This Issue

President’s Message: Who’s on FiRST

Editor’s Message: Managing the Post CSM Blues

CSM 2017 Program Update

CSM 2017 San Antonio, TX Was a Great Success

The Movement System Summit: Updates from the AGPT

The Effect of Early Shoulder Passive Range of Motion Exercise on a 60-year-old Male Following Arthroscopic Rotator Cuff Repair: A Worker’s Compensation Case Report

Highlighting a PTA

Revisiting the ICF Model Application in Clinical Education

AGPT Supports Travel to NCOA’s CDSME and Falls Prevention National Resources Center Meeting: Forging New Pathways to Growth and Sustainability
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>President’s Message: Who’s on FiRST</td>
<td>3</td>
</tr>
<tr>
<td>William H. Staples</td>
<td></td>
</tr>
<tr>
<td>Editor’s Message: Managing the Post CSM Blues</td>
<td>4</td>
</tr>
<tr>
<td>Meri Goehring</td>
<td></td>
</tr>
<tr>
<td>CSM 2017 Program Update</td>
<td>4</td>
</tr>
<tr>
<td>Sarah Ross, Mariana Wingood</td>
<td></td>
</tr>
<tr>
<td>CSM 2017 San Antonio, TX Was a Great Success</td>
<td>5</td>
</tr>
<tr>
<td>The Movement System Summit: Updates from the AGPT</td>
<td>9</td>
</tr>
<tr>
<td>Myles Quiben, Kathleen Kline Mangione</td>
<td></td>
</tr>
<tr>
<td>The Effect of Early Shoulder Passive</td>
<td>11</td>
</tr>
<tr>
<td>Range of Motion Exercise on a 60-year-old Male Following Arthroscopic</td>
<td></td>
</tr>
<tr>
<td>Rotator Cuff Repair: A Worker’s Compensation Case Report</td>
<td></td>
</tr>
<tr>
<td>Kelsey C. Yerkes</td>
<td></td>
</tr>
<tr>
<td>Highlighting a PTA</td>
<td>17</td>
</tr>
<tr>
<td>Revisiting the ICF Model</td>
<td>18</td>
</tr>
<tr>
<td>Application in Clinical Education</td>
<td></td>
</tr>
<tr>
<td>Kathryn Brewer, Megan Eikenberry</td>
<td></td>
</tr>
<tr>
<td>AGPT Supports Travel to NCOA’s CDSME and Falls Prevention National</td>
<td>21</td>
</tr>
<tr>
<td>Resources Center Meeting: Forging New Pathways to Growth and</td>
<td></td>
</tr>
<tr>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>Mindy Oxman Renfro</td>
<td></td>
</tr>
</tbody>
</table>

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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/Memoriam Fund is a wonderful expressive memorial.
Another wonderful CSM in San Antonio has been completed. The program directors, as usual, put together a great list of programming that were overwhelmingly received with many of the sessions “sell-outs”! The 40th anniversary of the Academy (Section) will occur at CSM 2018 in New Orleans and planning has already begun! Watch for upcoming details.

The inaugural meeting of FiRST took place just before CSM. Who or what is FiRST? FiRST stands for Frontiers in Rehabilitation, Science & Technology. FiRST is co-chaired by Steven Wolf, PT, PhD, and Colleen Kigin, PT, PhD. This group was assembled to put together a strategic plan for identifying and advancing our use of technology including regenerative rehabilitation, telehealth, genetics in physical therapy, and robotics. The group will be looking into applicable research, eventually developing Clinical Practice Guidelines for implementation leading to best practice outcomes. The group will be representing all Sections with a designated liaison. A follow-up meeting is planned for the NEXT conference in Boston, and tentatively a joint education session for all at CSM 2018. The focus will be on telehealth. Technology is advancing rapidly and most certainly it will be part of physical therapy practice in the future, if not already seen in your practice. As the profession incorporates more and more emerging technology into practice, we all need a better comprehension of how they will be used and understand the value they add to the delivery of care.

Technology will assist with the physical therapist management of the patient. There will most certainly be barriers that limit some technology, but if they can become cost-effective, assuredly they will be implemented by payers.

Another pleasure of being President is presenting awards to our Academy leaders and volunteers. President Awards were presented to Larry Hochreiter, PT, and Lucy Jones, PT, DPT, MHA. The prestigious Joan M. Mills Award was presented to Myles Quiben, PT, PhD. A special thanks to the three of them for all they have done and will continue to do for the Academy. I want to also thank all the other award winners, volunteers, Board members, and committee and SIG chairs for all the time they spend to make the Academy a great organization!

Lastly, I would like to congratulate the 2016 Florence P. Kendall and Research Grant recipients that were awarded by the Foundation. Congratulations to AGPT member Margaret Danilovich, DPT, PhD, Instructor of Physical Therapy and Human Movement Sciences at Northwestern University Feinberg School of Medicine, a recipient of the $40,000 AGPT Geriatric Research Grant. Her 2-year project titled, “Breast Cancer Impairment Knowledge Study” will compare health beliefs about breast cancer-related impairments and physical therapy to treat impairments between breast cancer survivors (BCS) and oncology specialists. They will also assess reasons for and referral patterns to physical therapy to manage impairments by breast cancer oncology specialists, and assess the relationship between oncology specialist impairments by breast cancer oncology specialists. Finally, she will assess the relationship between oncology specialist priorities of physical therapy referral and self-reported BCS impairments.
Ok, I’ll admit it. I had a bad case of the blues after CSM ended. San Antonio was beautiful and warm, and a nice break from the West Michigan winter. More importantly, I was able to see a lot of people I only get to see at CSM. In today’s world of electronic communication, there are many people I stay in touch with but hardly ever get to see. Hugs and handshakes are important. I received many and gave out more. Being around so many smart people at once is an incredible and empowering feeling. Since other people may have the post CSM blues as well, I decided to share my efforts to battle the blues.

First, I had to realize why I was on a short fuse at home and at work. For one, time spent at CSM put me a bit behind in my regular duties both at work and at home. But was that really the reason? My family and my employer are very supportive of my professional efforts. Was it the weather? Perhaps I am ready for spring? I typically enjoy the snow in West Michigan, so although it might have been a factor I didn’t think that was the whole reason for my sad demeanor. Finally, I realized that I really enjoyed the time at CSM with so much face-to-face communication, wonderful programming, and fantastic vendors. I started brainstorming on how to improve my face time with other professionals. Here are some things I came up with.

1. Initiate a journal club in my clinical work.
2. Invite my peers over to my home for an informal get together.
3. Find some kind of volunteer work that fits into my schedule.

Also, I decided that perhaps I needed to get healthier. I added these to my list.

4. Join some kind of exercise group rather than work out alone.
5. Try to get more sleep.

So, what worked and what did not? Well, the journal club is off to a very slow start. No one could really agree on the best time and most did not want to spend the extra time meeting outside of work. BUT, after some discussion, the manager at the clinic agreed that work time could be used for the club so we are still trying to make this happen. I was able to have friends over but the stress of having to clean my home before this could happen was more than I wanted. Everyone had a good time, and it did make me feel more connected. I have found a stroke club that can use volunteers, but they only meet once a month. For now, that is the only thing that works into my current schedule, but I am still seeking other opportunities. Sleep was again disturbed by the daylight savings time change, but I’m working on that adjustment. And I am managing to get more exercise, but not in a group format. Again, it seems to be a matter of finding the right group at the right time.

Take home message? I need to keep going to professional meetings and realize that the mental charge-up is good, but might not last. I will keep trying to do other things to stay involved and get healthier. And, I eagerly look forward to CSM 2018!
The Member Meeting at CSM is always a great time to thank our members for all they do for the Academy. Several AGPT members were recognized for their service as they leave their volunteer positions.

We recognized Ann Lowrey as she finished her term as PTA Advocate. Ann enthusiastically served from 2012-2016 and during her term she provided a wealth of PTA information to our members, including regular e-mail blasts. The committee is in good hands with incoming PTA Advocate, Jane Jackson.

We recognized Veronica Southard served very capably as our Nominating Committee Chair this past year. We thank Veronica for leading the committee and providing our members with a great slate of candidates to continue the work of the Academy.

We would like to thank Greg Hartley who ended his term as our Practice Committee Chair at CSM. For the past 10 years, Greg served tirelessly to re-structure and grow the Practice Committee with dedication and enthusiasm. He oversaw 4 standing subcommittees, the PT Now Portal Work Group, and countless other groups to share information. We also thank Greg for partnering with Ellen Strunk, our Reimbursement Chair for a recent webinar on New Evaluation Codes for 2017. Ellen said this of Greg, Greg has always been a champion of clinical excellence and advancing the practice of physical therapy. From his early days as a home health physical therapist, where he began collecting functional outcomes when it wasn’t “cool” to the present where he has transitioned into teaching. Greg has certainly touched the lives of many patients over the years and is shaping future physical therapists. There is no doubt, he will continue to do so by always advancing excellence in practice.

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Please join us in thanking Tamara Gravano, our outgoing Residency and Fellowship SIG Chair, a position she held since 2014. We thank Tamara for her energy and vision to form this new SIG and know the SIG is in good hands with Interim Chair, Mary Milidonis. Tamara joins the AGPT Board of Directors.

We recognized outgoing Director, Patty Brick for her service to the Academy. Patty served as our Director of Membership from 2015 thru CSM 2017 and was a great resource as the BOD liaison to the Membership Committee, the State Advocates, and the PTA Advocate. Under her leadership, we are happy to announce that we now have over 6,000 members! We are grateful for Patty’s thoughtful perspective on a multitude of Board issues. On behalf of the AGPT members and the Board of Directors, thank you Patty!

We welcomed in the following new officers:
- Ann Medley, PT, PhD, CEEAA—Secretary (2nd term)
- Tamara Gravano, PT, DPT, GCS, CEEAA—Director
- Ellen Strunk, PT, MS, CEEAA, CHC—Delegate
- Carleen Lindsey, PT, MSc, GCS—Nominating Committee

SIG OFFICERS:
- Balance and Falls SIG Nominating Committee—Anne Reilley, PT, DPT
- Cognitive and Mental Health SIG Vice Chair—Christy Ross, PT, DPT, GCS, CDP, MSCS
- Cognitive and Mental Health SIG Secretary—Grace Knott, PT, GCS
- Cognitive & Mental Health SIG Nominating Committee—Michele Stanley, PT, DPT, GCS, CEEAA
- Health Promotion & Wellness Vice Chair—Gina Pariser, PT, PhD, LDE
- Health Promotion & Wellness Nominating Committee—Harold Merriman, PT, PhD, CLT

We also honored 3 very special members with President’s Awards and the prestigious Joan M. Mills Award!

The Joan M. Mills Award recognizes a member who has demonstrated, over many years, a high level of competence in meeting the needs of the Academy. The Academy is proud to honor Myles Quiben’s long-standing dedication and leadership with the 2017 Joan M. Mills Award.
One of her peers had this to say: “Myles is that rare gem. She’s a brilliant academic, a poised speaker and teacher, and a thoughtful and pragmatic leader in the AGPT. She often brings fresh creativity to Academy projects and is highly resourceful. I’ve had the pleasure of working with her during her tireless efforts to enhance education offered by the AGPT, and in her collaboration with the Practice Committee in linking educational offerings to GCS prep, PTA Advanced Proficiency, and residency education. Teaching with her in the CEAA series is always a joy. I respect and admire her immensely. Congratulations Myles!”

The Academy of Geriatric Physical Therapy President’s Award recognizes individuals who have provided outstanding service while fostering the mission of the Academy. The President relies on support, advice, dedication, and enthusiasm from others committed to advancing the goals of the Academy. This year’s winners of the President’s Award have generously contributed their time and talent in many ways. Please congratulate Lucy Jones and Larry Hochreiter as this year’s winner of the President’s Award.

OUTSTANDING PTA

Celeste Dunlop was awarded the Outstanding PTA Award. She has over 30 years of clinical experience working with older adults in a variety of settings. She stands out in her work at the Adult Day Health Care (ADHC) program for Casa Colina Hospital and Centers for Healthcare. During her tenure at ADHC, she has been known for elevating levels of practice to keep older adults from premature out of home placement, enhancing mobility, and improving general health and wellness of the older adults she serves. She created a Senior Olympics at ADHC that has become a month-long event held yearly. She recognized issues caused by decreased vision and developed a large print library for home exercises and home safety tips. Outside of the workplace, Celeste has been a guest speaker for various programs, has served on Adult Protective Services Annual Educational Conference Committee, and is the AGPT State Advocate for California. Most recently, this outstanding PTA has begun engaging in collaborative and research in the areas of health literacy, return to driving following TBI, and quality of life measures.

VOLUNTEERS IN ACTION

The Volunteer in Action Award winner, Margaret Holt, has a passion for fall prevention. She is the founder and chief organizer of the Stay Steady Event, which began in 2013. During the initial year, 25 clinicians were recruited by Margaret resulting in 169 community-dwelling older adults receiving fall screens. However, in just 3 short years, 59 clinicians, recruited by Margaret, screened 412 community dwelling adults, a 144% increase. As a result the Stay Steady event has become one of the most successful Fall Prevention Awareness Month programs in the country. Her tireless recruitment of volunteers and participants through a variety of means has led to the success of this program. According to Angela Smith-Dieng, Director of the Vermont State Unit on Aging, Margaret demonstrated fall screening on live TV, reaching approximately 30,000 older adult viewers increasing impact of the program. In addition to her efforts in screens, she educates others on OTAGO exercises and
serves on the Vermont Falls Free Coalition. Her tireless efforts are improving quality of life for older adults.

**CLINICAL EDUCATOR**

Grace Ademski is the Clinical Educator Award winner this year. She is an outstanding clinical educator who has supervised 150 students while working at the Neurologic and Older Adult clinic at the University of Delaware. She does this with a passion for promoting excellence in the care of the patient who is geriatric. To ensure quality clinical education, she is certified as a clinical instructor, has taken the advanced clinical instructor course, and is a geriatric certified specialist. All of her support writers emphasized her love for enhancing geriatric physical therapy and her dedication to modeling excellence to those she mentors. Grace has transitioned her passion for mentorship into residency programs, lately becoming the co-director of the geriatric and neurology residencies at the University of Delaware. Her collaboration and role model abilities is known to be priceless to the residency students.

**DISTINGUISHED EDUCATOR**

The Distinguished Educator award winner is Dr. Nicole Dawson from the University of Central Florida. Dr. Dawson is immersed in educating physical therapy students about geriatric care through her 2 courses and service learning opportunities that involve older adults. In the classroom, she uses innovative techniques to engage students. Her support letters provided an example of an assignment where students interview older adults about life experiences, health status, and favorite food. The outcome of the assignment is diminished pre-existing biases that students may have but not recognize. Dr. Dawson goes outside of the classroom to further knowledge in the practice of geriatric physical therapy through her numerous research and peer-reviewed presentations, book chapters, and executive reports. She actively engages students and herself in regular community service activities that include Walk to End Alzheimer’s, National Fall Prevention Day, and Brain Fitness Club, etc. Her students were supportive of her nomination stating “Before Dr. Dawson joined the UCF DPT team, only a few select students were interested in practicing in the field of geriatric physical therapy because many were turned away by the complexity of these cases often presented. However, due to her engaging and dynamic teaching style and her evident passion for older adults, now countless students have demonstrated an interest in learning more about and caring for geriatric patients.” In addition to her support letter writers, there was a petition signed by 29 students in support of her receiving this award.

**CLINICAL EXCELLENCE**

William Dieter is the 2017 Clinical Excellence Award winner. Despite graduating from physical therapy school only 6 years ago he is the Director of PT Clinical Services and Director of Residency for Fox Rehab. During the past 6 years, William has obtained his geriatric specialist certification, has presented in various arenas, and engaged in research projects. He is credited with improving the delivery of physical therapy services at Fox Rehab, leading the residency program successfully through re-accreditation, and increasing the number of residents accepted at Fox. He exemplifies excellence in clinical care and strives to promote excellence in others as well.

**Student Brochure Contest:**
- 1st Place – Stroke Risk Factors and Prevention by Mary Okine, University of South Dakota
- 2nd Place – Exercise with HEART by Anna Bauer, Kenneth Goodwin, Cortney Sutherland, and Brian Tang, University of North Florida
- 3rd Place – Urinary Incontinence by Jenna Danish, Stevi McQueen, Abby Sculati and Nina Solimeno, University of North Florida
- Honorable Mention – Weathering Dementia by Laura Finch and Sara Nungester, University of Evansville

**Student Membership Winners:**
Bethany Uhl, SPT, and Jeremy Oller, SPT

Congratulations to the following Academy members who received Research Awards from Research Chair, Jessie Van Swearingen and President, Bill Staples.

**Student Research Award**

Wesley Farrington, PT, DPT

**ADOPT-A-DOC AWARDS**

Peter Coyle, PT, DPT, for completing his PhD in the Biomechanics and Movement Science at the University of Delaware; focus of his work is the presence of persistent pain and pain provo-
cation influence on energetic efficiency and capacity of older adults including physical activity in daily life.

Jason Falvey, PT, DPT, GCS, for completing his PhD in Rehabilitation Science, University of Colorado-Denver, Aurora, Colorado; topic of his work is in relation of physical function and hospitalization in older adults in the both post-acute and long-term care settings.

Fellowship for Geriatric Research awarded to Brian Loyd, PT, DPT, for his work on a PhD in Rehabilitation Science, University of Colorado-Denver, Aurora, Colorado; the focus of this work is comprehensive assessment of swelling about the knee after total knee arthroplasty in older adults using Bioelectrical Impedance Spectrometry to enhance the recognition and management of the postsurgery inflammation.

EXCELLENCE IN RESEARCH

Jennifer Blackwood, PT, PhD, GCS, “Screening for Cognitive Impairment as a Part of Falls Risk Assessment in Physical Therapist Practice”

The Awards Committee would like to thank all of the nominees and their supporters for the 2017 nominations. Please consider honoring someone who is doing extraordinary work in geriatric physical therapy by nominating him or her for the 2018 awards. Please see the AGPT website https://geriatricspt.org/awards/ for description of Academy awards and nomination requirements.

Congratulations to our 2017 AGPT Award Winners
In December 2016, approximately 100 physical therapists (PTs) representing academies/sections, chapters, and components came together for a 2 ½ day conference in Alexandria, VA to discuss the “movement system.” The Movement System Summit continues the work of 2 prior APTA movement system task forces and was developed in response to APTA’s new vision statement: “Transforming society by optimizing movement to improve the human experience.” Central to the discussion was the concept that the movement system shapes the identity of the profession, such that if all PTs are recognized by the public, patients, health care colleagues, and other stakeholders as movement system experts, what changes might we see in the profession? The primary goal for this Summit was to develop an action plan for integrating movement system concepts into physical therapist practice, education, and research.

A brief summary of the 5 sessions from the Movement Summit is presented followed by a discussion of how this move towards promoting and adopting the movement system applies to the care of older adults.

**Session 1: Why are we here and what do we hope to achieve?** The first guiding principle of the vision was reviewed: “identity,” which states that the physical therapy profession will define and promote the movement system as the foundation for optimizing movement to improve the health of society. The “movement system” was defined during this meeting to represent “the collection of systems (cardiovascular, pulmonary, endocrine, integumentary, nervous, and musculoskeletal) that interact to move the body or its component parts.” (APTA Movement Summit)

We discussed PTs unique perspective on purposeful, precise, and efficient movement. Central to our identity is the examination of the movement system and movement-related interventions to improve movement performance during functional, meaningful tasks.

**Session 2: What is our understanding of the movement system?** A presentation from Cindy Zadai, PT, DPT, MS, reviewed the steps and controversies that led us to the Summit. We attempted to identify the relationship of the movement system language to the current language of the ICF, the Patient/Client Management Model in the Guide v3.0, and the APTA House of Delegates position statements.

**Session 3: What essential components of movement analysis should be included in our examination?** Presentations were made by Chris Powers, PT, PhD, and Patty Scheets, PT, DPT, MS, demonstrating the benefits of using movement analysis to guide examination and interventions. Contrasts between technology-based approaches and pattern matching of movements in electronic medical records were highlighted. Both speakers agreed that movement analysis preceded impairment testing. A review and discussion was done of participant survey results that examined the fundamental movements or activities that would be expected components of the movement analysis and should be included in the assessment of movement performance. We further discussed aspects of these activities that would be included in our movement system analysis. For example, we discussed PTs should be able to assess or at least “match” and/or recognize the movement patterns associated with rolling, supine-to-sit transfers, locomotion, getting up from the floor, etc.

**Session 4: What is a movement system diagnosis?** Presentations were given by an MD (Jonathan Braman) and PT (Paula Ludewig) who worked together in research and practice, and collectively agreed the patho-anatomic diagnosis of shoulder impingement may be misleading, and in fact, inaccurate. A discussion on the criteria for movement system diagnostic labels followed. The proposed criteria for these labels included the: (1) use of movement-related terms to describe the condition or syndrome of the movement system; (2) inclusion, if deemed necessary for clarity, the name of the pathology, disease, disorder, anatomical or physiological term or symptom associated with the diagnosis; (3) label to be as succinct and concise as possible to improve usefulness; (4) the label could be used across health conditions.

**Session 5: How do we integrate the movement system into practice, education, and research?** Presentations representing practice (Mike Voight), education (Barbara Norton), and research (Edee Field-Fote) were made. An action plan for the integration of the movement system into practice, education, and research was discussed and edited.

So what does this summit mean for the AGPT specifically? The Summit was one of the first strategies in re-igniting the movement system-based identity of the physical therapist. The APTA presentations and future publications from the Summit will be developed to further the promotion of the movement system. Some
components/academies have begun the discussion on how the movement system applies to specific populations and were presented at CSM 2017. We, in geriatrics, are just beginning to examine how the integration of the movement system applies to the care of older adults.

We know that with aging comes changes in how we move and that there is much variability in how older adults move. How much of these age-related changes influence the movement analysis you perform as PTs? Should age be a factor to consider in the movement examination? What key tasks should we examine in older adults? There is much to learn and much to discuss in how the adoption of the movement system will impact our practice in geriatrics. With support from the AGPT Board of Directors, we will begin the discussion to explore how to promote the movement system in the examination and interventions for the aging adult. A proposal for CSM 2018 has been developed to begin the discussion of the movement system specific to geriatric physical therapy. Keep a close eye on future endeavors on the movement system from the AGPT!

Kathleen Kline Mangione is a Professor in the College of Health Sciences at Arcadia University; her clinical and research career has focused on working with older adults across all practice settings. She is currently Site Principal Investigator on a multicenter trial with a team of investigators from the University of Maryland, Dartmouth, and the University of Connecticut funded by the National Institute on Aging, NIH. Dr. Mangione is a co-investigator on NIH and VA grants with colleagues at the University of Colorado, Denver examining interventions for frail older adults after hospital discharge; and a consultant on a PCORI grant examining care for patients with cognitive vulnerability at the University of Connecticut. Dr. Mangione has given numerous invited and scientific presentations on topics of exercise and the older adult, hip fracture, and frailty. She attended the Movement Summit as the AGPT representative.

For more information regarding the Movement System Summit, visit www.apta.org/movementsystem/summit

Myles Quiben is an Associate Professor at the University of North Texas Health Science Center and practices at Baylor Institute of Rehabilitation in Fort Worth, TX. She is nationally active, serving on the Board of Directors for the Academy of Geriatric Physical Therapy, as an APTA CI Trainer and as an Advanced Item Writer for the FSBPT, with prior service to American Board of Physical Therapy Specialties. With a passion for teaching, she has presented nationally and internationally on geriatric and neurologic physical therapy. Myles is a Fellow of the APTA Educational Leadership Institute (ELI) and is a Tom Waugh Leadership Fellow of the Texas Physical Therapy Association. Myles attended the Movement Summit as a member of the Academy of Neurologic Physical Therapy Movement System Task Force and presented their initial work at CSM 2017.

Kathleen Kline Mangione is the proud recipient of the 2017 Premier Partner in Research Award from the Foundation for Physical Therapy. The award will be presented on Thursday, June 22 in Boston, MA at APTA’s Next Conference & Exposition.
The Effect of Early Shoulder Passive Range of Motion Exercise on a 60-year-old Male Following Arthroscopic Rotator Cuff Repair: A Worker's Compensation Case Report

Kelsey C. Yerkes, DPT

BACKGROUND AND PURPOSE

The prevalence of full-thickness rotator cuff tears in the general population has been estimated between 22.1% and 23%.1,2 The majority of these lesions are initially asymptomatic and detected in individuals over the age of 60.3,4 Arthroscopic rotator cuff repair is often necessary to restore shoulder strength, mobility, and function in this demographic. Even with significant advances in surgical medicine, the postoperative rotator cuff repair failure rate remains between 7% and 41% as reported by a recent systematic review.4 Traditional postoperative rotator cuff repair rehabilitation has employed early passive range of motion (ROM) with the intent to reduce the risk of joint stiffness and accelerate restoration of functional shoulder mobility. Recent research has questioned this approach, citing electromyography findings that suggest passive ROM may compromise tendon to bone healing and thus increase postoperative failure rates.5 However, a recent meta-analysis by Chan et al reported no significant difference in functional outcomes, shoulder mobility, or postoperative rotator cuff tear rate when implementing either the early or delayed rehabilitation protocol.6 The exclusion criteria applied by the majority of studies within this meta-analysis highlights a relative lack of understanding regarding the functional outcomes in patients with advanced age (> 55 years) and workmen’s compensation status following arthroscopic rotator cuff repair with an early passive motion protocol.

This gap in literature is alarming given the United States Department of Labor is projecting a 36.5% increase in workers age between 55 and 64 by 2016.7 Lack of research regarding the functional outcomes in this demographic can potentially jeopardize individual and national livelihood.7 A recent systematic literature review by Fermont et al strongly suggests advanced age (> 55 years) negatively impacts functional recovery time, tendon to bone healing rates, and postoperative quality of life reports following arthroscopic rotator cuff repair.8 A total of 10 retrospective or prospective cohort studies were included in this review, which assessed the functional outcomes of 1,564 individuals’ age 28 to 83 years who underwent arthroscopic repair for a full-thickness or partial thickness rotator cuff tear.8 Several explanations were presented to support this correlation, including decreased tissue healing capacity, reduced muscle power, deficits in joint ROM, and an increased likelihood to have additional medical comorbidities.

Furthermore, a prospective study of 125 patients following arthroscopic rotator cuff repair suggests worker’s compensation status is an independent predictor for worse functional outcomes at 1 year postoperatively.9 Additional factors that intensified this correlation included increased work demands, low marital rates, and high preoperative expectations.9 Unfortunately, despite the high prevalence of full-thickness rotator cuff tears in the employed, older adult population, there is no clear consensus on the best rehabilitation protocol after arthroscopic rotator cuff repair. Therefore, the purpose of this case report is to expand upon previous literature to determine the effectiveness of an early passive motion protocol on functional outcomes in a 60-year-old male with an active worker’s compensation claim following arthroscopic rotator cuff repair.

HISTORY AND SYSTEMS REVIEW

The patient was a 60-year-old male nurse who originally reported onset of left shoulder symptoms 1 year prior to the highlighted episode of care. Per patient report, additional medical attention was not sought at this time as symptoms were effectively alleviated with activity modification and rest of the involved extremity. Eleven months following the initial injury, the patient was involved in a work-related accident while lifting overhead with bilateral upper extremities at which time he reported severe left shoulder pain. Medical diagnostics and shoulder ultrasonography confirmed a full tear of the distal left supraspinatus tendon. The patient subsequently underwent outpatient arthroscopic rotator cuff repair with a double-row fixation technique. The double-row arthroscopic procedure is completed using a minimally invasive portal site through which a row of sutures is placed at the articular margin and another lateral to the rotator cuff footprint.10 No surgical complications or anomalies were reported by the orthopedic surgeon. The initial physical therapy evaluation was conducted at one day postoperative with the patient describing constant, sharp left shoulder pain. No significant past medical history was reported by the patient or documented within additional medical forms. Increased pain in combination with marked deficits in left shoulder mobility and strength contributed to severe limitations in his activities of daily living (ADLs). At the time of initial evaluation, the patient was unable to safely complete work-related activities and had an active worker’s compensation claim.

Examination of the integument revealed three 1 cm incisions on the anterior, lateral, and posterior portions of the left shoulder consistent with arthroscopic rotator cuff repair. The incision sites appeared slightly raised and irritated with no evidence of infection noted. The patient reported pain upon light palpation of the incision sites and surrounding area. The cardiopulmo-
The neuromuscular examination was unremarkable for deficits in myotomal or dermatomal innervations from C3-T1. The patient presented with marked limitations in gross left shoulder passive ROM with significant guarding noted throughout. Left shoulder active ROM was unable to be assessed at the time of initial evaluation secondary to physician protocol designed to protect the surgical site. Mobility of the unaffected extremity was found to be within functional limits.

**EXAMINATION**

**Tests and Measures**

The patient’s shoulder range of motion, strength, and self-reported functional disability were assessed to identify deficits that may contribute to activity limitations and participation restrictions. Measurement of bilateral shoulder ROM was conducted using a standard goniometer to assess joint mobility and integrity. Frontal, sagittal, and transverse plane passive shoulder motions were measured that revealed marked restrictions in all shoulder planes of motion. Per surgical protocol, active left shoulder ROM was not measured until postoperative week 4 so as to protect the surgical site. Goniometer measurement guidelines and placement were adapted from Reese and Bandy.\(^{11}\) Intra-rater reliability for shoulder goniometric measurements is reported between .87 and .99 with interrater reliability range between .26 and .90.\(^{12,13}\) While the validity of goniometric measurements in the shoulder is unremarkable, a recent study by Cools et al states goniometry is acceptable in the clinical setting for quantifying change in joint range over time.\(^{14}\)

Manual muscle testing (MMT) was used to quantify muscle strength and assess treatment effectiveness.\(^{14,15}\) Manual muscle testing of the left shoulder was performed in gravity eliminated positions until postoperative week 4 when shoulder active ROM was permitted by surgical protocol. Specific patient positioning and MMT grading scale can be referenced in Hislop.\(^{16}\) Decreased operative shoulder strength was noted at initial evaluation as can be referenced in Figure 1. Manual muscle testing has been recommended for clinical diagnosis and treatment of neuromusculoskeletal dysfunction.\(^{17}\) The result of a systematic review of over 100 peer-reviewed studies establishes the inter-rater reliability of MMT between 86% and 97% and test-retest reliability between 96% and 98%.\(^{17}\) However, it is important to note that examiner clinical experience and consistent application of standardized protocol were paramount to MMT reliability.\(^{17}\) Furthermore, a study by Brookham et al in 2010 used electromyographic data to confirm MMT can effectively isolate rotator cuff muscle.\(^{19}\) These results suggest MMT is an acceptable clinical tool for quantifying isolated rotator cuff muscle strength when tested by the same clinician throughout the episode of care.

The Disabilities of the Arm, Shoulder, and Hand (DASH) was used as a multifactorial functional outcome to monitor changes in the subject’s shoulder symptoms and functional disability over time. In this 30-item self-report questionnaire, the patient is asked to rate a series of functional questions on a scale of 0-100 (0 corresponding to minimal disability and 5 corresponding to severe disability).\(^{18}\) The overall DASH score is then calculated through a summation of the ranked responses that is computed to reflect a percentage score between 0 and 100.\(^{19}\) A higher score correlates to an increased report of disability related to upper extremity impairment. The subject’s functional progression, as reflected by the DASH, can be seen in Figure 2. A systematic review by Bot et al cited the DASH as having good construct validity through comprehensively measuring the domains of physical, emotional, and social disability.\(^{20}\) Additionally, the DASH was recommended for clinical evaluative purposes secondary to positive test-retest reliability (ICC > .70), absence of floor or ceiling effects, and high correlation with other shoulder outcome measures including the Shoulder Pain and Disability Index, American Shoulder and Elbow Surgeons Shoulder Score, and FOTO overall score ranges from 0-100 with higher scores associated with improved subjective health status.\(^{22}\) DASH overall score reflects a percentage between 0-100 with higher scores associated with increased report of upper extremity functional disability.\(^{18}\) Passive shoulder range of motion reported based on reference values for normal joint range of motion: shoulder flexion (0-180 degrees), shoulder abduction (0-180 degrees), shoulder ER (0-90 degrees).\(^{11}\) Measurement of bilateral shoulder PROM was not measured until postoperative week 4 so as to protect the surgical integrity. Frontal, sagittal, and transverse plane passive shoulder motions were measured that revealed marked restrictions until postoperative week 4 when the patient’s shoulder range of motion over time.14

**Figure 1.** Shoulder strength gains following 7 weeks of postoperative physical therapy.

**Figure 2.** Progression in shoulder PROM and self-reported functional disability following 7 weeks of postoperative physical therapy using early motion protocol.
the Simple Shoulder Test \( (r > .70) \).\(^{18,20}\)

In 2004, a prospective study by Schmitt and Di Fabio suggested a 12.75 point change in the DASH score is required to suggest a minimally significant clinical change.\(^2^1\)

The Focus on Therapeutic Outcomes (FOTO) is a computerized adapted, 37-item patient-reported outcome scale that formulates shoulder specific questions from the Flexilevel Scale of Shoulder Function instrument.\(^2^2\) The patient is asked to rate his or her perceived capability of completing highlighted functional tasks on a scale of 5 levels: (1) “I can’t do this,” (2) “Much difficulty,” (3) “Some difficulty,” (4) “Little difficulty,” and (5) “No difficulty.”\(^2^2\) The computerized algorithm then calculates the patient’s functional status, which is defined as, the patient’s perception of his or her physical status and health condition as it relates to the abilities to perform daily functional tasks using the affected arm.\(^2^2\) The overall score ranges from 0 to 100 with higher scores associated with improved subjective health status. Figure 2 highlights the subject’s self-reported functional status progression following 7 weeks of postoperative physical therapy. Hart et al reported that the shoulder function measures assessed using a computerized adaptive test were highly correlated with traditional shoulder function questionnaires \((r = .96)\).\(^2^3\) Internal consistency is high \((\text{Cronbach’s } \alpha = .93 - .97)\) as reported in a study completed by Wang et al.\(^2^2\) The MDC\(_{95}\) was calculated using the standard deviation \((14.84)\) and 95% confidence interval.\(^2^2\) It was determined the MDC\(_{95}\) for patients with shoulder specific impairments is 10.88 units.\(^2^2\)

**ASSESSMENT**

The physical therapy diagnosis included impaired joint mobility, muscle strength, and ROM secondary to arthroscopic rotator cuff repair. These impairments contributed to difficulties completing basic activities of daily living and recreational activities as required by the subject’s role as a nurse and father. At the time of initial examination, the patient was unable to return to work and had an active worker’s compensation claim. Several positive prognostic factors were subjectively reported by the patient including increased motivation to participate in skilled rehabilitation, normal preoperative shoulder ROM, absence of medical comorbidities, and a strong social unit.\(^8\) Additionally, a prospective study assessing patient self-reported satisfaction at 1-year postoperative arthroscopic rotator cuff repair highlights a 94% satisfaction rate using an early motion therapy protocol.\(^2^4\) However, several studies have reported poor functional outcomes following arthroscopic rotator cuff repair in patients over age 55 and with an active worker’s compensation claim.\(^8,9\) Due to these negative prognostic factors, the patient’s prognosis was classified “good” as opposed to “excellent.” Physical therapy goals focused on restoring functional left shoulder passive and active ROM, improving generalized shoulder strength, and decreasing subjective report of disability as reflected through an increased FOTO score.

The interventions emphasized early initiation of passive ROM exercise in postoperative week 1 to decrease the risk of postoperative stiffness and accelerate restoration of functional shoulder ROM. Interventions were progressed throughout the episode of care to include active assisted and active shoulder range of motion as the patient demonstrated improved upper extremity strength and motor control. Specific intervention progression can be referenced in the Appendix. The patient’s shoulder ROM, strength, and self-reported functional disability were reassessed at postoperative week 3.5 and week 7.

**INTERVENTIONS**

This retrospective case report highlights 7 weeks of postoperative physical therapy immediately following arthroscopic rotator cuff repair. The subject participated in therapy 3 times per week for a total of 21 sessions. The interventions performed during postoperative weeks 1 through 7 are summarized in the Appendix with clinical rationale of the most pertinent exercises included below.

Range of motion was emphasized throughout the episode of care to monitor the degree and quality of operative joint motion. The first phase of postoperative rehabilitation (Weeks 1-4) focused on the restoration of shoulder passive and active assisted ROM followed by a progression into active shoulder ROM exercises. These were initially performed with the patient in an antigravity position with the operative elbow in flexion in order to decrease the lever arm and thus reduce forces through the glenohumeral joint. Operative hand and wrist active ROM exercises were also incorporated into the first phase of rehabilitation in order to reduce muscle atrophy, improve vascularity of the operative extremity, and reduce the risk of muscle contractures. As referenced by Magee et al, ROM interventions were performed in the subject’s painfree range with slight overpressure provided to determine an end feel.\(^2^5\)

Scapular stabilization was initiated in postoperative week 4 with prone scapular retraction and progressed week 7 to incorporate serratus anterior strengthening through wall slides and prone serratus punches. The subject was provided verbal and tactile cueing during each exercise in order to maintain a neutral spine and to minimize upper trapezius contribution during scapular retraction. Incorporation of scapulothoracic muscle strengthening was deemed important in this postoperative protocol in order to restore normal scapulohumeral rhythm.

Rotator cuff isometric exercises were initiated in postoperative week 2 to enhance dynamic stabilization of the glenohumeral joint with minimal activation of the deltoid muscle. Strengthening of the rotator cuff musculature was necessary to provide a counterforce to deltoid muscle activation and reduce the degree of superior humeral head migration towards the surgical repair site.\(^2^5\) Shoulder external rotation strengthening was initiated in week 2 using assistance from the nonoperative extremity and progressed to active strengthening in week 7. These exercises were performed in a sidelying position with 0° shoulder abduction, consistent with a prospective study by Reinold et al that reported a maximum voluntary isometric contraction of the infraspinatus and teres minor in this position.\(^2^6\) Strengthening exercises performed at 90° of abduction were avoided during this episode of care in order to protect the surgical site through reducing supraspinatus muscle contraction.\(^2^6\)
As pain was a main contributor to the patient’s functional deficits, inter-ferential current with cryotherapy was performed at the end of all treatment sessions in order to modulate pain symptoms. Four channels were arranged surrounding the operative glenohumeral joint with direct placement avoided on the healing surgical portal sites. The patient was educated on proper cryotherapy application including frequency and duration as referenced by Cameron, in order to alleviate pain symptoms at home.27

A home exercise program was initiated at the first treatment session to restore operative shoulder passive mobility. The exercises initially included Codman’s pendulums, T-bar assisted passive shoulder flexion in supine, and T-bar assisted passive shoulder external rotation in supine. The patient was recommended to perform the exercises once per day with instruction to stop if he experienced increased pain symptoms. Per surgical protocol, the patient’s operative shoulder was immobilized in a sling held in approximately 30° of abduction until postoperative week 4. The patient was instructed to wear the abduction sling at all times to protect the operative site, support supraspinatus microvascular blood flow, and facilitate tendon to bone healing.28 After discontinuation of the sling, the patient was encouraged to increasingly use the operative arm for functional tasks with instruction to avoid active reaching and movements, which increase pain symptoms.

OUTCOMES

Following 7 weeks of postoperative physical therapy with an early passive motion protocol, the patient made significant functional gains as suggested by improvement on the FOTO and DASH scores. Referring to functional outcome scores at initial evaluation, the patient achieved a 36-point increase on the FOTO (7 to 43 points) and 27.3 point improvement on the DASH (93.2 to 65.9 points). The degree of each score improvement exceeds the minimal detectable change established for the FOTO (10.88 points22) and DASH (12.75 points23). As measured within the FOTO, the subject reported decreased difficulty with dressing, personal hygiene, below overhead reaching activities, and a decreased self-report of fear associated with physical activity (26 points to 61 points). Furthermore, goniometric shoulder measurements performed at the end of postoperative week 7 revealed substantial improvements in operative shoulder mobility. Figure 2 illustrates the relationship association between shoulder mobility and functional outcome scores through the episode of care.

DISCUSSION/CONCLUSION

This case report highlighted the integration of an early passive ROM protocol for the postoperative rehabilitation of a 60-year-old male worker’s compensation patient following arthroscopic rotator cuff repair. While previous published studies suggest no significant difference in functional outcomes using either an early or delayed passive motion protocol, the effectiveness of early passive motion is not clear in patients of advanced age (> 55 years) with an active worker’s compensation claim. The subject described in this case report demonstrated significant improvements in operative extremity strength, mobility, and reported decreased functional disability following 7 weeks of postoperative rehabilitation. Furthermore, no evidence of operative joint stiffness, postoperative infection, neurological complications, or radiological evidence of rotator cuff re-tear was noted within the highlighted episode of care. These results contribute to previous literature suggesting patients of advanced age and worker’s compensation status can benefit from postoperative arthroscopic rotator cuff rehabilitation using an early passive motion protocol.

While the results of this retrospective case report do not offer any evidence suggesting early passive motion negatively impacts functional outcomes in high risk patient populations, there remains controversy regarding the optimal initiation of passive joint motion in the arthroscopic rotator cuff rehabilitation protocol. Of note, early passive motion was traditionally implemented by surgeons performing open and mini-open surgical techniques in an attempt to reduce the risk of joint adhesions and contractures postoperatively. However, as advances in surgical medicine have led to less invasive arthroscopic rotator cuff repairs, the risk of postoperative joint adhesions is markedly reduced. Moreover, it is suggested that while a delayed motion protocol increases the risk of early operative joint stiffness,29 patients achieved similar functional and clinical outcomes regardless of physical therapy protocol.36 Interestingly, a meta-analysis by Chang et al noted that use of an early passive motion protocol was correlated with a significant increase in recurrent tear rate among patients with large (>3 cm), full-thickness rotator cuff tear.39 When combined, the established negative prognostic factors of advanced age and worker’s compensation status, it raises the question whether the absolute risk associated with an early passive motion protocol is clinically appropriate for high risk populations.53 Patients age 60 to 65 are likely to have significantly prolonged recovery time and reduced bone to tendon healing rates associated with decreased tissue healing capacity and vascularity, as reported in a systematic review by Fermont et al. In addition to this age-related decrease in tendon vascularity, a prospective study by Karthikeyan et al notes patients with arthroscopically repaired full-thickness rotator cuff tears have irregular and significantly reduced microvascular blood flow within the supraspinatus tendon.8 Recent electromyographic findings also indicate shockingly high supraspinatus contraction during passive rotator cuff exercises such as Codman’s pendulums and pulleys.30 It is suspected that these factors may contribute to the relatively high recurrent rotator cuff tear rate (7-41%) established in a systematic review by Duquin et al.4 While reported patient postoperative satisfaction rate at 1 year is high (>80%) regardless of surgical protocol or recurrent rotator cuff tear, the degree of tendon healing appears to be correlated with a decrease in shoulder flexion strength. With the older adult working population increasing at an astounding rate,7 reduced shoulder flexion strength may potentially reduce an individual’s ability to safely complete work activities postoperatively.

While this case proposes no significant short-term disadvantage to early passive motion in high risk patient populations, it is important to note the study duration (7 weeks) is a major limitation. Full regaining of tensile and muscle strength following arthroscopic surgical procedure is estimated at 10 to 12 months, consistent with the healing timeline presented by Kisner. Therefore, further studies with a longer observation and follow-up period are necessary to
confirm functional and clinical outcomes in this demographic. Moreover, it is recommended that future studies objectively assess the effect of postoperative tendon healing on recovery of rotator cuff strength and function. To conclude, in the absence of medical comorbidities which place a subject at an increased risk of postsurgical joint adhesions or contractures, it is recommended the treating clinician considers multiple factors including tear size, age, surgical procedure, previous level of function, and working status when determining the most appropriate rotator cuff physical therapy protocol.

Appendix. Outline of Physical Therapy Interventions Using Early Motion Protocol Following Arthroscopic Rotator Cuff Repair

<table>
<thead>
<tr>
<th>Exercise:</th>
<th>Postoperative Week 1-3</th>
<th>Postoperative Week 4-5</th>
<th>Postoperative Week 6-7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shoulder PROM/AROM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Codman’s Pendulums with MHP</td>
<td>30x each direction for 10 min</td>
<td>30x each direction for 10 min</td>
<td>30x each direction for 10 min (Week 6 only)</td>
</tr>
<tr>
<td>Supine TBAR Flexion</td>
<td>1 x 10</td>
<td>5 min (L UE only)</td>
<td>1 x 30</td>
</tr>
<tr>
<td>Supine TBAR ER</td>
<td>1 x 10</td>
<td>5 min (L UE only)</td>
<td>1 x 30</td>
</tr>
<tr>
<td>Supine AAROM Flexion</td>
<td>1 x 10</td>
<td>3 x 10</td>
<td>1 x 30</td>
</tr>
<tr>
<td>Overhead Pulleys</td>
<td></td>
<td>5 min shoulder flexion; 5 min shoulder abd (sitting)</td>
<td>5 min shoulder flexion; 5 min shoulder abd (sitting)</td>
</tr>
<tr>
<td>Finger Ladder</td>
<td>1 x 10 (patient standing)</td>
<td></td>
<td>1 x 30</td>
</tr>
<tr>
<td>Wall Slides</td>
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**Shoulder AROM:**

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<table>
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<tbody>
<tr>
<td>Supine Shoulder Flexion</td>
<td></td>
<td>1 x 30</td>
</tr>
<tr>
<td>Standing Shoulder Flexion</td>
<td></td>
<td>1 x 30</td>
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</table>

**Stretching**

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<tbody>
<tr>
<td>Passive Shoulder Flexion Stretching to End-Range</td>
<td>5 min</td>
<td>1 x 10 min</td>
</tr>
<tr>
<td>Passive Shoulder ER Stretching to End-Range</td>
<td>1 x 10 min</td>
<td>1 x 10 min</td>
</tr>
<tr>
<td>Supine Shoulder ER Sustained Stretch</td>
<td>5 min 1lb (to end range)</td>
<td>5 min 2 lb (to end range)</td>
</tr>
<tr>
<td>Supine Shoulder Flexion Sustained Stretch</td>
<td>7 min yellow Theraband (to end range)</td>
<td>10 min yellow Theraband (to end range)</td>
</tr>
<tr>
<td>Standing Self Posterior Capsule Stretch</td>
<td>3 x 30s</td>
<td>5 x 30s</td>
</tr>
<tr>
<td>Shoulder IR Stretch</td>
<td></td>
<td>1 x 5 min</td>
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**Wrist/Elbow AROM**

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<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>4-Plane Wrist AROM in Sitting</td>
<td>1 x 30 each direction</td>
<td>1 x 30 each direction</td>
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**RC Isometrics:**

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<tr>
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<tbody>
<tr>
<td>Standing shoulder flexion/extension/IR/ER</td>
<td>10 x 10s each direction</td>
<td>10 x 10s each direction</td>
<td>10 x 10s each direction</td>
</tr>
</tbody>
</table>

**Modalities:**

<p>| | | | |</p>
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<tr>
<th></th>
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<tbody>
<tr>
<td>IFC + Cryo L Shoulder with Wrist AROM</td>
<td>10 min yellow Theraband Flexbar</td>
<td>10 min yellow Theraband Flexbar</td>
<td>10 min red Theraband Flexbar</td>
</tr>
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</table>

**GH Proprioception:**

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<tr>
<th></th>
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<tbody>
<tr>
<td>Shoulder Circles with SB</td>
<td>1 x 30x</td>
<td></td>
</tr>
<tr>
<td>Putty Ball/Log</td>
<td>10 min Yellow Thera-Putty</td>
<td></td>
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</table>

**Manual Therapy:**

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<thead>
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<tbody>
<tr>
<td>Glenohumeral Inferior Glide</td>
<td>2 x 30s</td>
<td></td>
</tr>
<tr>
<td>Glenohumeral AP Glide</td>
<td>2 x 30s</td>
<td></td>
</tr>
<tr>
<td>Glenohumeral Long Axis Distraction</td>
<td>2 x 30s</td>
<td></td>
</tr>
<tr>
<td>Soft Tissue Massage</td>
<td></td>
<td>5 Min L Upper Trapezius</td>
</tr>
</tbody>
</table>
### Shoulders

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Sets</th>
<th>Reps</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prone Scapular Retractions</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Prone Serratus Anterior Punches</td>
<td>10</td>
<td>10s</td>
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</table>

**Scapular Stabilization:**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Sets</th>
<th>Reps</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prone Shoulder Extension</td>
<td>1</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Prone Shoulder Scaption</td>
<td>1</td>
<td>30</td>
<td>2 lb</td>
</tr>
<tr>
<td>Standing Shoulder Extension</td>
<td>3</td>
<td>10</td>
<td>Yellow Sport Cord</td>
</tr>
</tbody>
</table>

### References

Highlighting a PTA
Can you imagine holding nine active licenses?

Virginia “Dee” Ellis, our highlighted PTA, now lives in Corpus Christi and works primarily in home health but for 4+ years did travel therapy. Dee states she has done lots of moving and traveling—starting with her military birth family and now including trips to her only daughter and soon-to-be grandchild in San Diego. She credits early learning in dance, yoga, and Pilates as stimulating her interest in movement and her new self-study passion to learn about the “Movement System” and the paradigm shift that encompasses.

Dee has had a varied and extensive professional career since turning in her heavy equipment operator license for that of Physical Therapist Assistant in 1996. Besides doing contract traveling, she has worked full-time for several hospital systems in both acute care and inpatient rehabilitation and also in several SNF settings. Aquatic PT is one of her clinical specialties; she was active in the Aquatic Physical Therapy Section for many years in leadership roles. She has held Advanced Proficiency in the Musculoskeletal realm for 8 years and relates that “one of [her] particularly great jobs included creating a day program for individuals with fibromyalgia syndrome that integrated education and return to community life.” Other specializations include being a certified Kinesio Taping Practitioner and Instructor. She has taught basic certification for the Kinesio University since 2005 and also teaches an advanced Ortho/Sports Kinesio Taping course. She has been CI credentialed for many years and is a guest lecturer on professionalism at a local PTA school, spreading the message of the importance of being an APTA member. She holds a Massage Therapist license and is a practitioner of cupping.

Currently she is enrolled in classes through the International Association of Healthcare Educators for certification in CranioSacral Therapy and Visceral Mobilization. She is able to incorporate these skills into her private practice as well.

Dee has settled in to home health physical therapy in the past 8 to 10 years, with a predictably heavy emphasis on geriatrics and persons with cognitive decline. Dee states that she always considered herself a generalist, “but over time it seems my interest in geriatrics has increased. I mean, we ARE all heading there, no?” She believes that our profession needs a reboot on education, practice, and research for clinical competency specifically for working with the steadily increasing population of those with cognitive deficits. Although she has not held offices in the AGPT, she believes the information the Academy supplies to members is vital for both her own practice “and the future of the profession.” Her local involvement in the APTA includes District Education Committee Co-chair.

“Find something that you love to do that involves moving your body! People need to find what nourishes them and then stick with it –daily or at least that minimum 3-5 times/week.” This is Dee’s favorite piece of advice to clients and colleagues.

Next adventure on her personal bucket list: helping her daughter become a new mother and figuring out what grandparenting is all about!
Revisiting the ICF Model
Applications in Clinical Education

Kathryn Brewer, PT, DPT, GCS, MEd, CEEAA; Megan Eikenberry, PT, DPT, NCS

The International Classification of Functioning, Disability and Health (ICF) is a description of health and health-related domains adopted by the World Health Organization (WHO) in 2001. It was designed to establish a conceptual basis for the definition, measurement, and policy formulation for health and disability. The ICF mainstreams the experience of disability and recognizes it as a universal human experience. By shifting the focus from cause to impact, it allows all health conditions to be compared using a common metric – the ruler of health and disability.

The ICF represents a framework that shifts the conceptual emphasis away from negative connotations and barriers such as disability, and places the focus on the positive abilities of the individual. There are 3 main domains of the ICF: body functions and structure, activity, and participation. Activity and participation are further characterized by the terms capacity and performance. Additionally, there are two sets of contextual factors outside of the individual’s health condition that affect function: environmental and personal. Application of the model to a specific patient scenario would include assessment of these issues related to positive influences or when there is something in the health condition or contextual framework that negatively changes how the individual goes about daily life (barriers or challenges). Capacity describes an individual’s ability to perform a task in a standardized environment—an environment without personal assistance or the use of assistive devices. Performance describes what a person does in his or her current environment, including societal context, social support, assistive technology, and personal assistance. The gap between capacity and performance reflects the impact of the environment on an individual’s ability to perform.1

Since adoption by the American Physical Therapy Association (APTA) House of Delegates in 2008, the APTA’s Guide to Physical Therapist Practice and other governance and position/policy statements have gradually edited language from the Nagi disablement model to the ICF. Therefore, this context should not be new to clinicians. It has been presented in the academic curriculum and used as a framework for clinical reasoning with an emphasis on comprehensive assessment. The challenge is to think beyond physical limitations and the primary complaint/reason for referral, to capture the patient’s participation, social roles, and environmental factors. These should be foundational in goal setting and developing a plan of care that is essential for optimal function and quality of life. The use of an ICF model in clinical practice allows for a more patient-centered approach, leading to a thorough, individualized assessment and plan of care development.1,2

The ICF is routinely taught in didactic and laboratory physical therapy (PT) education as a framework to understand health and its impact on function and participation.3,5 Despite the time dedicated to its instruction throughout PT curriculums, the ICF framework is not routinely used in clinical practice or consistently integrated into clinical education experiences. This breakdown can be the result of multiple barriers including lack of clinical instructor familiarity of the framework, lack of clinically-friendly framework tools, reduced clinical time available to spend applying the framework to each patient in all clinical settings, lack of integration into electronic medical records or clinic specific PT evaluation templates, and a reduced perception of overall framework value. Tools that have been published to assist with integrating the ICF framework and clinical reflection into clinical practice can be cumbersome, timely, and overwhelming for both the student and busy clinical instructor.2,4 A clinic-friendly framework tool and additional education is needed to educate all clinicians and specifically, clinical instructors, to assist with the integration of this framework into the clinical practice of physical therapy students and new graduates.

In an effort to improve the translation of the ICF model from the classroom to the clinic, an ICF clinical planning and reflection tool (ICFPRT) was developed (Figure 1). The tool was designed to be easily used by students and clinical instructors in the busy clinical setting. The ICFPRT can be completed in hardcopy or in an ongoing digital format. The authors have successfully integrated this tool into a variety of formats including a 1:1 clinical education model, a 2 students:1 clinical instructor clinical education model, a 4 students:1 lab instructor neurology rehabilitation laboratory experience and a geriatric residency program. The following case study will illustrate the process in which the ICFPRT was integrated into a 2:1 clinical education model to facilitate improved patient and student outcomes, as well as enrich the student learning experience.

CASE SCENARIO

Physical therapy students in their final clinical rotation were placed with one experienced clinical instructor (CI) for a 2:1 clinical rotation in the inpatient rehabilitation setting.

Clinical Process

Each student was required to complete an individual ICFPRT for every patient evaluation and subsequent treatments in the acute rehabilitation setting over the course of a 10-week clinical rotation. The ICFPRT was reviewed with the CI following each patient evaluation to facilitate an in-depth discussion of the patient encounter, promote problem solving and clinical efficiency, as well as facilitate appropriate goal setting and the development of an individualized plan of care.5 Additionally, the tool was updated by the student following each treatment session.
to allow for student reflection of patient outcomes, progression within the plan of care, and future treatment planning. Time was set aside by the CI on a daily basis to review the ICFPRT with each student to assess student understanding, clinical reflection, problem solving, and critical thinking. The clinical integration process, as introduced in the first week of the rotation (Figure 2) was progressed and modified on a daily basis to allow for the individual needs of the students and clinical scenarios.

OUTCOMES

Both students successfully completed the terminal internship with a deeper understanding of health issues, disability, and impairments and the impact on function at various levels of the ICF. Both students achieved entry level in the areas of examination, evaluation, problem solving, critical thinking, documentation, and plan of care development at the end of the clinical experience as measured by the clinical performance instrument.5

DISCUSSION

In an exit interview that was completed following the clinical internship, both students perceived the ICFPRT as adding value to the clinical experience and improving their clinical efficiency. Both students reported that despite being time consuming in the beginning of the rotation, use of the ICFPRT improved their documentation quality, and enriched both the learning experience and CI-student discussions. They both identified the electronic format as being easier to use and modify than the hard-copy version of the tool.

In a follow-up telephone interview completed 6 months following the clinical internship and PT school graduation, both entry-level DPTs indicated that the use of the ICFPRT laid an important foundation for their clinical practice, recommended continued use of the tool with future PT students, and reported they would like to use the tool when they become clinical instructors. One PT reported that she continued to use the framework on a daily basis to assist with care plan and goal organization as well as impairment prioritization.

The clinical instructor felt that the ICFPRT added organization to the busy 2:1 clinical education experience, as well as adding depth to the educational experience. The ICFPRT enabled the clinical instructor to better evaluate student problem solving, critical thinking, and plan of care development throughout the 10-week rotation. Additionally, the time spent reviewing the ICFPRT with the students allowed for an organized conversation of student hypotheses, projected cause and effect relationships, clinical decision-making, and patient prognosis. The ICFPRT also allowed for increased patient case experience for both students, through sharing patient scenarios and participating in the reflection and discussion. Although the time dedicated to the ICFPRT discussion each morning was not billable, it allowed for a more organized and efficient day with increased productivity at the end of the rotation. The CI also felt that use of the ICFPRT facilitated a more comprehensive assessment of the students understanding of the given clinical scenario prior to interacting with the patient, and facilitating student independence early on in the clinical rotation.

The use of the ICFPRT was considered successful with use in the 2:1 clinical education model. Additionally, this tool has been implemented into the 1:1, 1:4 (laboratory experience), and geriatric physical therapy residency models within the same institution. The use of this tool and similar, previously developed tools, provide a framework for the necessary discussion and reflection that leads to the enriching learning experiences we
seek in both the clinical education and residency models. Several tools exist but are not routinely used in clinical education settings due to the increased burden or time required to complete. Despite taking more clinical time to complete, the benefits of the routine use of this tool throughout the clinical education experience outweigh the increased initial time required for implementation. In clinical scenarios where there are more than one student to a clinical instructor, the application of this tool allows for a more thorough daily assessment of each student’s clinical problem solving, decision-making, preparedness, critical thinking, and plan of care development. This ongoing discussion and reflection facilitates accountability and preparedness of the student and allows for a better experience for both the patient and the student.

It is the responsibility of the academic institutions and the CIs to facilitate the translation of the ICF framework from the classroom into the clinic. By equipping clinics, CIs, and clinical education coordinators with the necessary tools and appropriate training, we may well facilitate enhancement of the clinical education experience and improve student learning outcomes and quality of patient care during the clinical experience and after graduation.

REFERENCES


The National Council on Aging (NCOA), in cooperation with the Administration for Community Living, held their annual meeting last May to advance the dissemination of evidence-based programs (EBPs) for older adults and adults with disabilities for both chronic disease self-management and falls prevention. This year, the Academy of Geriatric Physical Therapy (AGPT) generously supported the attendance of Mindy Renfro, PT, PhD, DPT, to represent the contributions, concerns, and participation of physical therapists nationally in these critical initiatives for elders’ health. Mindy also received a partial scholarship from NCOA to support her travel and participation.

This year’s conference, "Forging New Pathways to Growth and Sustainability" opened the conversation of national leader—representing both aging and disabilities networks—to innovations for long-term sustainability of these effective EBPs when grant funding and volunteerism are no longer available and/or feasible.

Panel discussions and breakout sessions over the 2 ½ day meeting focused on 5 topics:

1. Innovative Leadership Models
2. Quality Assurance
3. Health Care Partnerships/Business Acumen
4. Centralized, Coordinated Program Processes
5. Outreach to Minority Populations, People with Disabilities, and Other Underserved Populations

The need for physical therapists to engage around dissemination of health promotion EBPs could not be more critical than it is now. Access to health care remains very limited for a large percentage of older adults, adults with disabilities, and other marginalized populations in our society. Use of EBPs has been shown to be effective with a huge return on investment (ROI) for minimal costs. Physical therapists and physical therapist assistants are uniquely suited for public health and health promotion via many routes:

1. Referring patients/clients to EBPs during and after physical therapy treatment to promote education, physical activity, improved nutrition, and mental health. Need to locate EBPs in your area? Simply contact your state’s Falls Free coalition lead: https://www.ncoa.org/map/ncoa-map/
2. Becoming trained as a leader in a variety of EBPs to better understand the goals and approaches—especially in the Otago Exercise Program (OEP), which is billable as part of a comprehensive physical therapy treatment plan. Train in OEP in a couple of hours here: http://www.aheconnect.com/cgec/cdetail.asp?courseid=cgec3
3. Acting as “experts” in group EBPs such as Stepping On® which is described here: https://wihealthyaging.org/stepping-on
4. Work with Federally Qualified Health Centers to provide EBPs for your community. Find resources to learn how here: https://www.ncoa.org/center-for-healthy-aging/cdsme-resource-center/fqhc-partnership-guide/
5. Join us yearly for Fall Prevention Awareness Day. The Balance & Falls Special Interest Group works to identify older adults at risk of falls and abate their risk to support their successful aging-in-place. Resources can be found on the SIG website and also here: https://www.ncoa.org/healthy-aging/falls-prevention/falls-prevention-awareness-day/

REFERENCE

Mindy Renfro works at the Rural Institute for Inclusive Communities at the University of Montana in Missoula, MT. She can be contacted at mindy.renfro@umontana.edu.
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Congratulations to Our 2017 Honors and Awards Recipients

Each year APTA honors outstanding achievements on the part of its members in the areas of overall accomplishment, education, practice and service, publications, research, and academic excellence.

The Academy of Geriatric Physical Therapy is proud to recognize the following members. Recognition for these recipients will take place during the NEXT 2017 Conference and Exposition in Boston, Massachusetts.

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