GeriNotes

Academy of Geriatric Physical Therapy

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IN HONOR/MEMORIAM FUND

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

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

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

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

President's Message: NEXT Conference 2017

William H. Staples, PT, DHSc, DPT
Board Certified Geriatric Clinical Specialist (GCS)
Certified Exercise Expert for Aging Adults (CEEAA)

The 2017 Premier Partner in Research Award was presented to the Academy of Geriatric Physical Therapy at the NEXT conference in Boston. Over the years, the Foundation has presented this award to a select few who have made generous and long-standing contributions critical to the success of the Foundation and its mission. To date, the Academy has donated over $460,000 in support of geriatric physical therapy research. Through our support, 97 awards have been made possible since 1973. Most recently, the Academy's support has allowed the Foundation to award Margaret Danilovich of the Feinberg School of Medicine at Northwestern, the Geriatrics Research Grant to "implement successful aging intervention to reduce frailty."

CONGRATULATIONS TO OUR APTA 2017 HONOR AND AWARDS PROGRAM RECIPIENTS!

The American Physical Therapy Association Honors and Awards Program were presented to recipients and we are very proud to recognize the following members of the Academy of Geriatric of Physical Therapy. We are indeed a dedicated group!

Ethel Frese, PT, DPT, FAPTA, Catherine Worthingham Fellow of APTA

David M. Morris, PT, PhD, FAPTA, Catherine Worthingham Fellow of APTA

Cheryl Resnik, PT, DPT, FAPTA, Catherine Worthingham Fellow of APTA

Tamara N. Gravano, PT, DPT, Lucy Blair Service Award

Ellen R. Strunk, PT, MS, Lucy Blair Service Award

Cathy Haines Ciolek, PT, DPT, Marilyn Moffat Leadership Award

Deanna Wanzek, PT, Henry O. and Florence P. Kendall Practice Award

Myles Quiben, PT, PhD, DPT, MS, Dorothy Baethke-Eleanor J. Carlin Award for Excellence in Academic Teaching

Brendon Larsen, SPTA, Mary McMillan Scholarship Award for Physical Therapist Assistant Students

Leah Huber Wright, SPTA, Mary McMillan Scholarship Award for Physical Therapist Assistant Students

I was able to attend the last two APTA Board meetings in addition to the Future of Physical Therapist Payment Strategy Meeting in order to provide input from a geriatric perspective. We heard from two key speakers: Harold Miller who is the President & CEO of the Center for Healthcare Quality and Payment Reform, and Marc Hartstein a former executive with CMS and currently with Health Policy Alternatives Inc. to help explain the current political situation regarding payment. The Academy was well represented in the final day of the meeting with Ellen Strunk, PT, MS, leading the next steps discussion. The CMS has proposed several changes for the next two years including CPT code values for Medicare B, MIPS (Merit-based Incentive Payment System) for quality incentives, the IRF prospective payment system, and SNF payment system and consolidated billing. The 2019 SNF changes may include eliminating the current RUG version 4 with a new Resident Classification System to better reflect the complexity of the patients we see. We may not need to count minutes any more, but that may incentivize facilities to reduce therapy services to increase their margins. We will continue to monitor suggested changes to the Medicare and Medicaid systems to keep membership informed.

Comments on the IRF proposals can be made until June 26 at: https://www.federalregister.gov/public-inspection/current. To find information on the proposed SNF rules go to: https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2017-Fact-Sheet-items/2017-04-27-3.html.

Editor's Message:
A Gentle Reminder: Go Easy on Older Adult Skin

Meri Goehring, PT, PhD
Board Certified Geriatric Clinical Specialist (GCS)

Some of you may know that in addition to my certification as a Geriatric Physical Therapist (GCS) by the American Board of Physical Therapy Specialties, I also have a certification by the American Board of Wound Management as a Wound Specialist (CWS). I received this second certification in March 2015.

Several members in the Geriatric Academy are also Certified Wound Specialists. One of these members is Jill Heitzman, Vice President of the Academy, who made some important contributions to this article. For those members, this information will surely be a review, as they are well-trained to care for aging skin. They may choose to skip over this message. Also, please understand there are many options when providing wound care and this article will only address a few for a specific common condition seen in the aging adult population.

The skin is the largest organ system in the human body, yet most of us don't consider the skin an "organ." The skin can be thought of as the "coat" of the body. Intact skin protects and helps keep foreign substances from entering the body. As we age, the skin changes and becomes more fragile becoming susceptible to damage.

Some of the most common injuries to the skin of older adults are skin tears. Accidents happen, so some skin tears cannot be avoided completely. However, for those who work with the older adult, understanding how skin tears occur, how to take measures to prevent them, and how to treat them properly is very important. Research tells us 1.5 million skin tears occur among elderly residents of institutions in the United States each year.[1] More recently, a review of 114 long-term care facilities in the United States found that 22% of patients had a skin tear, despite good wound care practices.[2] Considering that this speaks only of institutionalized older adults, the numbers are likely far greater. As an active clinician, despite my attempts at prevention, I encounter skin tears frequently. Knowing how to react, and how to provide the correct intervention quickly and calmly is extremely helpful.

What is a skin tear, exactly? Skin tears are traumatic injuries to the skin that occur due to shearing, friction, and/or blunt trauma. This causes the epidermis to separate from the dermis, resulting in a partial thickness wound. However in some cases, the epidermis and dermis separate from the hypodermis, a layer of fat and connective tissue lying below the dermis. This is known as a full thickness wound.

Why do skin tears happen so easily in older adults? Skin changes as one ages. These changes include thinning and flattening of the epidermis, as well as loss of collagen and elastin. Atrophy and contractions of the dermis result in wrinkles and folds in the skin, and decreased oil and sweat glands causes the skin to dry. Sometimes, the blood flow to the skin is decreased due to arteriosclerotic changes in the blood vessels and other comorbidities. These changes lead to dry skin that is thin and more vulnerable to damage.

Older adults also tend to need more direct, hands-on care and/or assistance with the activities of daily living. Physical therapists often use a hands-on, tactile approach to get patients moving. Because of this, skin tears most often occur in the upper and lower limbs and on the dorsal aspect of the hands. While skin tears can occur in the trunk, this is less common. Lower extremities can sustain skin tears from bumps against wheelchairs, bed frames, walkers, shoes, and more. The decreased sensation of the lower extremities due to comorbidities can lead to skin tears that are not noticed by the patient.

There are ways to prevent skin tears. First, caregivers should keep fingernails trimmed and remove jewelry. Taking care when moving patients in bed and during transfers can reduce shearing forces and thus reduce the risk for skin tears. Finally, working with nursing staff to ask about a proper skin care routine that includes moisturizing and careful bathing can also improve skin care and reduce tearing.

What should be done in the event of a skin tear? First, assess the wound and call for assistance, if needed, to stop any excessive bleeding while securing the appropriate supplies. Apply pressure and elevate the limb if appropriate. Clean the skin tear with saline or water to irrigate and remove any residual blood, dirt, or debris. Pat the surrounding skin dry with gauze or clean, dry towels. If the skin flap is viable, gently ease the skin flap back into place using a dampened, sterile cotton tip applicator, clean gloved finger, or clean tweezers. If you are in a hospital environment, check with the nursing staff to see if there is a sterile wound care kit or central line kit available. Make certain you wash your hands thoroughly prior to providing any treatment, and make sure anything you use is clean.

Probably one of the most difficult decisions is what kind of dressing to apply. The skin around the wound needs protection, and the wound itself needs to be kept clean and moist. A wide variety of dressings can be used. Placing a moisture barrier or some kind of moisturizer on the skin around the wound is a good idea, but this can prevent an adhesive dressing from staying in place. *However, adhesives are not recommended on fragile aging skin.* This includes any of the transparent films often seen over fragile skin to "protect" the skin from injury. Transparent films and any adhe-

sive tape should never be placed over the fragile skin, as upon removal the lifting of the epidermis will occur leading to further skin tearing. Soft silicone dressings or silicone-impregnated dressings are a good option over a skin tear, as they help the skin flap stay in place and are easy to remove. If you are in a hospital or skilled care environment, ask that some of these types of dressings be kept available. If you are in a home care situation, work with nursing staff to come up with the best dressing solution. One option is to use a moderate amount of over-the-counter anti-bacterial ointment on some sterile gauze placed over the wound. This will keep the gauze from sticking. For those wounds in areas that are easily and frequently at risk from bumps on bedrails/walkers, etc, using a foam padding can be successful to prevent tearing of the skin. The use of tubular or rolled gauze (taping over the gauze for securing, not to the skin) is a good alternative to keeping bandages in place. Educate the patient and/or caregivers on appropriate dressing changes: every day if soiled and every 2-3 days if not soiled. Make sure the gauze is well saturated with ointment so that the gauze does not stick to the wound during dressing changes. Educate the patient and the caregiver on the signs and symptoms of infection, and ask the patient to see their primary care physician as soon as possible if any signs are present. In some cases, working with nursing staff is best regarding the scheduled dressing changes if the patient and/or caregivers are unable to perform this task.

But, remember, it is far better to try to prevent skin tears from happening in the first place.

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Fall Risk Screening Presents the Opportunity to Screen for Exercise-induced Hypertension

Hannah Williams, SPT, CHES, BS in Health Science; Evan Prost, PT, DPT, CEEAA

The systematic and regular recording of vital signs is a foundation of patient care. It assures safety and guides the clinician in appropriate progression of care. The necessity and benefit of monitoring vital signs were evident during a recent multidisciplinary fall risk screening event, in which our team also screened for a hypertensive response to the most aerobically challenging test item, the thirty second chair stand (TSCS). The event was sponsored by the University of Missouri Health Care, Frank L Mitchell Jr. MD Trauma Center, and was conducted at the Columbia Senior Activity Center in June 2016. The team included clinicians and students from physical therapy, occupational therapy, nurse trauma specialists, and a nurse otolaryngology specialist. In addition, a physical therapist certified as an instructor in Tai Chi for Arthritis for Fall Prevention,[1] an evidence-based fall risk prevention program endorsed by the Centers for Disease Control and Prevention (CDC) and the National Council on Aging, was present. She spoke to interested participants at the conclusion of their screening and answered their questions about the Tai Chi program. Twenty-three community-dwelling older adults participated.

Since 2013, the CDC has been promoting an evidence-based fall risk screening tool known as the STEADI (Stopping Elderly Accidents, Deaths & Injuries).[2] The STEADI is based on the clinical practice guidelines from the American Geriatric Society and British Geriatric Society for the prevention of falls in older persons.[3] The STEADI has 3 physical performance measures: the Timed Up and Go, the 4-Stage Balance Test (Romberg, semi-tandem, tandem, single limb stance), and the TSCS. Two components of the STEADI: Timed Up and Go (which is performed at the person's normal pace), and the 4-Stage Balance test, do not present an aerobic challenge. However, when performing the TSCS participants are "…encouraged to complete as many full stands as possible within a 30 second time limit."[4]

When participants entered the screening area, all had their baseline vital signs taken by the nurse trauma specialists. These vital signs were logged on a card handed to the participant. The physical therapists were able to refer to this card as a baseline reference prior to subsequent performance testing. Anticipating the potential for adverse cardiovascular response during the TSCS, physical therapy students were instructed to take the participant's heart rate and blood pressure (BP) immediately after finishing the test. The participant was also asked to rate effort using the Borg Rate of Perceived Exertion (RPE).

Of the 23 participants screened for fall risk, 2 had a rise in systolic blood pressure greater than 50 mm Hg. Both were taking antihypertension medication, and both rated their exertion during the TSCS as "fairly light." The physical therapists responded to both

events by inviting the nurse trauma specialist to participate in an impromptu interdisciplinary consultation with the participant. Both participants denied shortness of breath, chest pain, nausea, diaphoresis, or any visual or mental changes. The multidisciplinary team members inquired if the participant had a primary care provider (PCP), and if so, when the next scheduled appointment was. A written record of the adverse cardiovascular event was included on the fall risk screening form that was given to all participants to hand to their PCP at their next visit. The team explained that because hypertension is typically asymptomatic, they would be wise to monitor their BP on a regular basis and when they exercised, to do so in a setting where vital signs could be monitored. In summary, the careful monitoring of vital signs during an unexpected cardiovascular response during this fall risk screening initiated a conversation for improved health outcomes and medical management.

TAKE HOME MESSAGE - WHEN ADMINISTERING THE STEADI:

1. Take baseline vital signs when participants register or enter the fall screening station.
2. Save the TSCS for the last of the 3 STEADI tests since it is the most likely to provoke adverse cardiovascular signs/symptoms.
3. Take vitals immediately after finishing the TSCS, and show the person a Borg RPE scale.
4. If there is an abnormal vital sign response (hypertensive or hypotensive), continue to monitor vitals every 5 minutes until stabilized, while also observing for any other adverse signs or symptoms. Consult or refer to PCP as appropriate.

Screening is part of a systems review to reveal impairments in various systems.[5] Using specific tests and measures, observation, collection of vital signs, and good clinical judgment, physical therapists have the opportunity to assess more than one system, thus improving clinical outcomes. Specifically, the STEADI fall risk screening presents clinicians with an opportunity to assess not just balance but the cardiovascular system as well.

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Hannah Williams is a doctor of physical therapy student at the University of Missouri in Columbia, Missouri. She has worked in a skilled nursing community and several continuing care retirement communities, and currently works at a hospital fitness center with an older adult population.

Evan Prost received a BS in Elementary Education in 1978, a BSEd in Physical Therapy in 1988, and a Doctorate of Physical Therapy in 2010. He is a Certified Expert in Exercise for the Aging Adult, from the Academy of Geriatric Physical Therapy of the American Physical Therapy Association. He is a member of the Show Me Falls Free Coalition and has organized and participated in numerous fall risk screening events for community dwelling older adults. His primary research interest is exploring the potential benefit of using walking poles for older adults, particularly those with chronic lower back pain. He has been a full time faculty member of the UM School of Health Professions Department of Physical Therapy since 2002, and is the instructor of record for two courses: Case Mgmt 1: Acute and Chronic Medical the Surgical Conditions, and Case Mgmt 2: Geriatrics and Orthopedics.

It Is Active Aging Time

Lori Schrodt, PT, MS, PhD

The fall brings great opportunities to join the International Council on Active Aging (ICAA; an Academy of Geriatric Physical Therapy Promotional Partner) in celebrating and promoting active aging.

ACTIVE AGING WEEK 2017: IGNITE YOUR PASSION

September 24 – September 30, 2017

Active Aging Week® (AAW) is an international celebration of positive, active aging. This year's AAW *Ignite Your Passion* theme challenges adults 50 years and older to try something new and find something they are passionate about. Each day of AAW also has a specific theme highlighting aspects of skin health, healthy eating, walking, and AquaYoga. During AAW individuals have the opportunity to experience exercise and other healthy aging activities throughout their communities. Senior centers, retirement communities, area agencies on aging, health care, and other aging and wellness partners celebrate AAW by offering a variety of free (and fun!) programs. Programs often include group exercise classes, health fairs, educational events, group walks, dances, and arts and craft classes. Last year over 3000 organizations across 5 countries, including the United States, participated in AAW. Be sure to check with your partners and agencies to find out about AAW programs in your area!

The ICAA also offers support to organizations and participants through a dedicated AAW website (www.activeagingweek.com). If you haven't joined AAW in the past, consider doing so this year. Organizations can join in special theme days, register their AAW events, and download AAW promotion materials. Individual participants can also access a variety of health and activity tips and videos.

Visit www.activeagingweek.com to learn more and register your event(s). You can also follow AAW on Facebook (https://www.facebook.com/ActiveAgingWeek) and Twitter (@AAW_ICAA and #activeagingweek).

Lori Schrodt currently serves as Chair of the Health Promotion and Wellness SIG and as the AGPT Liaison to the International Council on Active Aging. She specializes in community-based healthy aging and fall prevention programs. She is a Professor in the Department of Physical Therapy at Western Carolina University where she teaches geriatric and neuromuscular rehabilitation courses and treats clients in a balance and fall prevention specialty clinic. She can be contacted at lschrodt@email.wcu.edu.

Ignite the Future of Active Aging
New Dates, New Location, New Experience

Lori A. Schrodt, PT, MS, PhD

The International Council on Active Aging (ICAA; an Academy of Geriatric Physical Therapy Promotional Partner) Annual Conference is expanding this year and promises a whole new experience. After years of hosting the conference in conjunction with the Athletic Business Conference, ICAA is setting out on its own. The result is an exciting lineup of sessions focused on the theme, "Ignite the Future of Active Aging." This year's conference is October 12-14, 2017, at the Gaylord Palms Resort & Convention Center in Orlando, FL. You can find out more at: http://icaa.cc.

Last year's conference offered over 60 sessions across several tracks (big picture, cognitive and emotional health, physical activity, management and marketing, programming, and outdoors) and plenty of opportunities for networking. Each ICAA conference aims to energize forward thinking and implementation and this one was no exception. The physical activity track included interactive sessions on core control, yoga, bladder control, and the Parkinson's exercise program "Delay the Disease." Other sessions focused on fall prevention, high speed training, engaging aging cancer survivors, mindfulness, brain health, and marketing of programs. Many of the sessions were presented by physical therapy and wellness staff teams from various senior living organizations. These sessions highlighted the physical therapy and wellness team collaborations while also describing their programming successes and challenges.

The poster session offered an opportunity to learn more about the research supporting various wellness program models and talk with authors about some of the evidence-based programs, such as Enhance® Fitness and YMCA: Moving for Better Balance. With a small number of posters and timing just before the networking reception, there was plenty of time to talk with presenters and exchange experiences and ideas.

Dr. John Ratey, Associate Clinical Professor of Psychiatry at Harvard Medical School and author of several books related to brain health, presented the keynote address, "Exercise: a daily tonic for the brain to get it to its fullest potential and keep it there." His engaging presentation included the latest science supporting the brain benefits of physical activity; while his focus on linking physical and brain health with resilience and well-being helped provide perspective.

The 2017 conference promises to continue engaging professionals from across disciplines and sectors in interactive discussions and problem solving. In addition to an exciting agenda of programming across multiple tracks, there will be new interactive panel sessions discussing the physical therapy/wellness connection, using outcomes and innovation to elevate programming, and innovative trends in technology and wellness. Attendees will also have the opportunity to help design effective products and services through an interactive design forum and lab.

There will be two keynote presentations this coming year. Dr. Andrew Weil (founder and director, University of Arizona Center for Integrative Medicine, Clinical Professor of Medicine and Professor of Public Health, Lovell-Jones Professor of Integrative Rheumatology) will present, "Healthy aging: An integrative approach to wellness for older adults." In the second keynote, Dr. Richard Carmona (Vice Chairman, Canyon Ranch, President, Canyon Ranch Institute, Distinguished Professor, Zuckerman College of Public Health, University of Arizona, and the 17th Surgeon General of the United States) will discuss, "What an "ignited" older adult will look like in 2035." Both of these keynotes promise to be informative and thought-provoking. So plan to attend to hear more!

Lori Schrodt currently serves as Chair of the Health Promotion and Wellness SIG and as the AGPT Liaison to the International Council on Active Aging. She specializes in community-based healthy aging and fall prevention programs. She is a Professor in the Department of Physical Therapy at Western Carolina University where she teaches geriatric and neuromuscular rehabilitation courses and treats clients in a balance and fall prevention specialty clinic. She can be contacted at lschrodt@email.wcu.edu.

The Efficacy of Curcumin in the Treatment of Knee Osteoarthritis

Nancy L. Johnson, PT, CKTI

INTRODUCTION

Osteoarthritis (OA) is a slowly destructive process that occurs when the protective cartilage at the ends of a bone wears away causing friction between bones at the joint. It is the most common form of arthritis, and it is likely to increase in prevalence. This predicted increase in prevalence is due to progressively poor diets, sedentary lifestyles, and an increasing population of older adults.[1] Common OA symptoms include pain, stiffness, impaired joint mobility, difficulty walking, and crepitation at the joint.[1] Osteoarthritis is the third leading cause of quality of life reduction due to disability.[2]

The American College of Rheumatology (ACR) updated a clinical practice guideline in 2012 suggesting both non-pharmacologic recommendations (joint protection, thermal modalities, protected exercise, and splinting) and pharmacologic recommendations. Pharmacologic recommendations consisted of the use of acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), intraarticular injections, tramadol, and finally opioids in extreme cases.[3]

Nonsteroidal anti-inflammatory drugs are a class of medications used to treat pain, swelling, and inflammation. The most common over-the-counter NSAIDs for treatment of OA are ibuprofen and naproxen.[3,4] Although NSAIDs can be effective in the treatment of osteoarthritic pain, they do not come without potential serious side effects. The U.S. Food and Drug Administration (FDA) lists possible *serious* side effects of NSAIDs including risk of heart attack or stroke; increased risk of high blood pressure; possible heart, kidney, or liver failure; increased risk of asthma attacks; and potentially fatal allergic reactions.[5] Of particular interest in the usage of NSAIDs for OA pain is the risk of abdominal upset; risk of bleeding and ulcers in the stomach and intestines; and risk for anemia, which are all increased with long-term usage.[6,7]

Because of the risks associated with pharmacologic intervention, there has been a recent surge of interest in identifying safe and effective herbal alternatives. One alternative is the nutraceutical curcumin, which is the bioactive polyphenol constituent responsible for the golden coloring of the Indian spice turmeric.[8,9] The use of curcumin has been shown to have anti-inflammatory and anti-oxidant effects, and has been used in Chinese and Ayervedic medicine for centuries.[10,11] It is one of the most investigated active botanicals in recent literature.[12]

Curcumin, however, has a single obstacle in attaining it's potential medical benefits in that it has a small bioavailability, with only a trace amount of absorption noted with oral ingestion attributed to instability at intestinal pH levels.[13,14] In order to overcome this, modifications have been done to preparations of curcumin to enhance its bioavailability, and thereby enhance its potential benefits.[15,16] Studies conducted on bioavailability-enhanced curcumin report findings up to a 40-fold higher absorption rate,[15] thus offering the ability of these enhanced preparations to improve the desired clinical benefits.

The objectives of this review were to assess randomized clinical trials in the use of curcumin in participants with knee OA evaluating efficacy and applicability, and to determine the areas of need for future research.

METHODS

A literature review search was conducted using the search engines PubMed and PEDro using the search dates 2000 to July 22, 2016. Key words included turmeric or curcumin, joint pain, OA, and clinical trial. The search returned 14 original studies. Of those 14 studies, 2 were unavailable and 3 included research on combinations of curcumin with other nutraceuticals, such as glucosamine, chondroitin, and devil's claw, rather than curcumin in isolation. Four studies were not specific to joint pain or OA. Five studies met the inclusion criteria of the use of curcumin in isolation for the treatment of knee OA.

CRITICAL LITERATURE REVIEW

Belcaro et al[9] conducted a randomized clinical trial assessing the use of Meriva®, a bioavailability enhanced form of curcumin, on the long-term effects on knee OA. Recruitment of 100 participants was conducted using an open registry of a previously conducted epidemiologic atherosclerosis study. Inclusion criteria included grade 1 or 2 (mild to medium) primary knee OA according to the American Rheumatism Association (ARA), incompletely controlled pain and participants were required to be able to complete a treadmill walking test. Exclusion criteria included medicated cardiovascular disease; diabetes; a BMI >25; surgery or arthroscopy within 3 months of study; cancer, bone, or joint deformity; inability to walk or severe metabolic disorder. Subjects were assessed using 4 criteria at study initiation and after 8 months. The first criteria, a Karnofsky Performance Scale Index which classifies participants according to functional impairments.[17] The second uses the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), a clinically validated self-administered test that assesses 24 questions and evaluates the status of osteoarthritis symptoms.[18] The third assessment tool was the distance the participant could walk without pain on a treadmill at a speed of 3 km/hour. Finally, baseline and 8-month blood specimens were evaluated for free-radical reactive oxygen metabolites.

Study participants were assigned to one of two 50 participant groups; a control group which received an unidentified dose of ibuprofen, and a second group receiving two 500 mg tablets of Meriva per day. Meriva is a bioavailability enhanced form of curcumin, with the

curcuminoid dose of 2 Meriva tablets equaling 200 mg/day. Baseline attributes of the 2 groups were considered to be equal, and 11 participants left the study due to non-medical related reasons. Statistical analysis was completed using analysis of variance (ANOVA). The p value was < 0.05.

The results of the study indicated that Meriva significantly improved subjective functional impairments as measured by the Karnovsky scale as compared to no significant differences noted with the control group. Pain, stiffness, and physical function scores as indicated on the WOMAC also decreased significantly for the Meriva group compared to no significant changes in the control group. The overall WOMAC score decreased significantly in the Meriva group and did not in the control group. Walking as measured by the treadmill test improved at a rate of 3.87 times in the Meriva group compared to the control group. Blood test inflammation markers were significantly reduced in the Meriva group, but not in the control group. Additionally, pertaining to the need for use of adjunct NSAIDs during the course of the study, the Meriva group decreased need of use by 63% compared to 12% in the control group. Study participants noted a concurrent decrease in gastrointestinal upset, which was attributed to a decreased use of NSAIDs.

Strengths of this study include a relatively large sample size and the study was conducted over a longer period of time than other studies reviewed. Limitations include a lack of randomization of the participants and a lack of blinding of both the participants and the researchers, leading to potential bias. The overall age range of the participants was comparatively young, which could account for a portion of the positive results of the study. Participants studied exhibited either mild or moderate symptomatic primary knee OA, so further study would be warranted to determine the applicability to more severe cases of OA. All participants were allowed to use adjunct NSAID usage to alleviate break through pain during the study, and although it was noted in the results that the Meriva group exhibited a statistically significant decline in the need for adjunct NSAIDs, the adjunctive use of medication could impact the overall results of the study. Finally, 2 of the 8 authors were employees of the company that manufactures the product studied, Meriva.

The authors concluded that Phytosome enhanced curcumanoid Meriva is both safe and effective in the treatment of adults with primary OA, with statistically significant positive results noted in all of the outcomes evaluated.

Kuptniratsaikul et al[19] conducted a randomized double-blind clinical trial to determine how *Curcuma domestica* (C. domestica) affected pain and functional impairments in participants with primary knee OA. They recruited 367 participants over a 2-year period.

Inclusion criteria included participants with primary knee OA who exhibited a knee pain rating of greater than 5 out of 10 and who were ≥ 50 years old. Exclusion criteria included abnormal liver or kidney function, allergy to either ibuprofen or curcumin, peptic ulcer or inability to walk. Participants were randomized into 2 groups; a control group that received 1,200 mg/day ibuprofen (160 participants) and a second group that received 1,500 mg/day *C. domestica,* (171 participants), each 2 capsules 3 times per day for 4 weeks. Baseline analysis of the groups did not indicate any differences between the groups, with the mean age of the population at 60 years. Eight participants were lost due to attrition. The *C. domestica* was manufactured using dried rhizomes that were ground, and the powder placed into capsules that resembled the ibuprofen capsules. Nothing was done to the *C. domestica* to address the aforementioned issues of bioavailability inherent to the extract. Severity of OA was determined by a knee x-ray using Kellgren-Lawrence criteria.[20] Both participants and researchers were blinded.

Outcomes of the WOMAC (a version modified to Thai) and the 6-minute walk test were tested at baseline, 2 weeks and 4 weeks. Results were statistically analyzed using a repeated measures ANOVA, using a p value of < 0.05. There was no determined difference in the baseline scores of either the WOMAC or the 6-minute walk test between the groups.

Results of the study indicated that there was no statistical difference between the 2 groups, which led the researches to determine that *C. domestica* is non-inferior, or equal to, ibuprofen in the measured outcomes of decreased pain, stiffness, and improved walking distance. Due to the inherent negative side effects known to ibuprofen, however, such as dyspepsia, nausea, and potential gastric hemorrhage which results in the inability of some OA patients' to tolerate use of NSAIDS, it was determined that the curcumin, which exhibited little to no side effects, was more desirable to the use of ibuprofen considering they offered equitable positive results in the outcomes measured.

Strengths of the study include a large, double-blinded and randomized sample size. Limitations of this study include no change to the bioavailability of the *C. domestica*, and the study was conducted over a short period of time (4 weeks). The authors note the dosage of ibuprofen may have been subtherapeutic based on industry standards; however, they believe this is justified by the consistently smaller body weight of the Thai population that was tested.

The overall conclusion was that *C. domestica* was as efficacious as ibuprofen in outcomes of pain and function, but because of the negative gastrointestinal effects of NSAIDs, *C. domestica* is preferable due to a more favorable safety profile.

Henrotin et al[21] conducted a non-controlled, pilot exploratory study in which they sought to determine the effect of curcumin on an inflammation-specific biomarker. Participants were selected based on ACR clinical and radiologic criteria over the course of one year.

Inclusion criteria included an age range of 45 to 75, primary gonarthrosis (knee OA), ACR criteria Kellgren and Lawrence stages II and III (moderate to severe), symptomatology of greater than 6 months, participants agreeable to banish NSAIDs or other analgesics for the duration of the study, and maintenance of health insurance. Exclusion criteria included secondary gonarthrosis, patellofemoral OA, villo-nodular synovitis, Paget's disease, ipsilateral coxarthrosis, knee trauma, joint prosthesis, corticosteroid injections, use of corticosteroids or anti-coagulants, allergy to Flexofytol, serious associated diseases, pregnancy or lactation, and an inability to write.

Three capsules of Flexofytol containing 42 mg of bio-optimized curcumin were administered to 22 participants

with a mean age of 64.3 years over the course of 3 months. Two participants were lost due to attrition. Participants agreed to eliminate the use of NSAIDs during the course of the study. They were allowed to use acetaminophen ≤ 4mg/day, but were to avoid acetaminophen within 48 hours of each of 4 visits. Outcome measures of pain using a 100-point visual analog scale (VAS) and blood samples tested for serum biomarkers were assessed at each visit. Results were reported using mean, standard deviation and range, and the p value was < 0.05.

Several serum level biomarkers were evaluated, the primary of which was Coll2-1, which is a known biomarker indicating the presence of inflammation. The overall results of this preliminary study indicated a decrease in the serum level of a specific biomarker (Coll2-1) associated with osteoarthritic inflammation and an overall decrease in subjective night pain and joint effusion, with a non-statistically significant tendency to a decrease in pain using the VAS. The use of the Flexofytol® was well tolerated with minimal adverse effects noted. The authors concluded that the use of bio-optimized curcumin may positively affect inflammation by reducing cartilage degradation and thereby modulating the negative osteoarthritic metabolic effects on cartilage, which is a primary contributor to the symptomatology of OA.

Strengths of this study are it allowed identification of a specific biochemical marker known to be associated with osteoarthritic inflammation that appears to be sensitive to curcumin and adjunctive NSAID usage was not allowed in either group. Limitations of the study include there was no control group as the study was done as a pilot clinical trial. The sample size was small, and the duration of the study was quite short. Several of the authors had conflicts of interest as employees of the company that sponsored the study.

The final conclusion from the authors is that bioavailable-enhanced curcumin appears to be a viable complement to traditionally accepted treatments for patients with OA.

Nakagawa et al[22] conducted a randomized, double-blind, placebo-controlled prospective pilot assessing the effects of a highly-bioavailable curcumin product, Theracumin, in treating knee OA. Fifty participants were chosen after radiographic analysis confirming knee OA.

Inclusion criteria included primary knee OA, age > 40 years, and a Kellgren-Lawrence grade 2 or 3. Exclusion criteria included previous knee surgery, injection treatment during the course of the study or within 2months prior to the start of the study, and oral steroid usage within 4 weeks of start of the study. Nonsteroidal anti-inflammatory drug oral celecoxib at a dosage of 2/day, in addition to the use of pain patches, were allowed as adjunct therapy during the course of the study for both groups.

Participants were divided into 2 groups, a control group that took 6 placebo capsules/day, and a Theracumin group that took 6 180 mg capsules of bioavailable curcumin day.

Fifty participants were evaluated at baseline, 2, 4, 6 and 8 weeks. Outcome measures evaluated included a blood chemistry analysis, subjective knee symptom analysis using the Japanese Knee Osteoarthritis Measure (JKOM), which authors compared to the WOMAC, and the use of the Japanese Orthopedic Association (JOA) knee scoring system.[23] The JKOM consists of 25 questions including a VAS; and analyses of stiffness, general activities, and health conditions. The JOA evaluates ability to walk, range of motion, joint edema, and ability to walk up and down stairs. Statistical analysis of the data collected was achieved using a one-sided t-test, with a p value of < 0.05.

Each of the 2 groups consisted of 25 participants, and 9 total participants were discontinued due to attrition. Baseline characteristics of each group were determined to be equal with a mean age of 68.7 years. Pain scores exhibited a statistically significant decrease in the Theracumin group. There was a tendency for JKOM scores to improve in the Theracumin group, however they were not statistically significant differences and there were no differences noted between the 2 groups on the JOA.

A strength of the study included the use of a bioavailable enhanced form of curcumin. Limitations of the study include there was no mention of how the participants were randomized into each of the 2 groups, and there was no mention of how participants or the researchers were blinded. The sample size was relatively low, and the length of the study was quite short. A conflict of interest was noted with 3 of the authors being employed by the company that manufactures Theracumin.

The conclusion of the study was that Theracumin has a modest potential to decrease pain and subjective discomfort, improve overall quality of life in patients with knee OA, and significantly decrease the usage of NSAIDs, thereby presenting a viable alternative with little adverse events compared to the gastrointestinal risk with the use of NSAIDs.

Panahi et al[8] conducted a randomized controlled trial assessing the effects of curcuminoid on knee OA. Participants were recruited from a population of subjects seen for knee OA at a university over a 2-year period. Inclusion criteria included subjects < 80 years old with primary knee *bilateral* OA with mild to moderate severity as diagnosed radiologically using criteria defined by the ACR. Exclusion criteria included curcuminoid allergy; surgical joint replacement; trauma; rheumatoid arthritis; hemophilia; erythrocyte sedimentation rate > 20; heart, renal, or lung failure; corticosteroid usage over the previous 3 months; injections over the previous 3 months or psychological disorders.

Fifty-three participants were considered, with 40 chosen to be alternatively randomized into 2 groups, a control group of 26 and a Bioperine® group of 27. Bioperine® is a bioavailability enhanced curcumin product, with a study dosage of 500 mg. Adjunctive naproxen sodium usage was allowed in both groups. The study was conducted over a period of 6 weeks, and baseline assessments of each group indicated comparable scores.

Outcome measures assessed included the WOMAC assessment of pain, stiffness, and physical function; a VAS assessing pain over a 100-point scale; and Lequesne's pain functional index (LPFI), which is a 10 item assessment of pain, distance walked, and activities of daily living.[24] Statistical analysis of the data was completed using paired t-test with a p value of < 0.05.

Results indicated a significant decrease in the overall WOMAC score, and significant decreases in each of the

WOMAC subscales in the curcumin group. The placebo group showed no changes in WOMAC global or subscale scores. There were also significant decreases in pain and LPFI scores in the curcumin group, with no changes noted in the control group. Curcumin group participants showed a significant reduction in naproxen usage compared to the control group. No serious adverse events were noted during the study.

Strengths of this study include the use of a bioavailable enhanced product and a wide range of measured outcomes. Limits of the study include a relatively low sample size with a short duration. The use of only a single daily dose could have impacted the dose-response pattern. Participants represented mild to moderate OA, so subjects with severe OA were not represented, and further studies would be indicated to assess effects on this demographic.

The conclusion of the study indicated statistically significant marked improvement in all assessed knee symptoms and generalized knee care improvement with the use of a bioavailable enhanced curcuminoid product enhanced with Bioperene.

DISCUSSION AND CLINICAL APPLICATION

This systematic review assessed 5 studies for the effects of curcumin on the symptoms and functional limitations of knee OA. Only 5 studies were reviewed, so the results should be considered with caution.

Overall, all 5 studies suggested curcumin was effective in improving the outcome measures studied. Three of the 5 studies suggested significant decreases in pain, significant improvements in function, and significant decreases in the need for adjunctive NSAID usage. The remaining 2 studies found tendencies toward decreased pain, or equal results compared to the NSAID group, suggesting equality in outcome results, but superiority in the favorability of curcumin's safety profile.

Four of the 5 studies used a bioavailability enhanced form of curcumin, suggesting that while curcumin offers potential clinical benefits, it is limited by its bioavailability, and thus enhancing the formula to improve absorption is necessary. Four of the 5 studies were conducted on participants with mild to moderate OA as assessed subjectively and radiographically. The fifth was conducted on moderate to severe arthritis, suggesting more research should be conducted on severe cases of arthritis. Four of the 5 studies were conducted with a sample size of 100 participants or less, and all studies except one were concluded within 4 weeks to 3 months of initiation of study. This suggests additional studies are warranted for larger sample sizes and for longer periods of time.

CONCLUSION

Bioavailability enhanced curcumin is showing emerging evidence that it has the potential to treat a variety of medical conditions with positive outcomes. One such condition is the positive effect it has on the inflammatory symptoms associated with OA including pain, stiffness, difficulty walking, and impaired range of motion. Further research is warranted to confirm these preliminary findings. Specifically, more research is needed to assess the efficacy of curcumin on moderate to severe OA, as well as the effects of curcumin on the physiologic effects of OA, such as collagen degradation and chondral metabolism. Additionally, further randomized controlled studies with larger sample sizes are warranted to assess effects over longer periods of time, to determine the benefits and safety of the long-term usage of curcumin.

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Value in the Health Care System: Using Data to Drive a Standard of Care

William Dieter, PT, DPT, GCS

WHAT IS CLINICAL VALUE IN PHYSICAL THERAPY?

Clinical value is often defined as outcomes/cost.[1] As a profession, we strive to optimize our patient's function and quality of life, and are now being pushed to provide more objective assessments of our patient outcomes as value-based care looms. In physical therapy, an outcome may be quantified by clinical effectiveness or clinical efficiency. In 2001, the Institute of Medicine introduced National Quality Reporting Categories that include both of these outcome attributes. While both are measurements of clinical outcomes, efficiency has a direct relationship to costs while effectiveness has an indirect relationship by reducing downstream costs.[2] Regardless of the measure, our value must be evident to clients, third party payers, and the community at large.

The physical therapy workforce in the United States is highly variable in regard to education level, clinical experience, use of evidence, and degree of clinical specialization. Not surprisingly, this variability is evident in treatment approaches, clinical effectiveness, and the clinical efficiency of these therapists. Dr. Carole Lewis also points out in the 47th Mary McMillan Lecture titled, *Our Future Selves: Unprecedented Opportunities*, "Substandard care will destroy our profession…we graduate students at a high level, and then—possibly due to the pressures of the job or financial disincentives—the quality that was evident at graduation slowly slips into substandard care that is accepted at some level." The question is how do we keep the clinical bar high within physical therapy practice?

STANDARDIZING OUR CLINICAL VALUE

As a profession we need to define a standard of care/outcomes and continually work to elevate that standard. Some degree of evidence supports that clinical specialization enhances clinical efficiency.[3] In addition, many have hypothesized that clinical experience and

evidence-based practice are key contributors. An entire workforce of seasoned clinical specialists that utilize the evidence is unrealistic. Therefore, we need a way to elevate those in the profession that do not meet these criteria. Practical use of Electronic Health Record (EHR) data may be an underutilized means of enhancing clinical value.

Outcome registries may become a key variable in keeping the clinical bar high, but individual organizations need to develop internal systems that increase accountability and drive high quality care within a specific clinical context or population. Organization specific Quality indicators (QIs) may be the answer right now. Quality indicators may be related to effectiveness and efficiency given certain clinical characteristics and expected outcomes.[4] They may serve as a barometer for both high-quality care and internal benchmarking, allowing us to define a standard of care. For example, you may be able to determine (1) Clients between the ages of 70 and 80 post total knee arthroplasty with no other significant co-morbidities should reach X outcome on the Timed Up and Go (TUG) within 30 days; and (2) Measureable clinical characteristics that optimize client outcomes. Armed with this information, we may implement Quality Improvement measures, through EHR systems, that elevate the level of care throughout an entire organization. Widespread adoption of this approach would elevate the profession.

HOW CAN YOU DO IT IN YOUR OWN PRACTICE?[4]

As Stephen Covey wrote in *Seven Habits of Highly Effective People,* you need to begin with the end in mind. You do this by defining your target audience. This will determine if a review from an Internal Review Board (IRB) is necessary. Internal Review Boards are appropriately constituted groups that (1) approve, (2) require modification (to approve), or (3) disapprove research. If what you are doing meets the definition of research (www.irb.umn.edu/research.html) and includes human subjects, IRB approval would be necessary. Often, IRB approval would not be required when looking at your own clinical data for QI. The following do not require IRB approval: searches of existing literature, de-identified data analysis, and Quality Assurance activities.

You next should identify the clinical area. When developing more global QIs, one should focus on areas that (1) affect many patients, (2) have variable outcomes, and (3) are costly to the system. However, many of us do not have the resources to develop global QIs and would be better served developing QIs through our own data that relate directly to our day-to-day patient interactions and reimbursement. These QIs will help to alleviate the burden on our professional organization (APTA) and profession downstream.

The third step is to identify existing QIs or develop your own. Since QIs are not readily available in physical therapy research, chances are you would be developing your own. Stephen Covey also says one should be proactive. Hopefully, you were proactive and your EHR system was already designed to extract "structured fields." Some EHRs are more efficient at this than others, but, none the less, you should understand (1) which fields are extractable; (2) if you have an ability to modify, add, or change those fields; and (3) what format they will be provided to you. You should be proactive in considering current and future uses you may have for the data. Think about what you need now and what you may need in the future. If you choose an EHR that has an application program interface (API) with a registry or outcomes database already, much of this would already be done for you.

Once you choose outcome metrics ie, assistance levels for functional activities, FOM scores, and Functional Limitation Reporting, you can run statistical analyses to determine which attributes of the client, your internal processes, and/or clinical characteristics were most predictive of a certain outcome. Clinical efficiency should also be considered when making these decisions. These become the QIs you target with teaching and training and/or EHR updates that drive clinicians to meet them. Decision-makers may update this data however they choose, depending on the IT setup within your organization.

CONCLUSION

Clinical value is determined by both effectiveness and efficiency. We as a profession need to better demonstrate our value to external entities to secure our place in value-based care. We must define a standard of care for the profession to do so. Since a global standard is currently out of reach, individual organizations need to set a standard of care using QIs identified within their own EHR systems. Evidence shows implementing QIs improves outcomes, and implementing them into your EHR will raise the quality of care within an organization[5] and together we will raise the clinical value of our profession.

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International PT Student Skype Project

Erin Hofmeyer, PT, DPT, GCS; Lisa Dehner PT, PhD, CEEAA

Globalization impacts multiple aspects of health provision. It is critical that physical therapy learners are equipped to practice with knowledge and competence in global health. To address this, a Skype exchange activity was developed for physical therapy students in the Doctor of Physical Therapy Program at Mount St. Joseph University (MSJU) in Cincinnati, Ohio and Bachelor of Science Physiotherapy students from Hanze University (HU) in Groningen, Netherlands. The activity included a 2-part Skype interview. The purpose of this project was for students to (1) gain global insight about physical therapy; (2) learn about similarities and foster appreciation of cultural differences in the delivery, practice, and management of physical therapy services; and (3) expand intercultural communication skills.

Initially contacting one another via email, the student groups (1 MSJU DPT student and 2 HU BSPT students) set up a time to talk together using Skype to accomplish several goals. The first being to simply get acquainted. One MSJU student discussed her initial impressions, "When I volunteered for this assignment, I did not know what to expect. I really enjoyed being able to talk with someone who was not American and get her point of view. Plus, it was a cool idea just to be talking with students who are just like me from a different program." And another said "I was surprised at how good both Anna and Tom's English was. We carried on a smooth and easy conversation and it was a lot of fun to learn more about them and their program." Secondly, the students had some directed questions to learn about each other as physical therapy students (eg, coursework, amount of study time, and expectations for physiotherapy students). During this chat, students were also asked to explore personal views as to why they chose physical therapy, which setting they would like to practice in during their future internships, and perspectives on the physical therapy profession. Students also came prepared to the Skype chat with their own questions for their international peer. A MSJU student noted, "All 3 of us were very interested in getting to know each other. As a result, there only ended up being enough time for Monique and Sarike to ask their questions about me and my physical therapy program, and I was only able to get through about half before I had to leave for class."

Following the opening networking experience, students scheduled a follow-up meeting. In this second encounter, students were challenged to present 5 images from their school or country that best represented physical therapy. As the students presented these images, through Skype, they communicated insights and personal reflections as to why the image was selected and it's meaning to them. One MSJU student remarked, "I really enjoyed the second Skype meeting; it seemed less awkward and I liked getting to see the pictures of their school and program."

A final self-assessment culminated the experience. Students reflected on the perceived benefits from connecting with an international peer, challenges to the connection process, and value of the project from start to completion. Students provided several insights as to the successes and challenges of this experience and were asked to provide feedback on methods for improving the project for future cohorts within the program.

Participation in the Skype project this year was voluntary. Responses submitted generally reflected a positive experience:

"…I think that it is a great idea and I believe that many students, in years to come, will appreciate it as much as I did."

"…it gave me a great insight and wonderful experience to talk with other students about the profession and get their views which were different than mine."

"…it helped remind us that PT is a global profession and the US is not the only place to practice this profession."

"…[it] broadened my perspective on how different the field of physical therapy can be practiced."

Students were comforted by the primary similarity between them, the enthusiasm for their career choice, and learning about the human body and movement patterns to improve mobility and function.

Many students commented the experience demonstrated key differences in the global practice of physical therapy including educational level. Students were surprised international peers were in their late teens and early 20s seeking a bachelor's degree in physiotherapy rather than a graduate degree. Students also commented their surprise on the class size of students being 300-400 students per cohort compared to the typical smaller program sizes throughout the United States with a student noting, "I thought that 43 was a lot when we started so I cannot imagine how it would be with over 300."

The primary technical challenge during the experience included peer scheduling and finding mutual times to meet via Skype both from student's other responsibilities and the 6-hour time difference between Ohio and the Netherlands. Some peer groups were not able to find a mutual time to meet for the second experience thus relying on email and attaching photos with descriptions which probably limited the depth of sharing. Several groups elected to exchange information through the Facebook Messenger app versus email after the initial contact. Because coordinating the schedules of 3 peers proved challenging, recommendations were submitted to do one-on-one experiences which would be easier to coordinate and potentially more meaningful. The limiting factor in this case is the difference in the size of the HU classes compared to MSJU. A solution would be to include more US schools in the exchange project.

This project provided a feasible and affordable way to connect US students

with international peers. One student stated, "I haven't had the opportunity to travel much around the world, and this was a great opportunity to talk with people about their education experiences in a different part of the world." This opportunity provided a venue for our students to socialize globally and expand their perspectives of the physical therapy profession. Hopefully, students will be able to use these new ideas to think creatively about their own practice.

Reflections from students and instructors involved support continuation of this project with future cohorts. Next year, this international peer project will be integrated into a DPT course on professionalism to further expand cultural and global appreciation toward the role of the physical therapist in health care. Additionally, students participating in future Skype experiences will tailor questions to reflect global issues including perceptions and strategies on health disparities, the refugee crisis, and global pathologies.

The initial goals of this program were met. The experience enabled students to expand their perspectives and offered a valuable opportunity to communicate with students from a different culture. The participating students will be equipped with another tool that enhances their communication and socialization as a health care professional. Meaningful cultural discussion on global health issues and access to care will lend well for MSJU students later in their DPT program within Health Care Policy course content. Also, having a forum with a global partner will enhance the student's own awareness of federal and state health policies and scope of practice issues impacting provision of care. This type of project, using technology like Skype offers both a feasible and meaningful opportunity to integrate global learning into curricula.

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Are We Using the Right Approach to Fall Prevention?

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According to the Centers for Disease Control and Prevention, 1 in 3 older adults will fall every year with potentially devastating physical and social consequences and at a cost to the US government of $31 billion annually.[1] For those older adults over the age of 85, the risks of admission to long-term care following a fall increase significantly, and the most common cause of brain injuries in the older adult population is a result of falls.[1] In 2015, the Academy of Geriatric Physical Therapy, APTA presented a guidance statement regarding falls and fall prevention in the older adult.[2] They concluded that all older adults should be routinely asked if they have fallen and have a comprehensive fall risk screening annually. This should include screening for physical impairments, education regarding home hazards, feet and footwear, and education about fall risk. The report however indicated that there was a lack of specificity regarding interventions and a need for further research regarding the types of interventions that were most appropriate.[2] Of concern is a lack of exploration into the educational psychology related to educating a population on a detrimental issue, such as falls in the older adult. This article explores the concept of education for the older adult population with regard to changing their perspectives and attitudes. Appropriate aspects of educational psychology, with recommendations of associated motivational theories, will be discussed with relation to the educational approach of older adults, many of whom severely limit their activity participation due to their fear of falling.[1]

Education plays a significant role in everyone's lives, from the formal academia of kindergarten through high school and possible college and graduate programs, to the daily desire or need to learn new things. Learning to drive, learning a new hobby, learning the ropes at a new job, and importantly, every day there are medical practitioners trying to educate patients with regards to health-related issues. Blood pressure monitoring, diabetes management, osteoporosis prevention, and fall prevention all require an educational component. Unfortunately, Resnick and Avers have remarked many medical professionals, such as physical therapists, have very limited training and formal instruction on how to educate their patients, and effective techniques to use in patient education are lacking.[3] With specific regard to fall prevention programs for the older adult population, Laybourne et al clearly determined the educational approach may be too narrow to be successful and many interventions, through emphasis on falls, actually heightened awareness of falls, resulting in older adults decreasing their physical and social activities in an attempt to decrease their fall risk.[4] Laybourne et al also indicated many seniors reported increased anxiety related to falls as a result of attending a fall prevention workshop which is the opposite affect than the one intended.[4]

"This article explores the concept of education for the older adult population with regard to changing their perspectives and attitudes."

Similarly in academic research, Putwain and Remedios investigated the concept of scare tactics used by teachers prior to high stake national examinations.[5] These authors demonstrated those students who were subjected to extensive fear appeals, which were teachers who continually emphasized the consequences of failure, scored more poorly than those students who received less fear appeals.[5] Putwain and Remedios discuss the fact that messages that focus on avoiding failure would be considered a fear appeal but a teacher whose message focuses on student success is not a fear appeal and is not perceived by the students as threatening.[5] Traditional fall prevention programs tend to focus on falls, or failure, thereby constituting a fear appeal, whereas the work by Putwain and Remedios would suggest material needs to focus on success rather than avoidance of failure.[5] In their study, Putwain and Remedios discuss the impact of threat appeals on students with respect to self-determination theory, which would appear to be an appropriate theory to use when considering how to develop the approach to fall prevention in the older adult.

Self-determination theory was introduced by Deci and Ryan early this millennium.[6] Looking back at the previous work on motivation and the concept of goal driven behavior, these authors proposed a system that takes into consideration innate psychological needs including competence, autonomy, and relatedness. They stated different goals and different regulatory processes relate to different needs within the individual, which should also take into consideration social and cultural values.[6] Self-determination theory involves multiple constructs but Putwain and Remedios emphasize the most critical aspect of motivation, according to the self-determination theory, is the extent to which the behavior is found in the internal or external locus of control.[5] Sweet et al summarize the constructs of the self-determination theory explaining first that autonomy support is the ability of the individual to make a choice, ensuring the individual feels he can make his own choice from the options presented.[7] Secondly, competence is the ability to take advantage of opportunities with respect to the behavior change, for example exercise. Thirdly relatedness, which is the desire to feel connected to others in the same context, with relation to the behavior change being attempted.[7] Deci and Ryan state if these concepts of autonomy, competence, and relatedness are not satisfied there are usually resultant negative functional consequences with regard to the mental health of the individual as well as negative consequences in the per-

sistence and performance of the desired behavior.[6]

In addition to the 3 concepts of autonomy, competence, and relatedness, the self-determination theory incorporates 3 distinct types of motivation that run on a continuum from a motivation through extrinsic to intrinsic.[7] According to Deci and Ryan, extrinsic motivation is the external regulation of behavior as a result of trying to achieve or avoid a consequence.[6] Extrinsic motivation can be in the form of a specific reward, monetary for example, or the avoidance of a threatened punishment.[6] These authors remark that extrinsic motivation is the basis of operant conditioning and has been shown to undermine intrinsic motivation that can be detrimental to the individual. In their theory, Deci and Ryan consider external or extrinsic motivation to be controlling and the behavior is rarely continued once the external reward or threat has been removed. It is therefore a very negative approach to behavior change.[6] In contrast, intrinsic motivation is considered to influence behaviors that allow the individual to achieve basic needs of competence and self-determination.[6] As such emphasizing intrinsic motivational factors leads to individuals undertaking behaviors because they are interested, and which promote the growth of the individual. However, these authors do emphasize the participation will only continue if the individual experiences competence and autonomy.[6] In this way, Deci and Ryan describe the summary of their theory as a cycle. Intrinsic motivation will be triggered by provision of autonomy and competence, but maintenance of the behavior likewise requires the psychological satisfaction of autonomy and competence and relatedness. In addition, extrinsic motivators have significant potential to undermine intrinsic motivation, and therefore, prevent the desired behavior being adopted.[6]

Applying this within an educational setting, Putwain and Remedios suggested that a classroom that focuses on extrinsic motivation, such as fear tactics, undermines the intrinsic motivation of the students and increases the negative feelings toward the subject matter as well as increased emotions to include anger and anxiety.[5] This links closely to the work of Laybourne et al when they remarked fall prevention programs have increased the anxiety of the older adults who attended.[4] As such, using the self-determination theory concepts, the following educational approach to fall prevention is suggested.

First, it is critical that extrinsic motivators are removed from the program.[6] Putwain and Remedios discuss teacher pressure and power increase negative feelings and anxiety.[5] Turner and Patrick looked at motivation within an educational setting. Their work discusses the need for supportive engagement along with education being meaningful and relevant to the individual.[8] Their suggestion is motivation should incorporate social and historical contexts and education must take into consideration, and respond to, changes in the individuals receiving the education, particularly with regard to behavior change, since it is a dynamic process.[8] As such, the recommendation for fall prevention programs would be to remove the noxious stimuli of the title and call it something more positive with intent to trigger intrinsic motivation, for example, "positive health program, or active aging or successful aging." The use of positive terminology, such as active, successful, or positive, also reflects the growing interest with resilience theory for the older adult. Resilience theory focuses on emphasizing prevention and personal growth, and not to focus on the negatives, such as falling.[9] Another aspect of resilience theory is increasing laughter and hope rather than negative feelings,[10] all of which could be incorporated into programs.

Having removed extrinsic motivation and initiated work on intrinsic motivation, the program would have to incorporate autonomy, competence, and relatedness, which Deci and Ryan feel will improve intrinsic motivation and then need to be built on for the maintenance phase.[6] Autonomy is an emphasis on individuals making choices and having options, they have to believe that they have chosen their own behavior.[7] When considering fall prevention, currently many older adults choose to limit their activities in the belief that this will result in a decreased fall risk. As such, they have chosen their behavior but based on the extrinsic way the material is being presented.[4] Different and multiple options need to be presented during the program to allow the individuals a choice of behavior. According to the Centers for Disease Control, increased activity in the older adult promotes positive health and improved well-being, including fall prevention.[11] However, this activity does not need to be specifically exercise, but fun activities the older adult has previously enjoyed such as gardening, dancing, walking, or swimming.[11] Lee et al found many older adults did not believe walking would be considered physical activity, and once reassured it was appropriate activity, were able to verbalize ways they could incorporate it into their daily lives.[12] Reflecting the emphasis on education being relevant and meaningful,[8] discussion regarding types of activity the participants used to enjoy and how these can be incorporated into their current lifestyle would help to promote autonomy.

The concept of competence is being effective and having opportunities to participate in activities, and is not reliant on content but rather based on curiosity and assimilation, which Deci and Ryan state is a defining feature of humans.[6] To create this concept in a positive health program, individuals should be encouraged to explore ideas and experience different types of activities. A well led group that encouraged participation but without any threat to the individual if they chose not to participate would promote intrinsic motivation and competence. In many ways this concept reflects the self-efficacy theory of Bandura[13] with the personal accomplishment and vicarious experience both being addressed.

Finally, relatedness likewise reflects the vicarious experience of self-efficacy theory in that it plays into the human desire to be a part of a social organism rather than an isolated individual.[6] Sweet et al consider relatedness the need to feel connected with others,[7] which is particularly relevant when participating in physical activity and reflects the work of Lee et al when they remark that working in groups is one of the most optimal ways of encouraging older adults to increase activity.[12] Discussing the self-efficacy theory, Lee et al conclude vicarious experience is most appropriate in the group setting, and self-efficacy is most relevant for initiation of an activity program but may not be as critical in the maintenance phase.[12] Self-determination theory suggest maintenance can be

achieved through an ongoing emphasis on autonomy, competence, and relatedness.[6] Quality group programs would appear to be appropriate not only for initiation of an activity program but also the maintenance stage.

There are inevitably challenges with the self-determination theory. One of the primary issues is the need for excellent leadership since not only must the leader inspire trust and be meaningful for the older adult, but their approach must promote autonomy, competence, and relevance.[6] It is highly probable in order to provide the options needed to promote autonomy, a variety of different leaders with different experiences and perspectives will be needed to give the older adults sufficient choice to achieve autonomy. An additional challenge presented by Sweet et al is their recommendation that self-determination theory be integrated with other theories, particularly when exploring physical activity issues.[7] This challenges anyone trying to use the self-determination theory to incorporate other concepts, such as self-efficacy, transtheoretical, or resilience theories requiring additional program development. A further challenge with the self-determination theory is a concept discussed by Hoover and Polson that many older adults are dependent on their caregivers to help them make decisions which makes the creation and perception of autonomy more challenging.[14]

Current fall prevention programs are often presented in a way that appear to increase anxiety in the older adult and often causes the participants to decrease their activity levels in an attempt to avoid falls.[4] Educational psychology needs to be used to address the format of these programs that currently focus on extrinsic motivation of avoiding a fall rather than capturing intrinsic motivators through the use of autonomy, competence, and relatedness.[6] These concepts are the core components of self-determination theory which links well with aspects of self-efficacy theory and resilience theory in considering key components of a fall prevention program for the older adult. The recommendations suggested would be to focus on positive issues, therefore changing the name to a positive concept, ensuring autonomy for the older adult, and providing the opportunities for competence and relatedness. This could be achieved primarily through well led groups with leadership who is able to relate to the older adults making the interventions meaningful.[8] According to Deci and Ryan the provision of these concepts will not only assist with initiation of a behavior change, such as increasing physical activity, but will also support the maintenance of the change.[6]

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Revisiting the ICF Model Applications in Clinical Education

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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 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 2 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.[2,3] 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 physical therapy evaluation templates, and a reduced perception of overall framework value. Tools 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.

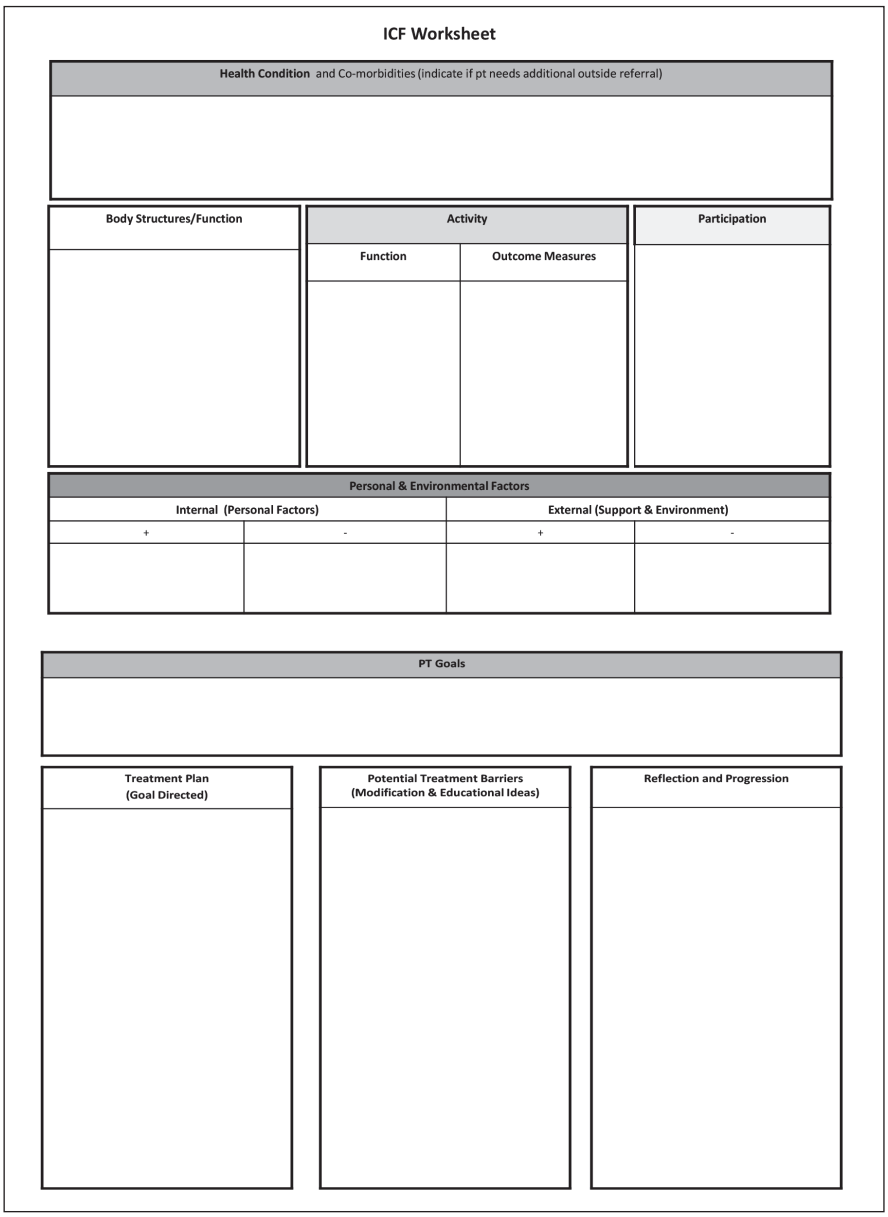
CASE SCENARIO

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-

Figure 1. ICF worksheet.



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.[2] 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

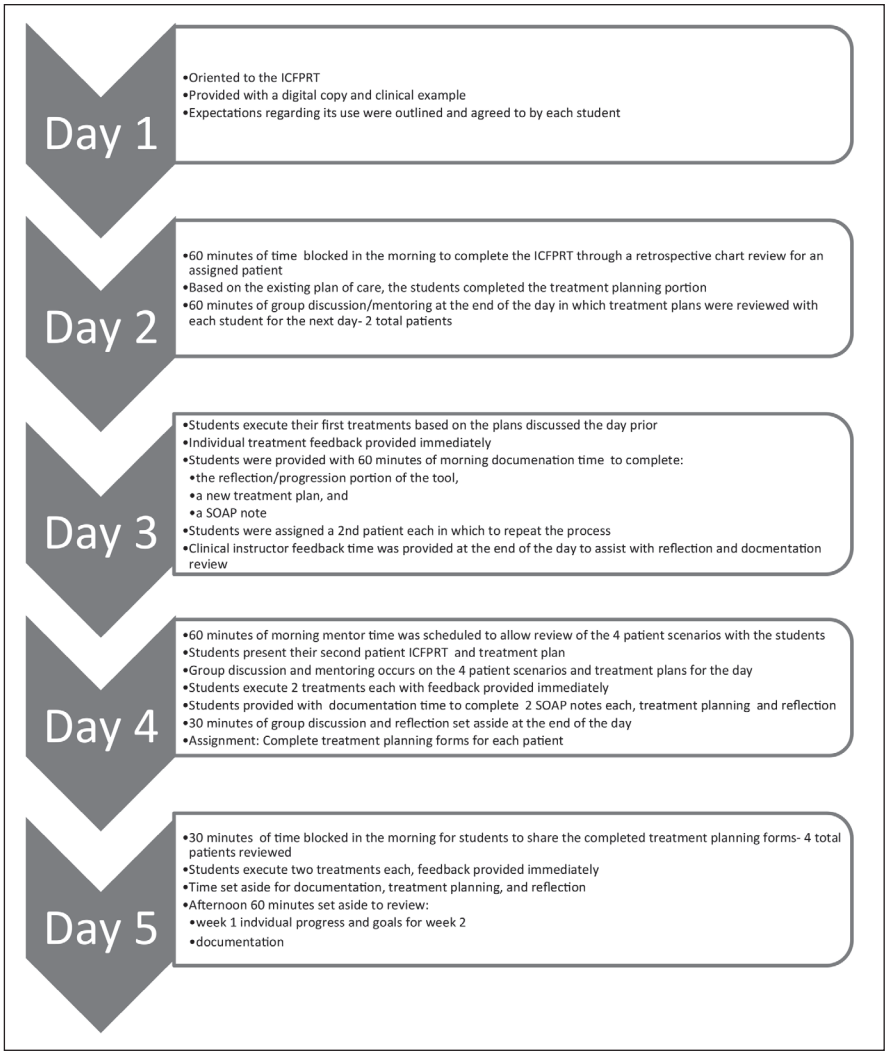
In an exit interview that was completed following the clinical internship, both students perceived the ICFPRT as adding value to the clinical experience and improving their clinical efficiency. Both students reported despite being time consuming in the beginning of the rotation, use of the ICFPRT improved 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 physical therapy school graduation, both entry-level DPTs indicated the use of the ICFPRT laid an important foundation for their clinical practice, recommended continued use of the tool with future physical therapy students, and reported they would like to use the tool when they become clinical instructors. One physical therapist 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 CI felt 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 CI 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 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

Figure 2. Clinical integration process.



Abbreviations: ICFPRT, International Classification of Functioning, Disability and Health, clinical planning and reflection tool; SOAP, subjective, objective, assessment and plan

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 CI, 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.

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Will My Patient Follow My Discharge Recommendations?

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Will my patient follow my discharge recommendations is a question asked by many therapists. However, most therapists do not perform follow-up calls to obtain the answer. Yet a simple phone call can go a long way. Several researchers have identified regular phone calls increase patient's adherence to discharge (DC) recommendations.[1]

At this year's Gerontology Society of America (GSA) Meeting, adherence (especially regarding exercise) was a hot topic. One of the common themes was adherence to recommendations improves with a social component and/or if there is support from friends and/or family. This is why evidence-based fall prevention programs in your community are key to ensuring that your patient will adhere to an exercise program. Once you have identified these programs in your community, it is important to know which one is right for your patient and how to connect your patient to it.

Just like physical therapy (PT), there is no cookie cutter approach for fall prevention programs—one community program does not fit all. You need to examine your patient's level of fall risk, functional mobility, fear of falling, method of transportation, and community resources prior to recommending an exercise program. It is good to think about it in a hierarchical format. Those who have the highest impairment/risk for falls should start with Otago.

Otago is a powerful tool that all physical therapists should have in their toolbox. A recent study shows after completing the Otago program there is 15% fewer falls, 34% decrease in fear of falling, 40% can get up off the floor, 40% increase strength and balance, 48% feel more comfortable increasing activity level, 51% feel more satisfied with life, and 50% feel more comfortable with talking to their health care provider.[2] To learn more about Otago visit: https://www.med.unc.edu/aging/cgec/exercise-program.

If your patients primary risk for falling is fear of falling, Matter of Balance is the right program for them (however, keep in mind this program works on your patient's fear of falling and an additional program addresses impairments/other fall risks). If your patient has progressed through Otago and is appropriate for another community-based exercise program, Stepping On may be appropriate for them. If your patient is higher level or has progressed through the other exercise programs he or she may be appropriate for Tai Chi.

The second part of ensuring your patient has an appropriate exercise program is collaborating with public health officials as well as community resources. One such collaboration effort is the "Falls Evaluation and Technical Assistance" (FETA) team. It includes the University of North Carolina at Chapel Hill, the University of Georgia, Texas A&M, and the Center for Disease Control (CDC). Their big campaign title is, "It Takes a Village: A multidisciplinary, multilevel evaluation of the State Driven Fall Prevention project (SDFP)." Together they are addressing the need to create systems that support the widespread dissemination, implementation, and adoption of evidence-based fall prevention programs in clinical and community settings.

There are many other collaborations with the CDC and the National Council on Aging (NCOA). Both the NCOA (https://www.ncoa.org/healthy-aging/falls-prevention/) and CDC (https://www.cdc.gov/homeandrecreationalsafety/index.html) have great resources about fall prevention, including information on evidence-based fall prevention programs. Both were represented at the GSA and shared their resources as well as their collaboration efforts with communities and health care providers.

An issue that many physical therapists encounter is learning about these resources and collaborations. It would be great if every state had a website available that would provide physical therapists with easy access to this information. The great news is there are several resources available, including in Massachusetts, North Carolina, Vermont, and New Hampshire. Several other states are working on their resources, but there is a continued struggle regarding maintaining and subsidizing these websites. If you would like to be involved with this process, contact your states falls coalition.

The individuals from North Carolina presented their website (http://www.healthyliving4me.org/) at GSA. It is very user friendly and has great information for older adults, caregivers, public health personal, and health care providers. They were able to initiate their website by funding through an Administration for Community Living (ACL) grant. Once their website was initiated, they put a significant amount of work into marketing it and spreading the word. They initially educated emergency medical technicians (EMTs), centers of independent living, and other health care professionals to spread the information about the website. This resulted in support from the executive director of the state division on aging as well as many private donors. They also created contracts with hospitals and other facilities to promote their events on the website. Another method of raising money for the website is by providing master training courses for evidence-based exercise programs.

Another great resource presented at the GSA is run by fall prevention leaders in Massachusetts (https://mahealthyagingcollaborative.org/). This website has great information about data reports, programs, and several other resources. They also initiated their website through a grant and are able to sustain it through various financial supporters/grants.

Resources, such as these two websites, make it much easier to ensure you find the right program for your patient and your patient adheres to their DC recommendation. This prevents a sedentary lifestyle, which leads to decline

in mobility and increased fall risk status. At GSA there was an educational session on sedentary lifestyle. The presenters stated that on average 77% of awake time is spent sedentary. This percentage increases with aging. Most older adults take less than 5,000 steps per day, classifying them as highly sedentary. Besides community exercise programs, another way to increase participation in physical activity is by providing patients with pedometers to track their steps/day and then follow-up with regular phone calls.

Hopefully these resources will assist you with ensuring your patient is compliant with his/her DC recommendations. However, even with these techniques, patient adherence can be a struggle. At GSA several researchers mentioned the number one indicator for being active later in life is being active earlier in life.[3] It is never too early to start. Make sure as a health care provider you are leading by example and performing the recommended 10,000 steps per day and completing 150 minutes of moderate intensity exercise per week.

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AGPT Balance and Falls SIG *The Monthly Challenge*: Changing Our Management of Falls Risk Intervention 30 Days at a Time

Heidi Sue Moyer, PT, DPT

The Academy of Geriatric Physical Therapy (AGPT) Balance and Falls Special Interest Group (SIG) is currently promoting a self-produced program called *The Monthly Challenge*. The goal of this program is to inspire clinicians to re-think their clinical practice when it comes to managing falls and falls risk among their older adult patients and clients.

As of February 2017, a total of 97 individuals are participating in this professional development program. This endeavors helps clinicians to re-evaluate and progress their clinical prowess when it comes to managing balance and falls. The purpose of this article is to describe the development, implementation, and value of participation in the AGPT Balance and Falls SIG *Monthly Challenge* clinical development program.

THE DEVELOPMENT OF *THE MONTHLY CHALLENGE*

As clinical liaison for the Balance and Falls SIG, I wanted to create a program that was simplistic in nature, easy to implement into daily clinical practice, and would be interesting enough for participants to dedicate a full year of attention to. As a new graduate, I am always looking for new information to integrate into my emerging clinical practice habits. Along with this thirst of knowledge, I also understand just how overwhelming all this information can be. Decades of fall risk research and interventional studies come crashing down on me every time I open my browser window search engine, and without duress, I can say it is extremely overwhelming. So as a consumer of projects such as these, this

meant I needed to find something that fit the aforementioned criteria, but could be applicable to clinicians of all skill levels and in all settings.

What resulted from this cognitive brain storm was *The Monthly Challenge*, which is a 12-step program, taking place over the course of a full year. This would serve as a clinically relevant resource for members of the AGPT community. Since this topic is so expansive, promoting a year-long program would allow for plenty of time to touch on each of the many topics within this topic as possible. Each month features a topic related to managing intervention related to falls and fall risk. January began with initiating the discussion of falls with tips on how to facilitate a meaningful and effective conversation pertaining to individual fall risk. Each following month highlights topics such as home modifications, educating our medical contemporaries, addressing fear-induced activity limitations, and community outreach efforts. We decided to begin the program in January as people were setting their resolutions for the New Year in hopes of re-energizing everyone as they were gearing up for a brand-new year. Thus, this program serves as a professional resolution for these participants, ensuring they continue to grow professionally each month to culminate in refined clinical practice by the end of 2017.

IMPLEMENTING THE PROGRAM

Each month on the first, an email is distributed to everyone who has articulated interest in joining the list serve for the group. This communication includes the following: an introduction to the topic for the month, a detailed list of resources for further reading, and two sets of sample goals. One set is related to the clinician's progress and use of the materials to track progress for those who are interested in personal progress. The other set contains a list of sample goals that can be used in the patient plan of care to assess patient progress related to each topic.

A single page handout is also enclosed with the most pertinent information details included so it can be posted in a work room, office, or next to a computer for easy reference during documentation or patient care time. This promotes the ease of use ideally, promoting accessibility of the materials in a busy, or sometimes even cluttered, work environment. As participating parties forward and share this information to colleagues, students, and friends, a snowball effect tends to occur each month, and additional individuals contact us and state an interest in inclusion for this program.

Additionally, as part of the challenge email group, the members have access to each other digitally, so they are able to communicate their successes, opportunities for growth, and feedback of the program to each other as well as to the SIG leadership. In the middle of each month, we send out an email to all members offering them the chance to discuss their involvement thus far with each other and share anything they have learned or want to learn yet.

PROMOTING LASTING CHANGE IN AN EVOLVING HEALTH CARE CLIMATE

When adapting change, whether it be the developing practice of a new graduate DPT or molding the more solidified practice of a clinical expert, high amplitude alterations are not only overwhelming, but also untenable. In implementing 12 small changes over the course of a year, we are able to pursue a larger, longer lasting shift in our treatment and management of fall risk and related conditions at a steady pace. This environment of accountability and support fosters success among our participants and allows for modification of each following month's materials based on the needs of the group as a whole. This makes the experience more rewarding for our participants and helps to guide our development of the materials for future topics.

GET CONNECTED!

If you are interested in participating in *The Monthly Challenge* or have questions related to the program, please email me at moyerheidis@gmail.com. If you have questions related to the events and opportunities presented by the Balance and Falls SIG, please contact the SIG Chair, Mariana Wingood, PT, DPT, GCS, CEEAA at mariana.wingood@outlook.com.

Heidi Sue Moyer is a recent graduate from Angelo State University and currently works at Alexian Brothers Rehabilitation Hospital in Elk Grove Village, Illinois. She serves in several roles such as the co-state AGPT advocate for Illinois, Clinical Liaison for the AGPT Balance and Falls SIG, a committee member on the GeriEdge Task Force, and the Awards Committee for the Academy of Neurologic Physical Therapy. Additionally, Heidi holds various commitments within the Gerontological Society of America. She can be reached for questions or further information on the AGPT Balance and Falls SIG *Monthly Challenge* program at moyerheidis@gmail.com.

Practice Chair Update

Keith Avin, PT, PhD

1. APTA COUNCILS

☐ APTA's Board of Directors has established two new councils to advance the strategic priorities of the association and profession. They are Council of Health Systems Physical Therapy (CHSPT) and Frontiers in Research, Science, and Technology (FiRST) Council. See below for more information about each Council.

☐ Council of Health Systems Physical Therapy (CHSPT) http://www.apta.org/CHSPT/

CHSPT welcomes involvement from APTA members that practice in major health systems.

The purpose of the Council of Health Systems Physical Therapy will be to improve the health and wellness of society by advancing the practice of physical therapy and promoting scholarship and research through:

- Greater communication among the major health systems, as well as among the major health systems, APTA members and components, the Board of Directors, and staff;
- Influencing the development of innovative models of care such as collaboration on electronic medical record (EMR) development, determining improved methods of measuring outcomes, improving care coordination across the continuum of care, and promoting the value of physical therapists in major health care systems;
- Development and adoption of best practices by major health systems.

☐ Frontiers in Research, Science, and Technology (FiRST) Council http://www.apta.org/FiRST/

FiRST welcomes involvement from all interested stakeholders. FiRST grew out of identification of high priority areas to advance science and innovation that our profession needs to understand and incorporate into our practice, education, and research. The following content areas are covered by the FiRST Council; Regenerative Rehabilitation, Sensors and Robotics, Telehealth and Genetics in Physical Therapy.

FiRST has goals to:

- Establish collaborative partnership and participation among stakeholder groups (sections, academies, external groups, APTA, etc);
- Participate in the promotion of scientific and technological innovation in rehabilitation and movement sciences;
- Leverage scientific and technological discoveries to advance physical therapist practice, education, and research;
- Provide a formal means for the members and partners of the council to meet, communicate, and interface with each other, the APTA Board of Directors, and the profession;
- Promote networking, information sharing, education, and leadership development in the areas of innovation, science, and technology across the association and its components;
- Establish a structure and composition for sustainability within the resource constraints as identified by the APTA Board of Directors and consistent with the Bylaws of the American Physical Therapy Association and APTA positions, standards, guidelines, policies, and procedures.

2. FEDERAL/REGULATORY UPDATES THAT IMPACT PRACTICE

☐ The "Physical Therapy Interstate Licensure Compact now has 10 states that have adopted the compact. A Compact Commission will be form to make rules for the new process. This is expected to be in place by the end of 2018.

For more information on the Physical Therapy Licensure Compact, please visit APTA's website at http://www.apta.org/StateIssues/InterstateLicensureCompact/ or fsbpt at http://www.fsbpt.org/FreeResources/PhysicalTherapyLicensureCompact.aspx

☐ Inpatient Payment Proposed Rule Calls for $3 Billion Increase to Acute Care Hospitals, Reductions for Long-Term Care Hospitals.

- Acute care hospitals are slated for 2.9% payment increases (approximately $3 billion) in 2018
- Long-term care hospitals (LTCHs) could see a 3.75% reduction
- EHR-related incentive programs would ease some quality-reporting requirements
- Rule would institute a 1-year moratorium on 25% threshold policy for LTCHs
- Patient satisfaction survey questions on pain would return in reworded form

For more information, See PTinMotion article. http://www.apta.org/PTinMotion/News/2017/4/17/2017/IPPSProposedRule2018/

3. DIVERSITY INITIATIVES UPDATE

☐ The Association is working with Components to create member groups to develop initiatives to increase diversity in membership and leadership and/or provide information on cultural competence in the profession.

☐ The 25th Anniversary of the Celebration of Diversity is scheduled for Saturday, October 14, 2017 Franklin Park Conservatory, Columbus, OH.

- Further details on participation will be forthcoming on APTA's web page including how you can contribute via an APP.
- For more information visit http://www.apta.org/celebrationofdiversity/

☐ For more information: contact Johnette L. Meadows, PT, MS at 703-706-3143 of johnettemeadows@apta.org

4. PHYSICAL THERAPY OUTCOMES REGISTRY

☐ The Physical Therapy Outcomes Registry (Registry) uses data from the profession, for the profession, to help you elevate your patient care, visualize your value, and define your future.

The Registry collects and aggregates electronic health record (EHR) data from participating practices to help physical therapists make well-informed clinical decisions and track and benchmark clinical outcomes against nationwide data. By joining the Registry, you will gain a critical tool to demonstrate the value of physical therapist services.

☐ Open enrollment is underway.

☐ For more information on the Physical Therapy Outcome Registry, please visit APTA's website at www.ptoutcomes.com.

5. PAYMENT UPDATES THAT IMPACT PRACTICE

☐ Direct to Employer PT- Building Supply and Demand. This recorded panelist conversation discuss why and how PTs can offer viable solutions by appealing directly to employers. Whether the employer is self-insured or not, they are motivated now more than ever to lower healthcare costs and maintain a healthy and productive workforce. Initiating outreach directly to the employer community to convey the value of physical therapist led efforts in reducing future overall health care costs and morbidity will be outlined. An overview of the potential challenges and pitfalls in establishing employer based programs is also presented. Attendees will be introduced to the concept of population health management as a tool to "transform society". To listen to this discussion, please visit APTA's Learning Center at http://learningcenter.apta.org/

☐ Utilization management: APTA is actively engaged in ongoing collaboration with chapters, major payers, and delegated Third Party Administrators to address administrative burden and associated impediments to patient access. These are companies that mange the PT benefit and determine the number of visits, and place PTs in tier systems based on utilization data only, not factoring in outcomes or special niche practices for peds or neuro. We're working with payers to gather real time provider feedback and with our chapters. The collective findings will be used to inform system improvements. Meanwhile, APTA recently released the Utilization Management Toolkit offering suggested mitigation strategies at both the provider and chapter level. We also have a UM feedback form available for completion if you're having major problems. This allow APTA to determine trends with certain TPAs and also allow for additional follow up.

☐ The New Therapy Evaluation codes are in full swing. APTA continues to update resources and address frequently asked questions. For more information and the latest resources, please visit http://www.apta.org/EvalCodes/FAQ

6. PREVENTION, WELLNESS, AND DISEASE MANAGEMENT

☐ APTA has a new Community on the HUB. The Prevention and Health Promotion Community is a collaborative space to post, discuss, collaborate and generate innovative growth in the practice of prevention, wellness, fitness, health promotion and management of disease and disability in Physical Therapy. This community will serve as a resource for physical therapists as they continue in or expand their practice. To become active in the Prevention and Health Community, please visit http://communities.apta.org/p/co/ly/gid=182

☐ Below are activities related to prevention, wellness and disease management that you can share with your component.

- Chapter Opportunity For Grant Funds to increase access to Arthritis Foundation Walk With Ease (WWE): Deadline June 9

  The National Association of Chronic Disease Directors (NACDD), in collaboration with the Centers for Disease Control and Prevention (CDC) Division of Population Health Arthritis Program and APTA, announce an opportunity for chapters to receive funds to implement and evaluate activities for increasing access to the Arthritis Foundation Walk With Ease (WWE) self-directed intervention as supported by CDC. Applicants must propose using funds to implement the WWE self-directed program. Applicants may also propose to collaborate with community partners and/or state arthritis programs with existing capacity to implement and/or increase participation in the CDC-recommended WWE self-directed intervention. "Existing capacity" is defined as actively providing arthritis-appropriate evidence-based interventions (AAEBIs), the ability to offer AAEBIs as a new service within the project period or existing partnerships with organizations providing AAEBI interventions. AAEBI programs are designed to increase physical activity, reduce pain and improve quality of life for adults living with arthritis.

  NACDD will award up to 9 grants of approximately $4,100 each. Project period will begin late June/early July 2017. Funds can be used to purchase participant WWE guidebooks, marketing materials and administrative costs. Grantees are expected to enroll 400 participants during the project period. Applications are due by June 9 and can be downloaded from this webpage. For questions, please contact Natasha McCoy at NACDD. aware

- Primary Care for Physical Therapists: The White Paper
  Course at NEXT 2017
  Date: Friday, June 23, 2017
  Time: 1:00 PM - 2:30 PM
  Location: Boston Convention & Exhibition Center
  Room: 102 A

  Description: This session will educate attendees about the content of the Primary Care Roles of Physical Therapist white-paper and describe what primary care means and looks like for a physical therapist to practice as part of a primary care team. Next steps for the profession in this realm will also be detailed. The therapists and students will be made aware that we are part of the primary care team; there are various ways to implement our care and value in the health care system.

- Go4Life , an exercise and physical activity campaign from the National Institute on Aging at NIH, is designed to help individuals fit exercise and physical activity into their daily life. Motivating older adults to become physically active for the first time, return to exercise after a break in their routines, or build more exercise and physical activity into weekly routines are the essential elements of Go4Life. Go4Life offers exercises, motivational tips, and free resources to help you get ready, start exercising, and keep going. The Go4Life campaign includes an evidence-based exercise guide in both English and Spanish, an exercise video, an interactive website, and a national outreach campaign. free resource for consumers from National Institute of Aging division of National Institute of Health

☐ APTA participated in the "Innovation Summit: Moving American Health Across the Spectrum of Physical Activity." The purpose of the summit was to pioneer the next phase of actionable transformational progress for physical activity, sports and health in the U.S. The summit generated 3 overarching concepts.

1. Increasing all forms of Physical Activity (PA) behavior and participation, will require:
   - o Multicomponent efforts
   - o Multisector involvement and partnerships
   - o Federal, state, and local investment and support

2. Consistent marketing and common messaging is needed at the local, state, and national level (highlighting the benefits)

3. Embracing new technologies will provide powerful options for scaling current efforts and enhancing research and surveillance methods

☐ For more information on activities related to Prevention, Wellness and Disease Management, please visit http://www.apta.org/PreventionWellness/

7. PTNOW UPDATE

☐ APTA PTNow has added more resources. See below for details.

- Clinical Summary: Spinal Cord Injury (SCI) in Children and Adolescents
- CPG+: Vestibular Rehabilitation for Peripheral Vestibular Hypofunction: An Evidence-based Clinical Practice Guideline
- Test & Measures Summaries
- Interlinking: between PTNow and the Test and Measures chapter of the Guide to Physical Therapist Practice 3.0

☐ For more information on activities related to Prevention, Wellness and Disease Management, please visit http://www.apta.org/PreventionWellness/

PTA Student Wins National Award

Leah Huber Wright of Campbellsville is the APTA Academy of Geriatric Physical Therapy's Outstanding Student Award recipient for 2017. The award is based upon academic performance, community service, service to the APTA and to the Academy of Geriatric Physical Therapy, and letters of recommendation. She received the award in San Antonio, Texas in February and is the fifth SCC student to be recognized with the award.

A student currently enrolled in second-year studies in the Somerset Community College Physical Therapist Assistant Program has been named the recipient of the American Physical Therapy Association's (APTA) Academy of Geriatric Physical Therapy's Outstanding Student Award for 2017. Leah Huber Wright of Campbellsville received the award at the APTA Combined Sections Meeting in San Antonio, Texas in February.

Wright is the fifth SCC student to win the award. Past winners from SCC include: Travis Dills, Somerset; Brittany McKee, Bronston; Briana Allen, Monticello; and Debora Lasure, Stanford.

Wright, who previously attended the University of Kentucky, serves as Vice President of her class and of SCC's Physical Therapy Student Organization. She is a peer mentor and tutor, is an active member of the Kentucky Physical Therapy Association (KPTA), and was named to the 2016 KPTA/RehabCare All-Academic Team. She attended the 2016 KPTA Conclave and participated in the KPTA's Day of Service through coordinating activities to assist a local homeless shelter. She has coordinated fundraisers for the Foundation for Physical Therapy and is a member of the APTA's Academy of Geriatric Physical Therapy and the Orthopaedic Section.

In 2016, she received the highest honor presented within SCC's PTA Program, having been selected the recipient of the James H. Anderson Award. This award is especially meaningful as it is peer-selected and based upon the expectation that the recipient will make a significant and lasting impact upon the physical therapy profession.

Wright was nominated for the award by Dr. Steve Hammons and the nomination was supported by PTA Program Director Dr. Ron Meade. PTA program students Lindsay Bowen, Tabitha Drury, Janel Northington, and Ginny Thomas also wrote letters of recommendation on Wright's behalf.

Wright is the daughter of Joe and Kathy Huber of Campbellsville and is expected to graduate with an Associates of Applied Science Degree from the Physical Therapist Assistant Program in May 2017.

For more information about applying for the 2018 Outstanding Student Award, visit the Academy's website at: https://geriatricspt.org/awards/.

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