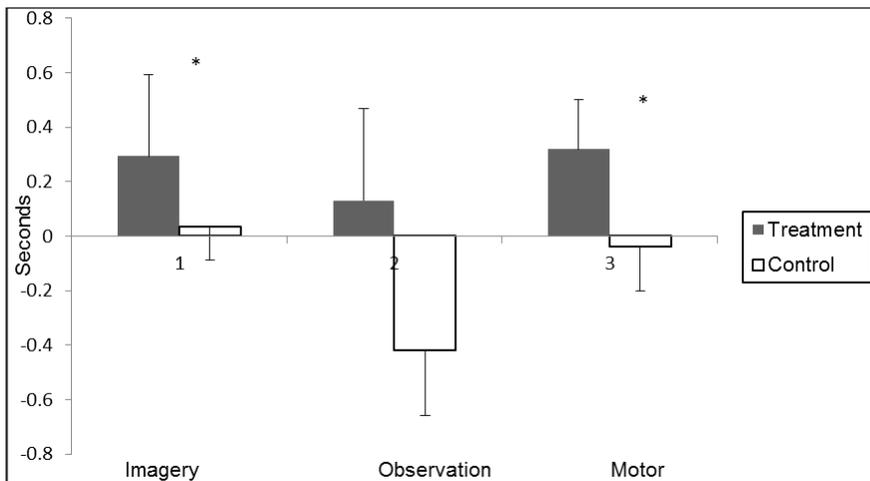


Figure 2. Difference in Sit-Stand time. A significant improvement (improved speed) was demonstrated in both the Imagery and Motor group. While the Observation group did also improve, this was not found to be at a significant level.

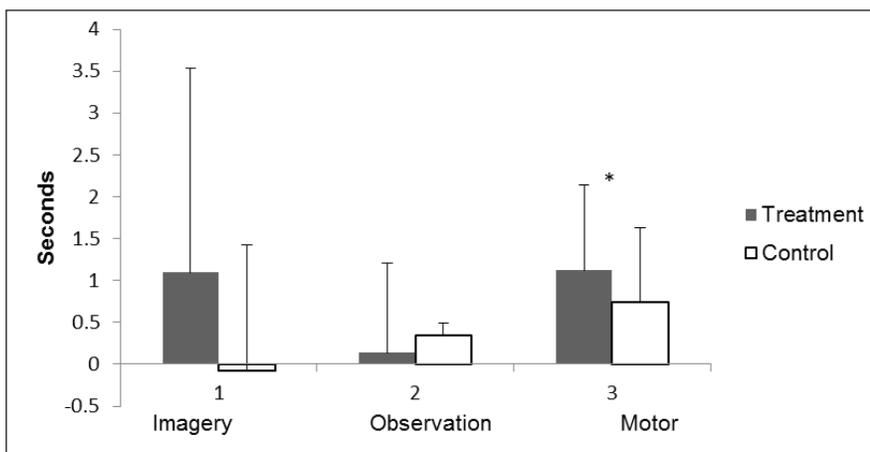


Figure 3. Difference in Turn. Only the Motor training group demonstrated a significant improvement in their turning speed.

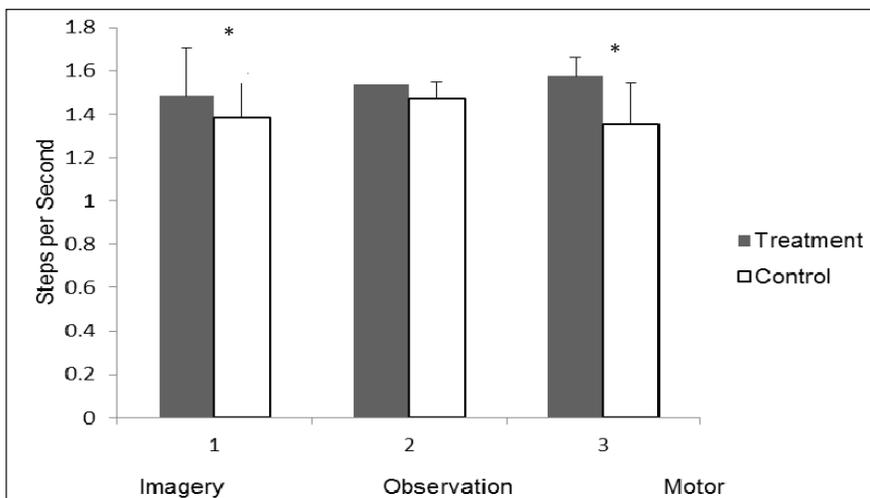


Figure 4. Cadence. Both the Imagery and Motor groups demonstrated a significant improvement in cadence, measured in steps per second.

alone.²⁸ Furthermore, the results were also consistent with previous findings from Tia et al, who established that action observation improved motor abilities in elderly participants in walking.⁴² When the 3 groups were compared against each other, there was no significant difference noted between the intervention groups. This is consistent with a previous study by Kim & Lee in which both action observation and motor imagery training significantly improved TUG times as well as gait speed and cadence compared to a control group. That study also found no significant difference between the action observation and motor imagery groups.⁴³

When analyzing the components of the TUG, only one individual component had a significantly improved time versus the control. This was the sit-stand portion of the test. Both the motor practice and motor imagery interventions revealed significantly improved sit-stand times versus the control. Action observation had no significant individual component gains compared to the control. The literature to compare this finding with is sparse. It may be possible to attribute this finding to Vigneswaran et al's conclusion that neurons facilitated during AO were only half as active as those during action or MI.³⁵ However, the fact that the overall TUG times did significantly decrease with AO leaves doubt to that possibility. Another explanation could be that the participants were not fully engaged with the task in the beginning of AO training. Villiger et al's study revealed that cortical activity during AO increased as the subject was engaged and focused on the task and decreased when their attention drifted from the task.⁴⁴ AO training participants could potentially be at a higher risk of distraction compared to the motor practicing group and motor imagery group because the latter two groups are forced to engage in the activity otherwise nothing would happen. The actions observed during AO training will take place regardless of the participants' level of activity, as someone else is performing the actions. There is also evidence of initial strength gains during training resulting from neural adaptations that enhance motor unit activity patterns.^{45,46} Rising from a seated position to standing may be the task that demanded the most strength during the TUG test. This may

explain why the motor practice and motor imagery group both saw significant gains in this area. The training interventions for MI and motor practice target similar corticospinal pathways with no evidence of a suppressing effect. Although Tia et al established that action observation and physical practice activate a common cortical network, it is not fully understood yet how action observation's mirror neuron system creates learning in the brain. It is possible that the initial improvements in neuromuscular control may not be replicated with action observation. This would be another possible explanation as to why the gain in the first TUG component (sit-stand) may have similar gains with motor imagery and motor practice, but not with action observation.

The Figure-8 Walk Test was performed to determine if there was a transfer effect from the TUG training to walking in a figure 8. Participants in all intervention groups had improved Figure-8 walk test times but they were not significantly different from the control group. This is inconsistent with VanSwearingen et al.'s study demonstrating improved performance in other areas and increased physical function.¹¹ In that study, however, multiple transfer scales were used, including subject questionnaires regarding activity level and standardized scales measuring gait efficiency. It would have been useful to use the same scales in our evaluations in order for consistency when comparing.

Retesting the intervention groups 6 months after their training revealed that gains were not maintained, and their TUG times reverted to the pre-intervention times. Other studies with longer training interventions have revealed maintained gains up to 3 months post.²⁷ Testing the participants again 2 weeks after this point (the same time period used in the intervention group) allowed for the participants to act as their own control. Ideally, the control testing would be done first, but due to the fear of time constraints and the small number of participants the intervention was performed first. This was in order to ensure, at the very least, a comparison between interventions. Future studies examining the effects of the three interventions provided (MI, AO, and physical practice) should be performed simultaneously with a separate control group.

The results of this study are clinically applicable to therapists who provide care to older adult patients in need of interventions to improve gait parameters. The findings suggest motor imagery and action observation have an effect mirroring that of motor practice. This allows the patient to mobility train in any setting without having to physically perform the action. If utilized properly, the interventions may aid in decreasing the time needed to rehabilitate the patient, improve gait training, and further decrease the risk of falls.

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WITHHOLDING OR WITHDRAWING NUTRITION AND HYDRATION: AN ETHICAL DILEMMA

Elizabeth Infante, RN, BSN

The act of withholding or withdrawing artificial nutrition and hydration (AHN) has been a source of controversy for decades. This decision has caused legal and ethical battles for many reasons. This is an emotional topic due to the advancements that have been made in medical care and the changing definitions of what little or no hope for recovery means over the years. This issue is of interest to me because of personal struggles I have gone through in the past two years with family members and end-of-life decisions. Up until being faced personally with this issue, I had strong beliefs and opinions on the withholding or withdrawing of treatment, in particular the withholding of artificial nutrition and hydration, when there is no hope for recovery. These beliefs and opinions have since been challenged after experiencing this decision first hand.

Distinctions need to be made between the definition of brain death and that of persistent vegetative state (PSV). In 1968, the definition of brain death was determined by an ad hoc committee at the Harvard Medical School. This was defined as unawareness, no spontaneous breathing, absence of reflexes, lack of body movement, and two flat electroencephalograph readings 24 hours apart.¹ According to the *New England Journal of Medicine*, "The vegetative state is a clinical condition of complete unawareness of the self and the environment, accompanied by sleep-wake cycles."² It is unlikely that a person will recover from a posttraumatic persistent vegetative state after 12 months. It is very rare for a person to recover from a nontraumatic persistent vegetative state after 3 months.

Prior to the 1960s, patients in a PSV would have naturally starved to death, as there was no means to artificially feed and hydrate them. There has been much debate legally, ethically, and religiously whether artificial nutrition and hydration are ordinary or extraordinary

means of treatment. There are 3 basic ways AHN can be administered; permanent intravenous feeding line, temporary insertion of a nasogastric tube, or surgically implanted gastrostomy tube.¹ Withholding or withdrawing nutrition and hydration is an emotional topic because supplying food and water has been seen to be ordinary care that every human being deserves to have. In June of 1990, the Cruzan case resulted in a landmark decision by the United States Supreme Court. Three things were determined by the outcome of this case. First, the court acknowledged the right of competent patients to refuse medical treatment. Second, the court ruled that removing a feeding tube was no different than removing any other kind of extraordinary means of life support. Third, the Supreme Court maintained that a state could, but did not have to pass a statute that would demand a standard of evidence for what the wishes were of a previously competent patient.¹

The world's major religions weigh in on this emotional topic as well. Roman Catholics view life as a sacred gift from God. For over 500 years, the Roman Catholic Church has examined those means that are ordinary and thus morally obligated and those that are extraordinary, and therefore morally optional.³ Pope John Paul II delivered an allocution regarding the issue of withholding or withdrawing artificial nutrition and hydration in 2004. The allocution states that water and food should always be considered a natural means of preserving life, whether it is administered artificially or not. He further proposes that withholding food and water is considered euthanasia by omission. The question one must ask is will the withdrawal of food and nutrition allow the person to die or kill the person? In the case of Terry Schiavo, it has been argued that she was not someone who was "dying" and the removal of artificial feeding

directly caused her death. According to the Roman Catholic Church, this act goes against natural law and the law of God. Terry Schiavo was a 27-year-old anorexic woman who went into a coma on February 25, 1990, due to anoxia. For 15 years legal and ethical arguments for and against withdrawing her ANH were fought. She finally expired on March 31, 2005.

The Natural Law Theory looks at trends or patterns in nature. If an act goes against nature, then it goes against God's will. Human beings have an inherent desire to live and for self-preservation. St. Thomas Aquinas synthesized Aristotelianism with Christian ideas to create his Thomistic world view. He stated that theology deals with God's will and God's will goes along with nature. Natural Law Theory gave us the Doctrine of Double-Effect. This doctrine holds that if an action has two effects, one good and one evil, then the evil effect is permitted. Four things have to be in place for this to be true: the action has to be good in itself, the good must follow immediately from the cause as did the evil, only good was intended, and the reason for performing the action is important enough to allow evil.¹ In 2001, there was a conference of Catholic Bishops in the United States. Their viewpoint on providing nutrition and hydration was that this should be provided to all patients including artificial means as long as the benefits outweigh the risks or burdens to the patient. Most believe this to mean that artificial nutrition and hydration should be continued if the diagnosis is uncertain or the wishes of the patient are not known. However, in the case where a patient or surrogate acknowledge that the burdens or risks to the patient outweigh the potential benefit and the intention is not to cause death, then the wishes of the patient should be respected.³ The removal of artificial nutrition and hydration in this case would

be morally permissible according to the Doctrine of Double-Effect. As long as the intent is not to cause death but to honor the patient's wishes, the evil act of removing food and hydration would be morally allowed.

Other religions offer their viewpoints and beliefs on end of life decisions as well. Protestants accept the withholding or withdrawing of artificial nutrition and hydration if there is little or no hope for recovery. Keeping a patient alive by artificial means is not obligated in Buddhism. Buddhists accept the principle of double-effect. The topic of death is usually not discussed in Chinese culture so physicians do not discuss death with the patient or family. Most Chinese do not have advance directives. The religions which firmly oppose the withholding or withdrawing of ANH are the Greek Orthodox Church, the Jewish religion, and those of Islamic faith. The Church of Greece states that there is always a chance of a misdiagnosis or even a miracle so the withholding or withdrawing of ANH is not allowed even with no hope for the patient's recovery. The Jewish religion believes that food and fluid are needs and are not considered a form of treatment. They consider withholding or removing ANH as separate from the dying process and consider this to be a form of euthanasia. However, in the last days of life if the administering of ANH would cause the patient greater suffering or complications and it is known to be the wish of the patient, AHN can be removed.⁴ In the Islamic faith it is believed that nothing should ever be done to hasten death. "This is based on the Islamic principle *la darar wa la dirar* (no harm and no harassment)." ^{4(p426)} Euthanasia is never allowed because according to the Qur'an only Allah can give life or cause death.⁴

Utilitarianists can argue both sides of the withdrawal of ANH. According to Wainwright and Gallagher, one must examine the difference between medical treatment and care and its ethical importance. Treatment can be expensive and medical resources should not be wasted. Calculating the total benefits versus the burdens would be an example of a Utilitarianism defense. It can be argued that patients should not undergo prolonged suffering if the benefit does not outweigh the burden. This goes along with the principle of beneficence,

or doing good.⁵ John Stewart Mill uses Utilitarianism to justify the Harm Principle. This can be used to argue both for and against the withdrawal of ANH. The principle of do no harm or non-maleficence can be applied to arguments both for and against. If keeping the patient alive with ANH will prolong suffering and cause harm, then Mill would argue for its discontinuance in order to not cause harm. On the other side of the argument, one could say that if the withholding or withdrawal of ANH would bring about a person's death, thus causing harm, this would go against the do no harm principle.¹

The Kantian view on withholding or withdrawing life-saving treatment has been interpreted differently by different philosophers over the years. It has been explained by some that refusal of lifesaving treatment in order to shorten suffering and pain by ending one's life would not be allowed according to Kantian ethics. According to Gunderson, Kant's main argument against withdrawing or withholding lifesaving treatment is that it violates the categorical imperative. "The first formulation of the categorical imperative (the formula of universal law) admonishes us to act only in accordance with that maxim through which you can at the same time will that it become a universal law."⁶ Kant states that one must never treat humanity in oneself and others as a means to an end but as an end in itself.¹ According to Kant, one who refuses lifesaving treatment to bring about one's death and end suffering, wills death even if that was not the intent. Furthermore, Kant states that in the second type of case, even if a person refuses treatment to avoid the suffering from that treatment, but does not want to die, then the resulting death does not go in accordance with seeking one's own perfection. These two cases would not be morally permissible according to Kant. Kant's arguments leave room for some cases of euthanasia or refusing or withdrawing of lifesaving treatment to be considered morally permissible. In the cases of patients whom have lost their rational agency, such as those in a persistent vegetative state, hastening their death would not be considered immoral according to Kant.⁶

The concept of futility has been used to provide ethical justification for the withdrawing or withholding of treat-

ment with marginal benefit. The definition of futile according to the *Concise Oxford English Dictionary* is, a futile action is useless, ineffectual, vain, frivolous. The word derives from the Latin *futilis* meaning "leaky." Beauchamp and Childress first published their *Principles of Biomedical Ethics* in 1977. This contained a 4 principle approach to medical treatment: respect for autonomy, non-maleficence, beneficence, and justice. These principles should be applied to areas of conflict to come up with an ethicolegal decision. According to these principles one should respect the decision making abilities of a person, avoid causing harm, provide a benefit to the patient, and provide a norm for weighing benefits, costs, and risks equitably.⁷ A utilitarian would argue that if a treatment is considered physiologically futile (unable to achieve its intended goal) it should not be administered. Using this argument, administering ANH to a patient with no hope for recovery would be considered physiologically futile. So the withholding or withdrawing of ANH would be considered ethically permissible.

My family and I faced two such ethical dilemmas in the last two years. We had to make end-of-life decisions for both my father and my grandmother. I always felt very strongly that if there was no hope for recovery ANH or any means of lifesaving treatment should be withdrawn or withheld. In theory, my stand on this issue worked well. However, when actually having to face this situation with a family member it was not so cut and dried. To withdraw or withhold lifesaving treatment is not a decision that can be made lightly and cannot be applied unilaterally to every scenario. There are so many outside influences and factors that impact each case individually. One cannot say that for every patient with no hope for recovery, treatment should universally be withheld or withdrawn. Actually having to make the decision and then witness the last days of that family member's life is something that will haunt me forever. Both sides make good arguments for and against either withholding or withdrawing treatment such as AHN when there is no hope for recovery. However, when you add the emotional element to any ethical argument it becomes a little muddy.

In the case of my father, he had complications after open heart surgery and a quintuple bypass. He became one of the less than 2% of the patients who develop acute adult respiratory distress syndrome (ARDS) after bypass surgery. He suffered for almost a month before we had to make the most difficult decision our family has ever faced. It was determined that my father had multiple strokes as well and was declared brain dead with no hope for a meaningful recovery. He was only 72 years old and otherwise in good health. It still feels surreal to me. I was a cardiac nurse at St. Francis where he had the surgery for years and the surgery seemed so routine to me. We decided to take him off life support, and the doctors and nurses made him very comfortable at the end. It was a hard decision to make but because of the determination of brain death, I felt it was the right decision. Facing this decision with my dad did not really change my viewpoint on withholding or withdrawing lifesaving treatment. I still believed that withholding or withdrawing ANH and lifesaving treatment when there was no hope for recovery was the right thing to do. However, the case of my grandmother was not so black and white and made me rethink my stand on this issue from an ethical viewpoint.

My grandmother was 94 and in a nursing home. She had suffered a few strokes and was confused at times and forgetful. There were a lot of family dynamics going on at the time, which also played a major role in decision making. My mother and her sister were not speaking and my aunt got the call that my grandmother was found not responsive at the nursing home. She was transported to the hospital and my aunt waited 3 hours before notifying my mother. When I arrived, they explained that my grandmother had a stroke and they wouldn't know for 3 days what the extent of the damage would be. She was not receiving any maintenance fluids at the time. When I questioned this, I was told by my aunt that my grandmother had a health care proxy and didn't want any extraordinary means to keep her alive if there was no hope for recovery. At this stage, we didn't know what her recovery would be or what her quality of life might be like if she survived. Thus, the slippery slope began. My aunt was making decisions prematurely and I

intervened so hydration was started. The doctors explained that the 72-hour mark was the usual timeframe for determining the amount of recovery expected. I, along with my family, felt until that time my grandmother should be given every opportunity for recovery. Upon questioning the staff it became apparent that my aunt was not the primary health care proxy and should not have been making decisions. She was an alternate, as was I. My mother was the primary proxy. We decided to hydrate and treat medically, reserving the decision about artificial nutrition until after the 72-hour period.

This decision and the fact that my mother challenged my aunt caused an enormous amount of stress on the family. My grandmother was responding to us by facial expression or groaning, just as Terry Schiavo did in the infamous video that was shown over and over again by the media. Actually experiencing that firsthand was very difficult and made us very conflicted regarding decision making. The doctors did not really call it a persistent vegetative state, but they said there was little hope for recovery. As a result of the stroke, my grandmother's swallowing ability was compromised as her gag reflex was weak. She would need to be fed and hydrated artificially. According to my grandmother's wishes she specifically said she did not want this if there was no hope. We decided to withhold ANH and she was transferred back to the nursing home. She lingered for almost a week before she passed. She looked uncomfortable and it was very unsettling to witness. When I asked the nurses why she was not receiving morphine, they said it was because she was only to receive when she asked for it, as it was ordered as needed. I then called the doctor and he ordered it around the clock; she passed peacefully within a few hours.

I believe we ultimately made the right decision to withhold ANH, but coming to that decision was not as easy as I thought it would be. My grandmother seemed responsive so it was very difficult to withhold treatment. With my father, the decision was a little easier to come to because he was clinically brain dead. I believe that initially my grandmother was not treated as if she had any hope without truly knowing for a fact she did not. It is my concern that my aunt was done with having my grandmother in

the nursing home and made the decision prematurely to not try and do the bare minimum to save her. Yes she was 94, and lived a good life, but what right did we have to decide what quality of life she would have before the 72-hour mark passed and an informed decision could be made? This factor, the family dynamics, financial concerns for her care, accurate information from the doctors, and religious beliefs all played a major role in our decision process.

As a Roman Catholic, I did not agree with the ruling of the church that withholding or withdrawing ANH was not morally permissible. I believe that in certain cases when there is no hope for recovery it should be allowed. I understand the rationale behind the church's teachings. I also understand that if this is allowed in certain cases it could become a slippery slope and applied to other cases where it is not just an issue of whether the patient has a chance for recovery or not. There is always the fear that people will universalize the concept and apply it for questionable reasons such as financially based or in cases of patients with Alzheimer's disease and dementia. Like Kant, I believe in the autonomy of the patient to have her wishes carried out if she is not capable to make decisions at some point. According to Natural law Theory and the Doctrine of Double-Effect, the withholding of ANH in my grandmother's case would be morally permissible because the intent was not to cause death but to honor her wishes. So the "evil" act of withholding treatment was allowed in order to allow the "good" act of following her wishes. A Utilitarianist would argue for the decision to withhold ANH in my grandmother's case because the cost and resources that could be used for the benefit of others would be wasted if there was no hope for her recovery. As far as the concept of futility, using ANH to keep her alive with no hope for a meaningful recovery would be physiologically futile.

There are good arguments both for and against withholding or withdrawing treatment. I still believe in withholding or withdrawing ANH if there is no hope for recovery. However, I now realize having faced this difficult decision personally, that it is not an easy decision to make. There are so many external factors that affect the decision making process. Each situation is presented with these differ-

ent factors so an ethical decision cannot be made unilaterally for each case. Each scenario has to be looked at individually, weighing the risks and the benefits, and ultimately coming to a decision.

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PROFESSIONALISM AND THE ELECTRONIC MEDICAL RECORD: VIEW FROM HOME HEALTH

*Kenneth L. Miller, PT, DPT, CEEAA, Elizabeth Budd, PT, DPT,
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BACKGROUND

In 2000, the House of Delegates of the American Physical Therapy Association adopted Vision 2020 and a strategic plan to transition physical therapy to a doctoring profession. Professionalism is one of the 6 elements on the strategic plan and has been defined and described as what the graduate of a physical therapy program ought to demonstrate in their daily practice.¹ There were 7 core values of professionalism identified including: accountability, altruism, compassion/caring, excellence, integrity, professional duty, and social responsibility.² The core value of accountability is defined as active acceptance of the responsibility for the diverse roles, obligations, and actions of the physical therapist including self-regulation and other behaviors that positively influence patient/client outcomes, the profession, and the health needs of society.² One indicator for accountability includes “adhering to code of ethics, standards of practice, and policies/procedures that govern the conduct of professional activities.”² It is critical for physical therapists working in home health to demonstrate self-regulation as part of their own accountability, follow the code of ethics, and use the companion guide for professional conduct to assist in determining appropriate actions regarding the practice of physical therapy.^{3,4} The companion guide is an interpretive guide to complement the code of ethics for physical therapists.⁴ A second indicator for accountability includes “communicating accurately to others (payers, patients/clients, other health care providers) about professional actions.” It is this second indicator that will be the focus of this paper. Communication via documentation is paramount to professional practice in home health where face to face communication is more limited than in any other practice setting.²

INTRODUCTION

Physical therapists, in order to practice professionalism must demonstrate accountability through self-regulation of behavior and actions in all dealings related to their practice. One key area of self-regulation is effective use of the electronic medical record (EMR). Documenting accurate information at the appropriate time points following federal, state, local law, Centers for Medicare and Medicaid Services (CMS) regulations, and agency policy is key to demonstrating accountability and ultimately professionalism in the medical record.⁵ The code of ethics and guide for professional conduct may be used as resources to clinicians when questions arise in their practice including documentation. All therapists are bound to the code of ethics as evidenced in the APTA Guide for Professional Conduct which states, “The Code and the Guide apply to all physical therapists.” As such, they have an obligation to follow the principles of the code that cultivates professionalism.

Code of Ethics

The APTA Code of Ethics for physical therapists which was revised in 2009 and became effective in 2010 contains 8 principles, 5 of which (3, 4, 5, 6, and 7) apply to documentation and conformance with the Medicare Prospective Payment System (PPS) final rule 2011 regulations for home health.^{3,4} Principle #3 states that physical therapists shall be accountable for making sound professional judgments, which we believe should be reflected in the documentation provided in the electronic medical record. An example of demonstrating professionalism and sound judgment is for physical therapists to document the required data elements in the medical record even when the EMR may be lacking some of the required data fields. An example of this could be seen if the

EMR has a design weakness that does not prompt the physical therapist to document objective test results (which is a requirement found in the CMS PPS 2011 regulations).⁵ The physical therapist demonstrates sound judgment and professionalism by being accountable to the regulation and puts the necessary data in the record.^{1,2,5} It would be unethical for a physical therapist to state that they do not need to perform or document objective testing if the EMR did not have data fields to enter this required data.

In addition to objective testing, the PPS 2011 final rule mandates reassessment at defined time points. It is the professional and ethical responsibility of the physical therapist to assure compliance with this requirement regardless of whether the EMR prompts for this information. The EMR vendors are accountable to the regulations as well and when EMR vendors become aware that the EMR is lacking required data elements, professionalism on their part dictates the need for changes so that the EMR complies with federal regulations.

Federal requirements and CMS regulations change annually as new laws are passed and enacted including the Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health Act (HITECH) and the Patient Protection and Affordable Care Act which change.⁵⁻⁸ All parties involved in the provision of home care have challenges in maintaining compliance with regulatory changes; however difficult, these challenges must be met with integrity. Principle #4 states that physical therapists shall demonstrate integrity in their relationships with patients/clients, families, colleagues, students, research participants, other health care providers, employers, payers, and the public. Furthermore, physical therapists shall

Table 1. Code of Ethics for Physical Therapists, APTA. 2009³

<p>Principle #3: Physical therapists shall be accountable for making sound professional judgments.</p> <p>Principle #4: Physical therapists shall demonstrate integrity in their relationships with patients/clients, families, colleagues, students, research participants, other health care providers, employers, payers, and the public.</p> <p>Principle #5: Physical therapists shall fulfill their legal and professional obligations.</p> <p>The Home Health Section believes that physical therapists are mandated to comply with CMS PPS 2011 requirements to follow their legal and professional obligation to practice physical therapy.</p> <p>Principle #6: Physical Therapists shall enhance their expertise through lifelong acquisition and refinement of knowledge, skills, abilities, and professional behaviors.</p> <p>Principle #7: Physical therapists shall promote organizational behaviors and business practices that benefit patients/clients and society.</p>

provide truthful, accurate, and relevant information, shall not make misleading representations, shall discourage misconduct by health care professionals and report illegal or unethical acts to the relevant authority, when appropriate.³ The EMR should reflect truthful, accurate and relevant information regarding the physical therapist's interactions with the patient. This includes such things as start and end times of home visits, and accurate descriptions of the interventions provided. Lastly, integrity is defined in the APTA's Professionalism in Physical Therapy: Core Values document as "steadfast adherence to high ethical principles or professional standards; truthfulness, fairness, doing what you say you will do, and "speaking forth" about why you do what you do."² Maintaining integrity with all relationships and with documentation by demonstrating honesty, truthfulness, and accuracy is critical to maintain professionalism and ensure regulatory compliance.

While physical therapists are bound by the Code of Ethics, home health agencies and EMR designers/software vendors should conform to their mission/vision statements that often contain the word(s) "integrity" and/or "honesty" or complementary words as part of their values and beliefs. An example of an EMR vendor's mission statement that uses "integrity" states, "We value and believe in honesty & integrity, corporate social responsibility, innovation with purpose, reliable excellence, and a positive outlook. The only measure of our success is the success of our customers."⁹

Compliance and integrity go hand in hand with respect to error correction documentation in the electronic medical record. The CMS has released

a transmittal specifically addressing this topic. The CMS transmittal 442 from December 2012, effective January 8, 2013, indicates that any changes to a medical record should indicate the original content as well as the changes, the clinician that made the changes, and the date and time of those changes.¹⁰ This transmittal makes the general statements that a medical record, "Clearly and permanently identify any amendment, correction or delayed entry as such, and clearly indicate the date and author of any amendment, correction or delay entry, and not delete but instead clearly identify all original content." It specifically states that an electronic health record (EHR) must "provide a reliable means to clearly identify the original content, the modified content, and the date and authorship of each modification of the record." If a required therapy reassessment is missed, it is unethical for physical therapists to recreate therapy reassessment documentation after the fact. A record may be amended, after the fact, if an oversight or inadvertent omission occurred, however, the original entries should be maintained. Creating replacement notes and discarding original notes is incongruent with professionalism and is unethical.

Case Scenario

A physical therapist completed a therapy reassessment visit two weeks ago and upon review of the record, the Therapy Director requests that the software vendor delete the visit and allow the clinician to "re-document" a better version of the reassessment with information that the therapist left out accidentally. Is this appropriate? No, medical records should not be deleted. The original documenta-

tion must be maintained according to recordkeeping principles found in the transmittal.¹⁰ One way to maintain the original record is by archiving the note and writing an addendum note with the new information including an explanation of the transaction. Alternately, the clinician could add an addendum to the original note with the updated information. Transparency is the key to integrity and compliance with this regulation. It would be unethical for an EMR vendor or home health agency to delete entries or modify the documentation without explaining the modifications.

Home health agencies are encouraged to create policies on time frames for corrections to the EMR, specifying when a correction is allowed to be made and by whom so that field clinicians cannot make changes without administrator support/assistance/approval with compliance to CMS transmittal 442. Agencies should create policies on procedure for obtaining electronic signatures of clinicians and the patients. Conformance to agency policy where regulations are silent demonstrates integrity and professionalism.

Principle #5 has a broad definition and states that physical therapists shall fulfill their legal and professional obligations. Physical therapists are mandated to comply with CMS PPS 2011 requirements to follow their legal and professional obligation to practice physical therapy. These obligations relating to home health physical therapy provision are clearly defined in the Medicare Benefit Policy Manual Chapter 7 that contains CMS' coverage requirements and regulations for home health services.⁵ Section 40.2 pertains to the requirements for skilled therapy ser-

Table 2. HITECH ACT. National Coordinator for Health Information Technology Duties⁷

Development of a nationwide health information technology infrastructure that allows for the electronic use and exchange of information and that—
(1) ensures that each patient’s health information is secure and protected, in accordance with applicable law;
(2) improves health care quality, reduces medical errors, reduces health disparities, and advances the delivery of patient-centered medical care;
(3) reduces health care costs resulting from inefficiency, medical errors, inappropriate care, duplicative care, and incomplete information;
(4) provides appropriate information to help guide medical decisions at the time and place of care;
(5) ensures the inclusion of meaningful public input in such development of such infrastructure;
(6) improves the coordination of care and information among hospitals, laboratories, physician offices, and other entities through an effective infrastructure for the secure and authorized exchange of health care information;
(7) improves public health activities and facilitates the early identification and rapid response to public health threats and emergencies, including bioterror events and infectious disease outbreaks;
(8) facilitates health and clinical research and health care quality;
(9) promotes early detection, prevention, and management of chronic diseases;
(10) promotes a more effective marketplace, greater competition, greater systems analysis, increased consumer choice, and improved outcomes in health care services; and
(11) improves efforts to reduce health disparities.”

VICES. “As described in section 40.2.1(b), at defined points during a course of therapy, the qualified physical therapist (instead of an assistant) must perform the ordered therapy service visit, assess the patient’s function using a method that allows for objective measurement of function and comparison of successive measurements, and document the results of the assessments, corresponding measurements, and effectiveness of the therapy in the patient’s clinical record.” The CMS requirement of including objective measurement of function and the repetition of the same objective measurements at specific time points during the episode of care was implemented in the PPS Final rule in 2011 section 40.2.1.b.1.ii and 40.2.1.b.1.iii which states that a qualified therapist must determine the effectiveness of the Plan of Care (POC), or lack thereof.⁵

Physical therapists should understand and comply with CMS regulations directly, but federal laws such as HIPAA and HITECH have regulations that physical therapists, agencies, and vendors must follow as well. The HITECH Act has regulations in federal law that relate specifically to electronic medical record systems. The HITECH Act has 11 duties charged to the National Coordinator for Health Information Technology. See Table 2. The regulations are to

ensure that patient health information is protected and secure which means that physical therapists, home health agencies, and EMR vendors put into place safeguards such as multiple passwords and encryption software to protect the data and for therapists to follow the policies and procedures created for protection of the medical records. Therapists should look to reduce health care costs by reducing medical errors, reducing inappropriate care or duplicative care, improving efficiency, and by providing all necessary data elements whenever documenting in the record. Therapists should provide appropriate information to help guide medical decisions. Therapists, home health agencies, and EMR vendors should look to use the EMR to improve the coordination of care and information among hospitals, laboratories, physician offices, and other entities through an effective infrastructure for the secure and authorized exchange of health care information.

According to principle #6, physical therapists shall enhance their expertise through lifelong acquisition and refinement of knowledge, skills, abilities, and professional behaviors. Physical therapists have an obligation and responsibility to advance their skills to properly use whatever documentation the organization that employs them has in place. The

organizations have a responsibility to adequately train their staff to the specifics of the EHR/EMR system that they use as well. Basic computer competencies for health care workers have been suggested by Technology Informatics Guiding Education Reform (TIGER) Initiative.¹² The competencies include basic computer skills, information literacy, and information management. Without these skills, a physical therapist is at a significant disadvantage in his or her ability to provide proper documentation on the EMR including formation of the assessment and POC. Physical therapists would also be limited in their ability to gather and interpret other professionals’ documentation that may be imperative for appropriate treatment planning and provision of services. It is the physical therapist’s professional responsibility to understand documentation requirements for their discipline and be able to integrate that knowledge into practice. A home health agency that provides training in use of new EMR systems and establishes competencies to assure itself of properly trained clinicians is providing a culture that supports professionalism.

Physical therapists should work together with home health agencies, EMR designers/software vendors, and other organizations involved in the home health industry for the purpose of pro-

moting practices that benefit patients/clients and society. Physical therapists should be active participants in facilitating and advocating for organizational behaviors and business practices that focus on the best care of patients/clients and society as a whole is congruent with and mandated by principle #7. Being an advocate for the patients, through organizational behavior, demonstrates the core values of professionalism as defined by the APTA.²

Physical therapists have the ethical obligation to be knowledgeable of federal, state, local laws, and CMS regulations that collectively includes standardized assessments, documentation requirements, billing requirements, coverage, and eligibility requirements. In the home health setting, the mandated assessment tool for use with patients having Medicare and Medicaid insurance is the Outcome and Assessment Information Set (OASIS). It is the professional responsibility of physical therapists practicing in home health to become competent in administering and documenting the OASIS assessment in the EMR thus adhering to principle #6, “physical therapists shall achieve and maintain professional competence.”

Competence in performing the OASIS assessment relies on an understanding of its purpose as a framework for a comprehensive assessment of an adult home care patient and the basis for measuring patient outcomes for purposes of outcome-based quality improvement.¹² The OASIS data are collected at specific time points in the episode following the CMS regulations for OASIS data collection. Overall, the OASIS items have utility for outcome monitoring, clinical assessment, care planning, and measuring compliance using process measures. An example of a process measure is the performance of a falls risk screen by the physical therapist doing a start of care visit.¹⁴ The results of the falls risk screen should prompt the clinician in determining an appropriate plan of care. The EMR vendors must include the OASIS items as part of the assessment templates. As with other parts of the assessment, the OASIS data must be collected with integrity and any changes or error correction must be clearly documented conforming to the CMS regulations provided in Transmittal 442.¹⁰

The scenarios below illustrate situa-

tions in which integrity and transparency in the context of federally mandated data collection may be challenged.

Case Scenario

The clinician performing the comprehensive assessment for the start of care (SOC) completes his or her documentation of the OASIS items and synchronizes the visit as completed. Upon review by the quality assurance department, two answers are changed without discussing these changes with the clinician who performed the SOC assessment. Is this appropriate? No. Only one person may complete OASIS data collection. Some items allow collaboration between clinicians. In the case of OASIS reviews for accuracy, changes that are made must be discussed and approved by the assessing clinician. Record of the changes and original documentation must be maintained.¹³ A home health agency is demonstrating integrity when OASIS reviewers contact the SOC clinicians before making any changes to the EMR. Additionally, the original entry will remain part of the record along with the addendum to reflect the reason for the change. The EMR vendors demonstrate integrity and professionalism when designing software systems that restrict changes to the EMR that follow CMS Transmittal 442.

CONCLUSION

Physical therapists, home health agencies, and EMR vendors are mandated to follow governmental regulations and are accountable for their actions in all dealings related to their practice. Professionalism dictates an obligation to demonstrating integrity and transparency in the electronic medical record. Physical therapy, as a doctoring profession, should strive to maximize professionalism and demonstrate accountability through self-regulation and actions in all dealings related to their practice using the code of ethics as a guide. Conforming to federal, state, local law, CMS regulations, and agency policy is key to demonstrating accountability and professionalism in the electronic medical record.

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GLOSSARY

Electronic Health Record (EHR): The aggregate electronic record of health-related information on an individual that is created and gathered cumulatively across more than one healthcare organization and is managed and consulted by licensed clinicians and staff involved in the individual's health and care. [National Alliance for Health Information Technology and National coordinator of Health IT (ONC)]

Electronic Medical Record (EMR): The electronic record of health-related information on an individual that is created, gathered, managed, and consulted by licensed clinicians and staff from a single organization who are involved in the individual's health and care. [National Alliance for Health Information Technology and National coordinator of Health IT (ONC)]

Health Information Technology for Economic and Clinical Health Act (HITECH Act) of 2009: The HITECH Act of 2009 provided for further promotion of the use of electronic medical record documentation with the establishment of incentive programs and included standardization of the EMR and the players involved in the process. Legislature enacted "to promote the adoption and meaningful use of health

information technology. The HITECH Act further clarifies the protection of health information that is addressed in the HIPAA Act. The Act defined the term, "Health Information Technology" which means hardware, software, integrated technologies or related licenses, intellectual property, upgrades, or packaged solutions sold as services that are designed for or support the use by health care entities or patients for the electronic creation, maintenance, access, or exchange of health information.

Health Insurance Portability and Accountability Act (HIPAA Act) of 1996: The Administrative Simplification provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) called for the establishment of standards and requirements for transmitting certain health information to improve the efficiency and effectiveness of the health care system while protecting patient privacy.⁴ HIPAA requirements initiated movement towards establishment and standardization of an electronic medical health record and electronic transactions related to billing.

Missed Visit: A visit that cannot be performed on the day it is scheduled and cannot be rescheduled before a new Medicare week starts.

Outcome and Assessment Information Set (OASIS): A CMS mandated assessment used in home health containing a group of standard data elements for Medicare and Medicaid patients.

Start of Care (SOC): The initial collection of data for patients beginning service with an agency.

Synchronization (Sync): The two-way process of transferring data between a mobile device and the electronic medical record platform.

Technology Informatics Guiding Education Reform Initiative (TIGER): formed in 2004 to bring together nursing stakeholders to develop a shared vision, strategies, and specific actions for improving nursing practice, education, and the delivery of patient care through the use of health information technology (IT).

Verified /Completed Visit: A visit that has been performed, properly documented, electronically signed and synchronized.



Dr. Kenneth L. Miller is a Clinical Educator for Catholic Home Care where he provides staff development, competency training and assessment, con-

tinuing education, orientation program development and training to the therapy staff using best practice and evidenced-based practice tools. He serves as a guest lecturer and adjunct teaching assistant in the DPT program at Touro College in Bay Shore, NY. He serves as chair of the Practice Committee of the Home Health Section (HHS) of the American Physical Therapy Association (APTA) and a member of the Practice Committee of the Academy of Geriatric Physical Therapy (AGPT) of the APTA. He is a member of the Editorial Boards of *GeriNotes*, the *Journal of Novel Physiotherapy*, and *Physical Medicine*. Additionally, he is a manuscript reviewer for the *Journal of Geriatric Physical Therapy*. He has authored numerous articles for the *Journal of Geriatric Physical Therapy*, *GeriNotes*, and *The Quarterly Report*. He is involved in providing evidence-based practice by being a sentinel reviewer for MORE Rehab through McMaster University. He has lectured at various National Conferences including the Combined Sections Meeting of the APTA and the Annual Conference of the National Association for Home Care and Hospice on a variety of topics including: objective testing, professionalism, interdisciplinary team modeling, osteoporosis and differential diagnosis of dizziness. He may be reached at kenneth.miller@chsl.org or kenmpt@aol.com.



Bud Langham, in his role as Chief Clinical Officer, is dedicated to ensuring that the company adheres to quality of care and best practice guidelines, ethical standards and protocols,

and home office standards. Bud works directly with the Executive Management and Senior Leadership Teams to develop appropriate interventions in response to quality and care management issues. Bud's goal is to promote clinical outcomes and impact those clinical outcomes through patient and employee education and process improvement. Bud and his wife Jill have been married for 14 years; they have 3 boys--Nathan Cole, 8 and Matthew Ryan, 6, and in 2013 welcomed Bennett Shai. Bud is an avid runner, reader, and golfer.



Vicki Landers is the Clinical Systems Coordinator at North Kansas City Hospital-Home Health in North Kansas City, MO. She is the owner of "50+ Fitness," a company that provides individualized fitness instruction for people over 50. Vicki provides continuing education

programs through private companies since 2007 teaching courses on strength training, home care, exercise program design, and documentation. Her career as a PT has included work in acute care, rehab, outpatient, wellness, and home care. Vicki received her bachelors in Health Science-Physical Therapy from University of Missouri in 1993 and her DPT from Boston University in 2007.



Dr. Elizabeth Budd is a home care therapist with a background in supervision, clinical education, documentation auditing, and navigating the Medicare Appeals process. She

may be reached at Elizabeth.budd@chsli.org.



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Introducing the *NEW* Academy SIGS!

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NEW! - Residency/Fellowship

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This SIG helps members to develop and apply research and knowledge, to promote, maintain, and preserve bone health through the life span, reduce age-related bone loss and fracture risk, and manage and treat bone loss, osteoporosis and fractures.

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CSM Academy Schedule Highlights

Pre-Conference Courses

Tuesday, February 3 (8am - 5:30pm)

Tai Chi Fundamentals Program Level One

Wednesday, February 4 (8am - 5:30pm)

Tai Chi Fundamentals Program Level Two

Interventions for Bladder Control to Improve Adult Rehabilitation Outcomes

Conference Meetings and Events

Thursday, February 5

6:30 - 8am GCS Breakfast
7 - 8am Balance and Falls SIG Meeting
8 - 10am PLATFORMS
8 - 10am Board Meeting 1
10 - 11am Health Promotion and Wellness SIG Meeting
6:30 - 9pm Member Meeting and "Academy" Awards

Friday, February 6

8 - 10am PLATFORMS
12 - 1pm Cognitive and Mental Health SIG Meeting
1 - 2pm Residency and Fellowship SIG Meeting

Saturday, February 7

6:30 - 8am Board Meeting 2
10 - 11am Bone Health SIG Meeting

To register, visit

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COMBINED SECTIONS MEETING OF THE
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Help us celebrate our NEW name and logo at CSM 2015 in Indianapolis!



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Tai Chi Fundamentals: Program Level One
Tuesday, February 3, 2015, 8 am – 5:30 pm
Presenter: Kristi Hallisy, PT, DSc, OCS, CMPT, CTI

Tai Chi Fundamentals: Program Level Two
Wednesday, February 4, 2015, 8 am – 5:30 pm
Presenter: Kristi Hallisy, PT, DSc, OCS, CMPT, CTI

**Interventions for Bladder Control to Improve
Adult Rehabilitation Outcomes**
Wednesday, February 4, 2014, 8 am – 5:30 pm
Presenter: Cynthia Neville, DPT, PT, WCS, BCS-PMD



Visit www.apta.org and click “Events” to register today!

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