

GERI NOTES

Academy of Geriatric Physical Therapy

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You Can Teach an Old Dog New Tricks

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IN HONOR/MEMORIAM FUND

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

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

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

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

PRESIDENT'S MESSAGE: ANOTHER GREAT CSM!

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



The Member's Meeting was a great time to celebrate! A big thank you to Aegis Therapies as a Gold Sponsor. We are grateful for their continued support year after year. We would also like to thank Balanced Body and Fabrication Enterprises as Bronze Sponsors this year. Before writing about the meeting, I wanted to give you an update on other Sections that are following our lead. The Neurology and Pediatric Sections officially became Academies at CSM.

At the Member Business Meeting we had the Installation of new officers by our Secretary Ann Medley, PT, PhD, CEEAA. Kate Brewer, PT, MBA, RAC-CT, is our new Treasurer; Myles Quiben, PT, DPT, PhD, GCS, NCS, CEEAA, was re-elected and Sue Wenker, PT, MS, GCS, CEEAA, as our Directors. Anne Coffman, PT, MS, GCS, CEEAA, was elected to join the Nominating Committee.

SIG Officers who were elected or named by the Board include:

Health Promotion and Wellness Chair - Lori Schrodt, PT, MS, PhD
Health Promotion and Wellness Nominating Committee - Gina Pariser, PT, PhD, LDE
Balance and Falls SIG Chair - Mariana Wingood, PT, DPT, GCS, CEEAA
Balance and Falls SIG Vice Chair - Emma Phillips, PT, DPT, GCS, CEEAA
Balance and Falls SIG Treasurer - Kathy Mercuris, PT, DHS, CEEAA, C/NDT
Cognitive and Mental Health SIG Chair - Lise McCarthy, PT, DPT, GCS
Residency/Fellowship SIG Chair -

Tamara Gravano, PT, DPT, GCS, CEEAA
Bone Health Chair - Sherri Betz, PT, GCS, PMA-CPT, CEEAA
Bone Health Vice Chair - Lisa Hamilton, PT, DPT, PMA-CPT
Bone Health Secretary - Ginny Renegar, PT, MS
Bone Health Nominating Committee - Gwen Dani, MPT, GCS, CEEAA and Amy Wagner, PT, DPT, GCS

The Board also gave recognition and thanks to outgoing Board members and Committee Chairs.

Tamara Gravano, PT, DPT, GCS, CEEAA, Membership Chair - 2009-2016
Mary Thompson, PT, PhD, GCS, Nominating Chair - 2015-2016
Tiffany Hilton, PT, PhD, Program Chair - 2012-2016
Mindy Renfro, PT, DPT, PhD, Balance and Falls SIG Chair - 2013-2016
Sara Knox, PT, DPT, GCS, Director - 2013-2016
Anne Coffman, PT, MS, GCS, CEEAA, Treasurer - 2010-2016

Additionally, we recognized 6 outgoing State Advocates.

Meryl McCormack, PT, MPA, GCS - California
Mona Fazzina, PT, DPT, GCS, CEEAA - Connecticut
Jeff Paddock, PT, MPT, MBA, CSCS - Louisiana
Polly Swingle, PT, GCS - Michigan
Leah Villanueva, PT, DPT, GCS, CEEAA-California
Cherie Masitti, PT, MS, PCS-New Mexico

Greg Hartley, PT, DPT, GCS, CEEAA, and Anne Reicherter, PT, DPT, PhD, OCS, CHES, presented a Practice Committee Update regarding practice guidelines.

The membership unanimously

approved two Bylaw Amendments. The first now allows PTAs to have a full vote for all elections. This is in accordance with APTA's change that was approved at the House of Delegates last summer. The second vote was a raise in dues beginning in 2017. The dues increase to \$55 was needed due to increases in our costs. We have not had a dues increase in almost 20 years and our costs, especially for our website and legal expenses, have steadily increased. Our upkeep for the website is now over \$20,000 per year and the new upgrades you will be seeing soon cost an additional \$25,000. Our publications (*JGPT* and *GeriNotes*) cost well over \$100,000 to print and mail to you each year.

Ellen Strunk then discussed the AGPT committee to provide a Position on Provision of Ethical Care in SNFs, and she will present information to the Board at a subsequent meeting.

The Awards Ceremony followed the Member's Meeting with Lee Ann Eagler, PT, DPT, presenting the AGPT award winners, Jessie Van Swearingen PT, PhD presenting the Research Award winners, and Tamara Gravano PT, DPT, GCS, CEEAA, presenting the student brochure winners.

I presented President's Awards to Tamara Gravano PT, DPT, GCS, CEEAA, and Mindy Renfro PT, PhD. Lastly, the Joan Mills award was awarded to Ellen Strunk, PT, MS, GCS, CEEAA. These are a show of appreciation for all they have done over the past several years for the Academy.

Hope to see you at NEXT in Nashville where Carol Lewis PT, DPT, GCS, GTC, MPA, MSG, PhD, FAPTA, will be giving the Mary McMillan lecture titled, *Our Future Selves: Unprecedented Opportunities*.

EDITOR'S MESSAGE: THE IMPORTANCE OF GAIT SPEED

Meri Goebring, PT, PhD, GCS



A few months ago, I participated in a research project in which I was asked to perform a number of tests. One of these was a 6-minute walk test. I was quite surprised to find that my walking speed was under the normative values for an individual my age. I am in my 60s, but I always considered myself to be fit, and worked on staying in shape throughout my life. So how had this happened? Was I distracted? Was I talking to the student researcher too much? Or was it just a bad day? I was aware that I had gained some weight during the winter months; was this slowing me down? I saw it as an important wake-up call: I needed to watch my diet and increase my activity.

Then, an interesting and recent research article, published in the *Journal of Congestive Heart Failure*, caught my eye.¹ The article was entitled “Incremental value of gait speed in predicting prognosis of older adults with heart failure: Insights from the IMAGE-HF study.” The researchers wanted to determine if there was a relationship between gait speed and the risk of 1-year mortality and/or hospitalization due to heart failure in elderly patients.

While I am lucky enough not to have heart failure, I certainly work with numerous older individuals in my clinical setting who have compensated heart failure. Others have uncompensated heart failure. Could gait speed help me better predict how these individuals will progress? As physical therapists, we test this variable all the time. It could be giving us more information than we realize.

This study followed 331 patients, 70 years of age or older, who were being treated for chronic heart failure. Gait speeds for the patients completing a 4-meter walk were measured and grouped. The slowest group walked at 0.65 meters per second or less, the medium speed group walked between 0.66 to 0.99 meters per second, while the fastest group walked 1.0 or more meters per second. These patients were also assigned a Cardiac and Comorbid Conditions Heart Failure risk score as determined by a cardiologist.

The results showed that a higher gait speed was associated with a lower risk of mortality for any reason, lower risk of hospitalization for any reason, and lower rates of hospitalization for heart failure. Specifically, the slowest gait speed group had a 38% risk of 1-year mortality, the medium speed group had a 22% risk, and the fastest group had a 9% risk. The researchers concluded that assessment of frailty using gait speed is simple and should be part of the clinical evaluation process.

As physical therapists, we have known for some time that gait speed is a valuable measurement, and we have been leaders in promoting this type of functional testing along with many other functional tests and measures. This research shows that, when it comes to older adult populations with heart failure, we can use gait speed to help us predict even more conditions than was previously known.

This research has helped me realize that my own gait speed may be a much better predictor of my overall health than I had considered possible. Of course, more research is needed to determine if this is true. It helped motivate me to make some important lifestyle changes, including paying more attention to gait speed in my own life as well as in my clinical practice.

REFERENCE

1. Pulignao G, DelSindaco D, Di Lenarda A, et al. Incremental value of gait speed in predicting prognosis of older adults with heart failure: Insights from the IMAGE-HF study. *JACC Heart Fail.* 2016 Feb 27. pii: S2213-1779(16)00002-0. doi: 10.1016/j.jchf.2015.12.017. [Epub ahead of print]

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ERRATA

In the case report “Outcomes of Endurance Training for a 76-year-old Male with Hospital Acquired Pneumonia and Elevated Troponin Levels: A Case Report,” the author states that “The use of supplemental oxygen during exercise training may allow for higher training intensities, but long term effects are unknown. **Research does not support continuous long-term oxygen therapy to improve dyspnea in COPD with severe hypoxaemia.**” Page 12 of the January 2016;23(1) issue of *GeriNotes*.

The author is quoting an article that specifically states, “who are not severely hypoxaemic at rest” (*Thorax*. 2011;66(1):32-37. doi: 10.1136/thx.2009.132522. Epub 2010 Sep 29. A randomised trial of domiciliary, ambulatory oxygen in patients with COPD and dyspnoea but without resting hypoxaemia) to make her point about the lack of evidence for oxygen. There is a clinical difference between severe hypoxaemia at rest and “breathless patients with COPD,” which the article is addressing that the student quoted. This needs to be clarified and addressed for the safety of patients with COPD.

Severe hypoxaemia is Pa_{O_2} less than 40% as generally documented. In addition severe hypoxaemia has severe physiologic consequences not to mention the normal clinical observation of increased ventilation that occurs when Pa_{O_2} falls below 55 mm Hg. Physiologically there is a decrease in P_{aCO_2} and respiratory alkalosis may occur. Long-term oxygen therapy (LTOT) is indicated as per the National Institute of Health research and standards when an individual is hypoxaemic at rest meaning $Sp_{O_2} < 88\%$ or $Pa_{O_2} < 55$ mm Hg. One way to monitor this is to utilize the pulsed oximeter to determine oxygen saturation. $Sp_{O_2} < 88\%$ is typically seen as hypoxaemia. Knowing the patient’s value at rest will assist in determining the need for supplemental oxygen with exercise.

In addition, the hypoxemia has several physiologic consequences. There is no significant increase in ventilation with decreases in Pa_{O_2} that results in levels remaining above 60 mm Hg, but as Pa_{O_2} falls below 55 mm Hg, there is a marked rise in minute ventilation (V_E), with a subsequent fall in Pa_{O_2} . Long-

term oxygen therapy is indicated for those who are hypoxemic at rest ($Pa_{O_2} < 55$ mm Hg or $Sa_{O_2} < 88\%$) or who have borderline hypoxemia (Pa_{O_2} , 56–59 mm Hg, or $Sa_{O_2} < 89\%$) with evidence of cor pulmonale or polycythemia. (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2645328/>)

Another issue to consider is whether the patient has obstructive or restrictive lung disease. Patients with obstructive lung disease cannot get the air out of the lungs so there is a build up. In restrictive lung disease, the lungs cannot expand to allow air into the lungs so they need more assistance getting air during inhalation. Both conditions can impact the function of the patient and ability to exercise. Close communication with the physician on when and how much supplemental oxygen is necessary for the patient along with close monitoring of oxygen saturation with pulse oximeter will help achieve patient goals.

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

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ACADEMY OF GERIATRIC PHYSICAL THERAPY PRESENTS AWARDS AT CSM 2016

Submitted by Lee Ann Eagler, PT, DPT, GCS, CLT, Awards Committee Chair
& Jessie Van Swearingen, PhD, PT, FAPTA, Research Committee Chair

At the Combined Sections Meeting 2016 in Anaheim, CA, the Academy of Geriatric Physical Therapy recognized multiple physical therapists and students who have made significant impact on geriatric patients during the Members Meeting/Awards Ceremony on Thursday, February 18, 2016. We are proud to recognize the following members!

Joan M. Mills Award

Ellen Strunk, PT, MS, GCS, CEEAA, CHC, was named as the recipient of the 2016 Joan M. Mills Award to honor her long-standing dedication and exceptional service to the Academy.



The Joan M. Mills Award is the most significant recognition that the Academy can give to one of its members. We were saddened to learn of Joan's passing in June of last year in Kansas City, Missouri and we remembered her legacy fondly at CSM. Ellen serves as the Academy's Legislative and Reimbursement Chair and Federal Affairs liaison and is the author of many articles in *GeriNotes* where she also serves on the Editorial Board and has contributed monographs for our Focus Series and is a webinar and audioconference presenter. She serves as a liaison to the Eldercare Workforce Alliance and is a frequent contributor the

AGPT's listserv where she keeps us current on reimbursement issues including the therapy cap, Medicare direct access, Medicare reform, Medicaid reform, PPS reform, ICD-10, SNF issues and CPT codes. She previously served on the Board of Directors and also is the current President of the Alabama Chapter.

President's Award

The Academy's President's Award recognizes individuals who have provided outstanding service while fostering the mission of the Academy.



This year's winners of the President's Award generously contributed their time and talent in many ways. We thank Tamara Gravano, PT, DPT, GCS, CEEAA, and Mindy Renfro, PT, PhD, for their wonderful contributions to the Academy.

Clinical Excellence Award

Carleen Lindsey was awarded the Clinical Excellence Award for outstanding clinical practice, advocacy, and meeting the physical therapy needs of older adults through innovative leadership and quality care. She has been a member of AGPT for 20 years holding leadership roles in multiple SIGs and created the video, *Kyphosis Measurement Using a Flexible Curve* that she donated to AGPT as a fundraiser. She obtained her GCS in 2006 and CEEAA in 2011.



In addition to clinical practice, she has continuously sought to advance the knowledge of geriatric physical therapy to students through her adjunct position at University of Connecticut as well as improving the knowledge and skills of her fellow clinician's through instructing numerous continue education courses. She has co-authored multiple research articles aimed at advancing bone health. One of her support writers wrote Carleen Lindsey demonstrates "a true excellence in care of older persons."

Volunteer in Action Community Service Award

Carmen Oguz was recognized for her service to older adults beyond the traditional professional roles on a volunteer basis. She has been an advocate for wound prevention through a variety of ways from teaching to item writing for the Wound Care Specialist exam. Within the profession, she serves as Delegate, Federal Affairs Liaison, and District Chair as well as a mentor to many fellow health care professionals. Most recently she travelled to St. Lucia on a volunteer assignment for Health Volunteers Overseas. Outside of health care, she serves in leadership roles within the Rotary Club and her church.



Lynn Phillipi Advocacy for Older Adults Award

Choctaw Nursing and Rehabilitation's Safe and Sound Initiative was recognized for its innovative program in clinical practice that is a strong model of effective advocacy for elders. This program, developed by staff members Carmen Oguz, Brooke Eaves, and Me-

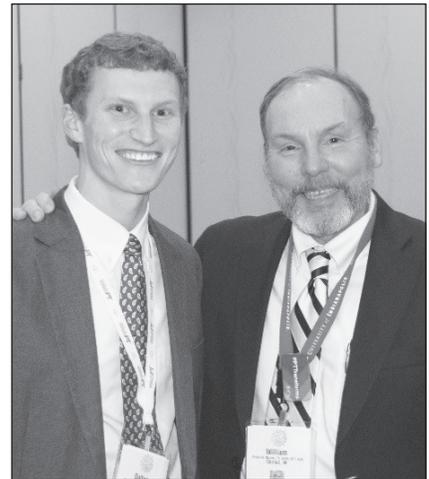
gan Hancock, is an interdisciplinary approach that was implemented to decrease the fall rate among its residents.

The Safe and Sound Initiative takes a proactive approach of regularly assessing residents by using evidence based standardized testing. These assessments track each resident's cognitive and functional levels to note changes and to design activities that are engaging and comforting based on his or her level. The administrator for Choctaw Nursing and Rehabilitation says that she has never seen an initiative that has had such positive impact in such a short amount of time.

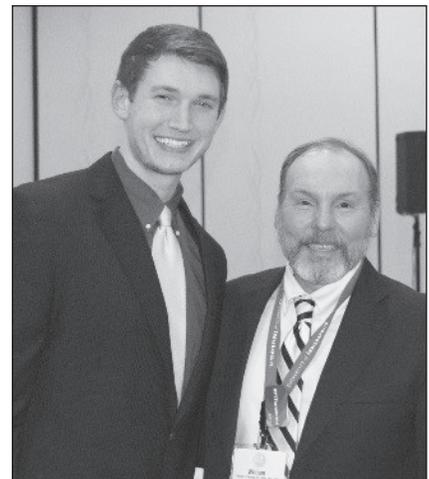
Outstanding PT and PTA Student Awards

Two students were awarded the PT and PTA Student Award for their exceptional scholastic ability and potential to contribute to geriatric physical therapy as well as non-academic achievements that represent initiative leadership and creativity. Dalton Newell was recognized as the Outstanding PT Student for his 4.0 GPA at the University of South Alabama during his 3 years in the physical therapy program while holding multiple leadership roles within his school. He has demonstrated a passion for serving the underserved older adult both locally through working in the inter-professionally student run clinic, involvement in volunteer projects in his home town, and through international mission trips.

This year's Outstanding PTA Student Award winner was Travis Dills for his academic record of 4.0 at Somerset Community College. He has had numerous leadership roles within his school and serves as the vice chair of the Kentucky Physical Therapy Association



Dalton Newell, Outstanding PT Student



Travis Dills, Outstanding PTA Student

Student SIG. He is regularly involved in APTA events and providing community service.





2016 CSM Award Winners!



2016 Joan M. Mills Winner Ellen Strunk is surrounded by previous recipients of the prestigious Award!

Nominations for 2017 Awards are being accepted. Consider nominating someone that you think is deserving of recognition. Please go to <http://geriatricspt.org/about-academy-geriatrics-physical-therapy/awards/> for a description of each of the awards.

RESEARCH AWARDS

Congratulations to the following Academy Members who received Research Awards at CSM 2016 in Anaheim from President Bill Staples and Research Chair, Jessie Van Swearingen.

Adopt-a-doc Awards:

Annalisa Na, DPT is a doctoral student at the University of Delaware. Annalisa's current research interest is in biomechanical influences on function in persons with knee osteoarthritis. In addition to her research, Annalisa is committed to teaching in physical therapy and was nominated by the students for a teaching award.



Brian James Loyd, DPT is a doctoral student in Rehabilitation Sciences at the University of Colorado, Anschutz Medical Campus. Brian's current research interest is in rehabilitation post total knee replacement, with an emphasis on exploring efforts to minimize post-surgical muscle strength deficits. Brian's enthusiasm for his research has been matched by the pursuit and development of his teaching experiences and expertise in physical therapy.



Fellowship in Geriatric PT

We have usually only awarded one but two candidates were appropriate, and we were able to award two fellowships:

Carol A. Maritz, PT, EdD, GCS, Professor and Vice Chair of Physical Therapy, University of the Sciences, was awarded the fellowship to support travel to the University of Delaware during her sabbatical to participate in research to examine the impact of a fall-recovery training program on recovery response, balance, mobility and self-efficacy in older persons with a history of a stroke. Unfortunately, Carol was not able to join us in Anaheim.

Allison Gustavason, DPT, is a doctoral student in Rehabilitation Sciences at the University of Colorado, and was awarded the fellowship to support her research experiences in the effectiveness of high intensity rehabilitation for older adults with medically complex history, with a particular focus on the Skilled Nursing Facility clinical setting.



Excellence in Geriatric Research:

Keith G. Avin, Timothy A. Hanke, Neva Kirk-Sanchez, Christine M. McDonough, Tiffany E. Shubert, Jason Hardage, Greg Hartley. Management of falls in community-dwelling older adults: clinical guidance statement from the Academy of Geriatric Physical Therapy of the American Physical Therapy Association. *Physical Therapy*. 2015;95:815-834. The title alone indicates the careful compilation and review of published research to define the clinical guidelines for management of falls among older adults.



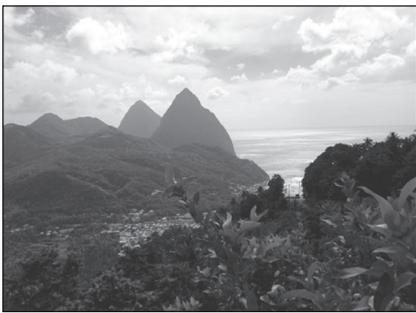
Student Research Award:

Kaitlyn Hambrick, a student in the entry-level DPT program at the University of South Alabama. Kaitlyn has participated in research on the feasibility of a PT student led Matter of Balance exercise program in an urban congregate senior residence. Kaitlyn was noted for her initiative and enthusiasm in both organizing the students for the project and interacting with the older adults.



MEMBER VOLUNTEER IN ACTION

In the fall of 2015, Carmen Oguz, PT, DPT, MBA, CWS, WCC, and winner of the Academy's Volunteers in Action Awards at CSM 2016, applied and was selected for an international volunteer assignment in St. Lucia, an island in the Caribbean. Oguz was approved for the assignment due to her dual credentials as a physical therapist and a wound care specialist.



The volunteer organization with whom Oguz collaborated is Health Volunteers Overseas (HVO), an organization she has been a member for almost 10 years. For the past 28 years, HVO has been dedicated to improving the availability and quality of health care through the education, training, and professional development of the health workforce in resource-scarce countries. Health Volunteers Overseas has developed assignments for health care professionals to complete in 29 countries around the world.

Oguz traveled to St. Lucia during the week of Christmas 2015. Although she was not solicited to do so, Oguz made great efforts to get donations of costly medical supplies to take with her. Donated items that she received to take included wound care supplies, orthopedic supplies, and dialysis kits. Due to the generosity of North Sunflower Medical Center, Medtronic, Covidien, ConvaTec, Inspired Medical, Medline, and Owens & Minor, Oguz was able to stuff 7 pieces of personal luggage with medical supplies to present to personnel at St. Jude. Oguz had to itemize, label, and assign monetary values to the 8 lists of

items she took. The St. Lucian custom's agency was made aware of the arrival of supplies in advance, but Oguz had to surrender the luggage to airport customs temporarily until the luggage appeared on a storage dock two days later in the parking lot of the medical facility.

The original St. Jude Hospital in St. Lucia experienced a major fire September 9, 2009. Since then, the hospital has been operating out of the George Odium Stadium a few miles away from the original hospital site. The use of the stadium was only meant to be temporary, as the newly renovated hospital was supposed to re-open early in 2012. However, this has not been the case and almost 7 years after the fire, the hospital is still functioning at the track-and-field, Olympic training site built and financed by the Chinese government in 2002.



Oguz stated, "Although I didn't really know what to expect, I found more similarities than differences. The people were friendly. The outpatient clinic physical therapy and wound care practices that I witnessed paralleled the standard of care to which I'm accustomed. Except for the constant remind-

er that the hospital was housed within a stadium, I could have very well been practicing in any physical therapy clinic right in the United States." She added, "Similar to the United States, we treated patients in the St. Lucian clinic who had sustained fractures caused by severe car accidents- the roads were very narrow and winding in St. Lucia. Unlike in the United States, I treated people there who had fallen out of coconut trees and broken several limbs in the process."

Because all volunteers are expected to teach, Oguz committed to introducing a concept in wound care new to the staff at St. Jude. But, her teaching aides/equipment did not arrive in time to be packed for the trip. Therefore, upon arrival in St. Lucia, Oguz was forced to improvise and attempt to recreate Negative Pressure Wound Therapy (NPWT) using only the supplies and equipment that the hospital had available. NPWT is commonly called "use of a wound vac or vacuum" and involves using a reasonable-sized, non-noisy device that creates constant and reliable suction, sponge dressings, tubing, and transparent adhesive. While it was Oguz's intention to be the educator, she found herself in a situation where she had to educate herself to create a "wound vac" from scratch. Fortunately, her experiment was a success, and Oguz was able to create a safe, duplicable method in which to render negative pressure therapy in St. Lucia. Oguz stated, "this is one accomplishment of which I'm most proud." She quipped, "when life hands you a heavy, tabletop suction device, make a wound vac out of it." Oguz plans to return to St. Lucia in the future to see how the wound vac use has impacted the healing progression of wounds.

The HVO volunteers finance their own trips including airfare, room and board, transportation, incidentals, meals, etc. However, Oguz applied for and was selected to receive a \$3000 scholarship from the Association for the Advancement of Wound Care (AAWC). The AAWC is a professional wound care



organization of which Oguz has been a member for many years. It is a national, not-for-profit organization dedicated to the prevention and treatment of wounds and to promoting evidence-based education and care. For the AAWC, Oguz has been on the Fundraising Task Force since 2015. She has recently applied for a position on the organization's national

board and intends to work with the organization more closely in the future.



Carmen Oguz is the Vice President of Service Line Development and Director of Rehabilitation for North Sunflower Medical Center in Ruleville, Mississippi, and is a Healthcare Consultant with Sunflower CAH Management Group. She is a member of the American Physical Therapy Association, the Mississippi Physical Therapy Association where she is both the Federal Affairs Liaison and the Delegate, is the President of the Drew-Ruleville Rotary Club and the District 6800 Membership Chair, is a Subject Matter Expert for the National Alliance of Wound Care and Ostomy, is a legal medical expert, and is the treasurer/substitute pianist for the Linn United Methodist Church.

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MARY McMILLAN LECTURE AWARD

Tim Kauffman, PT, PhD, FAPTA, FGSA

WHO WAS MARY McMILLAN?

Mary McMillan was born in Hyde Park, Massachusetts and grew up in England. She was educated at the College of Physical Culture in Liverpool after which she worked with children. In the last year of World War I, she was assigned to Walter Reed as a reconstruction aide and she organized the first physical therapy department in the U.S. Army. Following the war, her department became very busy and emergency training programs were established so that the graduates could help care for the casualties. In 1921, she established and became the founding president of the American Physiotherapy Association.

In 1941, after the bombing of Pearl Harbor, she volunteered her services at the Army Hospital in Manila. When the Japanese gained control of the Philippines she was interned in Manila and later moved to Chaipai Prison near Shanghai. Mary McMillan was repatriated in 1943.

The Mary McMillan Lecture Award is the highest honor in the American Physical Therapy Association. "It was developed to honor a member of the APTA who has made a distinguished contribution to the profession and to provide the recipient an opportunity to share his or her achievements and ideas with members through a lecture presented at the NEXT Conference and Exposition."

The first award was given in 1964, 52 years ago. Carole B. Lewis is the 47th Mary McMillan Lecture Award winner. The Sections of the American Physical Therapy Association started in the middle 70s and through the 80s and continued to evolve. Carole is the 7th member (I do apologize if I missed anyone who may have been a former member of our organization.) of the former Section on Geriatrics, now the Academy of Geriatric Physical Therapy, to have won this award.

This information was adapted from the APTA website. For more informa-

tion see Board of Directors Policy and Procedures for the Mary McMillan Lecture Award.

47TH MARY McMILLAN LECTURE OUR FUTURE SELVES: UNPRECEDENTED OPPORTUNITIES

Carole B. Lewis, PT, DPT, PhD, GCS,
GTC, MSG, FAPTA



Carole B. Lewis, one of the founding members of the Section on Geriatrics in 1978, will give the 47th Mary McMillan Lecture at the NEXT Conference and Exhibition.

The Next Conference is scheduled for June 8-11, 2016 in Nashville, Tennessee and Carole's presentation will be on Thursday, June 9, 2016.

Carole holds degrees from Ohio State University, two degrees from the University of Southern California, University of Maryland, and MGH Institute of Health Professions. She became a geriatric certified specialist in 1992 and she was recertified in 2002 and 2012.

Carole's initial position with the Section on Geriatrics in 1978 was the Chairperson of a committee working on gerontology programming and physical therapy curricula. She also served as the Section Secretary, Vice President, and President in 1989-1991. It was during her tenure that specialization was approved by the APTA and to date, the Academy of Geriatric Physical Therapy has 1,936 board certified specialists. Carole was the third Joan Mills awardee and she has received the Clinical Excellence in Geriatrics Award.

She is an adjunct professor at George Washington University Medi-

cal Center, Department of Healthcare Sciences. She is clinical professor at the University of Maryland Department of Physical Therapy, College of Healthcare Sciences.

Carole is the journal editor of *Topics in Geriatric Rehabilitation* and she is the President of Great Seminars and Books.

To this day she continues to provide physical therapy care; she was the owner of a physical therapy practice for over 25 years.

Carole has many articles published in numerous journals and she has been a "go-to" person for the APTA when they needed a resource concerning physical therapy care of older persons. She has been a consultant to many organizations including the Health Care Financing Administration. She also served on the expert panel concerning the implementation of the ruling of renowned *Fox versus Bowen* case which produced the "screens" or "edits," and emphasis on better documentation of care.

She has published over 30 books on various topics but mostly involving age related issues. Additionally, she has written numerous book chapters and published over 200 articles. She is a well-recognized contributor to the *Advance for Physical Therapy* magazine.

Dr. Carole B. Lewis is an exemplar of this award—she treats patients, educates clinicians, conducts research, and advocates for the importance of geriatric physical therapy. Over her career, she has personally treated tens of thousands of patients and with her publications and teaching seminars, she has influenced care providers who have treated hundreds of millions of older patients worldwide.

Finally, Carole is a friend and colleague with whom I have worked for almost 40 years. She is hard-driven yet has a wonderful inner character. She is highly intelligent, energetic, kind, concerned, committed, and dedicated to advancing the best possible health care and our profession. She has touched the hearts of

us who have worked with her and all of those who have learned from her.

Mary McMillan is honored to have Dr. Carole B. Lewis recognized by this award.

MARGARET DANILOVICH WINS TWO AWARDS

Margaret Danilovich, PT, DPT, PhD, from Northwestern University received the Carol L. Estes Rising Star Award at the 2015 Gerontological Society of America meeting. The



award is offered by the Social Research, Policy, and Practice Section and is conferred to a member in acknowledgement of outstanding early career contributions in social research, policy, and practice.

The award was presented because Margaret Danilovich and colleagues published a paper in the *Journal of Applied Gerontology* 2016 Jan 20. [Epub ahead of print]. The paper was entitled “Translating Strong for Life into the Community Care Program: Lessons Learned.”

Margaret also received the Douglas Holmes Emerging Scholar Paper Award. This award recognizes research with potential to improve quality of life and quality of care in long term care. Margaret received this award because of the same above publication.

Margaret is a member of the Academy of Geriatric Physical Therapy. The Gerontological Society of America is a multi-disciplinary international group of over 6,500 members.



Tim Kauffman is a long time member of the Academy of Geriatric Physical Therapy. He served as Chair of the Research Committee and on the Board of

Directors. Presently he is on the Editorial Board of the *Journal of Geriatric Physical Therapy* and he has a private practice in Lancaster, PA. He co-edited the text, *A Comprehensive Guide to Geriatric Rehabilitation, 3rd Edition* and has taught in many physical therapy programs.

OVERVIEW OF THE AGPT MEETING ON SNF PRODUCTIVITY

In early February, the AGPT listserv exploded with posts referencing unreasonable productivity expectations for physical therapists and physical therapist assistants in the skilled nursing facility (SNF) work setting. The discussion also mentioned other concerns PT/PTA's encounter in this setting, including:

- an inability to complete documentation on the clock;
- being advised as to what interventions they should do in order to be able to complete documentation at point of service;
- the role of the ‘manager’ in driving the interventions/length of stay/length of treatment;
- the quality of the student experience, and;
- the fear of some clinicians to speak up about their concerns due to possible retribution.

In an effort to address these concerns, the AGPT posted on the listserv

an invitation to participate in a discussion group at the Combined Sections Meeting (CSM) to address member concerns. The goal would be to determine if there were any tools or resources the AGPT could provide to members to help them be successful in the SNF/LTC environment. For those who could not attend CSM, the invitation included an email address where they could send suggestions and ideas off-line.

Approximately 30 persons attended the in-person meeting, including Matt Elrod, Lead Specialist APTA Practice. There were therapists in attendance from national rehab companies as well as privately held companies. The representation nationally was also good, as clinicians in 19 states were represented. Everyone who attended was reminded of the meeting's intent, eg, to be productive and foster constructive ideas on how to address the concerns of so many members. While it is unrealistic to think the APTA or the AGPT can “fix” these issues for therapists, it is the AGPT's desire

to provide resources, education, and/or information in order to assist therapists in any practice setting to be successful.

The discussion was lively, informative, and most importantly, professional. Almost 100% of those in attendance spoke up and offered their ideas. The table on the next page summarizes the ideas shared in the group in each of the areas mentioned above. While some of the ideas will require development of new resources, there are others that are already available through other Sections or the APTA. Therefore, over the next few months, the AGPT's Practice Committee and Reimbursement/Legislative Committee will collaborate on developing and/or making these resources more easily accessible via the website and listserv.

Respectfully submitted,
Ellen R. Strunk, PT, MS, GCS, CEEAA, CHC
AGPT Federal Affairs Liaison

Greg Hartley, PT, DPT, CEEAA
AGPT Practice Committee Chair

ISSUE	IDEAS	Further Idea Development
1. Inability to complete documentation on the clock.	1.1. Operational tips to streamline workflow.	1.1.a. Website article on how to successfully complete POS documentation: <i>To be developed.</i>
2. Being advised as to what interventions they should do in order to be able to complete documentation at point of service.	2.1. Empower clinicians with professional ways to respond.	2.1.a. How to speak professionally and make a point: <i>To be developed.</i> 2.1.b. The PT/PTA relationship; building a real collaboration: <i>Resource available through APTA.</i>
	2.2. Performance models other than productivity: outcomes, patient satisfaction – partner with other sections who area also discussing this (AC, HPA): <i>To be developed.</i>	3.1.a. Website article on how to successfully complete POS documentation: <i>To be developed.</i>
3. The role of the ‘manager’ in driving the interventions/length of stay/length of treatment.	3.1 Empower clinicians with professional ways to respond.	3.1.a. How to speak professionally and make a point: <i>To be developed.</i> 3.1.b. Looking beyond the initials behind the manager’s name; understanding roles and responding appropriately: <i>To be developed.</i>
	3.2 Provide accessible information on alternative treatment recommendations.	3.2.a. Insure CPG’s are directed at the SNF/LTC patient: <i>To be developed.</i>
	3.3 Promote the use of leadership development resources to therapy companies: <i>To be developed; collaborate with Health Policy Administration Section.</i>	
4. The quality of the student experience.	4.1 Interviewing skills: Understanding more than the salary structure.	4.1.a. Important questions to ask on interview to understand the culture of a prospective company: <i>Resource available through APTA; review for SNF</i>
5. The fear of some clinicians to speak up about their concerns due to possible retribution.	5.1 Empower clinicians with professional ways to respond.	5.1.a. How to speak professionally and make a point: <i>To be developed.</i>
	5.2 Steps to take to report compliance issues internally to their company; what to do if they encounter resistance or no action.	5.2.a. Anatomy of a basic compliance plan, including the role of a hotline: <i>Resource available through APTA; review for SNF</i>
	5.3 Distribution of APTA’s Integrity in Practice; link on website: <i>Resource available through APTA.</i>	
6. Other discussion points.	6.1 How to reach non-members.	6.1.a. Encouraging membership in the APTA.



Ellen R. Strunk is the AGPT Federal Affairs Liaison, Rehab Resources and Consulting, Inc.



Greg Hartley, Chair of the AGPT Practice Committee, is an Assistant Professor at the University of Miami, Miller School of Medicine,

Department of Physical Therapy in Coral Gables, FL.

STUDENTS... FAST TRACK YOUR CAREER WITH A CLINICAL RESIDENCY!

The Academy of Geriatric Physical Therapy (AGPT) has a rich history of supporting members with opportunities to grow professionally and enrich practice. Students are no exception. Networking with colleagues and having front line access to resource libraries for patient education and practice, current research through online portals and print publications, is a *jump start* to your careers in physical therapy care for older adults. So as students in the AGPT, you have already identified an interest AND a resource (in the AGPT) to support your practice. Have you thought about a Clinical Residency???

A Clinical Residency is a post-professional program, focused in a specialty area, designed to advance your clinical career more quickly in preparation for qualification toward board certification at the conclusion of the residency. All programs accredited by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE) are required to meet specific criteria for both didactic curriculum and 1:1 clinical mentoring aligned with the Description of Specialty Practice. Instruction may include case reviews, didactic classroom instruction, problem solving ses-

sions, clinical rounds, and other planned educational experiences incorporating concepts of practice, case management, professional behavior, and ethics. Ongoing clinical mentoring provides the opportunity to develop clinical and patient/client management skills through a collegial process applied in the specialty practice setting to launch your clinical practice with greater confidence and expertise.

There are currently 13 accredited Geriatric Clinical Residency programs in the United States (as of February 2016). Access the directory (<http://www.abptrfe.org/apta/abptrfe/Directory.aspx?navID=10737432672>) to explore program locations and descriptions. Information about how to apply is on the ABPTRFE website (<http://www.abptrfe.org/ResidencyPrograms/Application-Process/>). Applications for all Geriatric Residencies are then processed through the RF-PTCAS system.

Geriatric Residency Program Directors look forward to hearing from you. Contact them directly (through the directory information above) for any questions or for advice regarding opportunities and requirements for a successful application to a Geriatric Residency

program. By the end of your second academic year, you are ready to begin planning for a Residency after graduation. Don't miss the application cycles posted for each program. Consider yourself as a prime candidate for a Geriatric Clinical Residency and fast track your career!



Kathryn Brewer, PT, DPT, GCS, MEd, CEEAA
Therapy Clinical Education Specialist
Director, Geriatric Physical Therapy Residency
Mayo Clinic



Becky Olson-Kellogg, PT, DPT, GCS, CEEAA
Assistant Professor
Associate Director
Residency Director,
Geriatric Clinical Residency

Program in Physical Therapy
University of Minnesota

SOAKING IN THE SUN AND THE KNOWLEDGE

Anaheim, California saw beautiful weather and a record wave of attendees for CSM 2016!! The Academy of Geriatric Physical Therapy (AGPT) helped to kick things off with two very well-received preconference sessions, Exercise for Osteoporosis through Bone Fit Training and Critical Appraisal of Literature for Preparing Evidence-based Documents. More than 200 new Geriatric Clinical Specialists were recognized by the ABPTS at the Opening Ceremony. The Academy sponsored 15 and

co-sponsored several other educational sessions that were appreciated by a multitude of attendees, including several closed out sessions! The AGPT and its members are very grateful to Aegis Therapies, Gold-level sponsor for their support of the Academy and its Members' Meeting. Thank you also to Fabrication Enterprises Inc and Balanced Body for their Bronze-level sponsorships.

The Academy is ready to kick up its heels and put on its boots and spurs for CSM 2017 in San Antonio, Texas! Clear

your calendars now for February 15-18, 2017. Educational session proposals are currently being reviewed. Poster and platform abstracts are due by June 22, 2016. We look forward to seeing you there.

*Sarah Ross and Mariana Wingood
Programming Co-Chairs
Academy of Geriatric Physical Therapy*

PHYSICAL THERAPY: ESSENTIAL TO SUCCESS IN BUNDLED PAYMENTS

Luann Tammany Tribus, PT, MBA

Bundled Payments for Care Improvement (BPCI), a new “value-based” reimbursement model, is a great remedy for our ailing health care system. In part, due to the early success of BPCI, Medicare has mandated a new program called Comprehensive Care for Joint Replacement (CJR) effective April 1, 2016. The CJR requires bundled payments for total joint replacement (TJR) surgeries at 789 hospitals in 67 metropolitan statistical areas across the country.

Comprehensive joint replacement presents a major opportunity for physical therapists (PT) to take a leadership role in helping health care providers successfully implement bundled payments while improving quality of care for patients. This paper will describe PT’s essential role using Remedy Partner’s TJR Care Model as a case study. This model has been implemented at several BPCI sites and has led to better care for patients.

BACKGROUND

Both programs, BPCI and CJR, are part of the Center for Medicare and Medicaid Services (CMS) plan to shift from fee-for-service to value-based reimbursement. According to Secretary of Health and Human Services Sylvia Burwell, over 50% of Medicare payments will be tied to value-based payment models like bundled payments by 2018.

Comprehensive care for joint replacement and BPCI were designed to reward participants for improved care coordination that focuses on quality and efficiency for an entire recovery period referred to as an ‘episode of care.’ According to Patrick Conway, Chief Medical Officer and Director of CMS Innovation Center, “The model’s goal is to give hospitals a financial incentive to work with physicians, home health agencies, skilled nursing facilities, and other providers to ensure beneficiaries get the coordinated care they need.”¹

For patients that fall into bundled

payment programs, costs from admission to the acute care hospital (ACH) until 90 days post-discharge encompass an episode. These costs are retrospectively compared to a target price set by CMS based on historical performance. Participants receive incentive payments for savings generated above the target price. While BPCI is a voluntary demonstration project encompassing roughly 181 MS-DRGs or 48 bundles; CJR is mandatory. Comprehensive care for joint replacement narrowly focuses on patients discharged under two MS-DRGs; MS-DRG 469 (major joint replacement or reattachment of lower extremity with major complications or comorbidities) and MS-DRG 470 (major joint replacement or reattachment of lower extremity without major complications or comorbidities).

Highly successful procedures, the volume of TJR surgeries are projected to increase with our aging population. Approximately two million Americans are expected to receive a total hip or knee replacement in 2020.² Due to the escalating number of procedures and associated rise in health care costs, CMS has targeted TJR for cost savings.

REMEDY PARTNERS’ TJR CARE MODEL

The TJR care model described in this article includes physical therapy at every phase of an episode of care—preoperative optimization, acute care treatment and discharge determination, and post-acute care (PAC).

Preoperative Optimization

After surgical selection and concurrent with medical optimization, the TJR Care Model recommends preoperative physical therapy. According to Snow et al’s 2014 *Journal of Bone and Joint Surgery* study, “The use of preoperative physical therapy was associated with a 29% decrease in the use of any post-acute services. This association was

sustained after adjusting for comorbidities, demographic characteristics, and procedural variables.”³

Not to be confused with prehab, a conservative attempt to reduce pain and avoid surgery, preoperative PT in Snow’s study and this TJR Care Model consists of 1 to 2 visits to optimize a patient for surgery. The standard preoperative physical therapy visit includes an assessment of fall risk, education, functional training, and setting of expectations. If on initial assessment a patient is determined to have an elevated risk of falling, a comprehensive evaluation is completed, shared with the surgeon and prehab may be ordered to optimize function.

There are obstacles to implementing physical therapy in the preoperative phase of TJR. Some surgeons are not willing to adopt preoperative physical therapy as they confuse preoperative physical therapy with prehab, which they perceive to be ineffective. Other surgeons do make the referral, but experience therapy staffing shortages or difficulty scheduling physical therapy prior to surgery. These challenges must be addressed and overcome as new models of care are adopted.

A surgical practice participating in the BPCI program that adopted the TJR Care Model is Premier Orthopaedics and Sports Medicine Associates in Pennsylvania. They went *live* with their lower major joint bundle July 2015. Led by Dr. Jeffrey Malumed, a visionary and strong supporter of physical therapy, 119 of 359 Premier patients completed preoperative physical therapy. Sixty six percent of the patients completing preoperative physical therapy went directly home from the ACH compared to 55% for the patients that did not. Thirty three percent of the patients completing preoperative physical therapy went to a skilled nursing facility (SNF) post ACH discharge compared to 45% that didn’t (Figure 1).

A second BPCI practice that ad-

opted the model is Hinsdale Orthopedic Associates in Illinois. They also went live with the lower major joint July 2015. Hinsdale's Chief Executive and Finance Officer, David Kanzler, a staunch PT advocate, contracted with ATI Physical Therapy to case manage BPCI patients. According to Kanzler, "Our physicians feel that since much of the orthopedic postsurgical emphasis is rehabilitation, physical therapists are better able to evaluate and manage the continuum of care than RNs. Physical therapists are proficient at identifying signs of infection, DVT and monitoring vital signs in addition to their expertise in functional rehabilitation."

Hinsdale had 162 of the 232 patients that underwent TJR surgery since starting BPCI July 2015 complete a preoperative physical therapy visit. Those that completed a preoperative physical therapy visit had home as their initial site of discharge 63% of the time compared to 45% for those that did not (Figure 2).

These early results validate Snow's conclusion; preoperative physical therapy reduces PAC utilization. It makes intuitive and practical sense to: (1) educate and functionally prepare our seniors for TJR prior to surgery, and (2) identify those at increased risk of falling preoperatively and intervene as appropriate, prior to surgery. In addition to the aforementioned benefits, a preoperative physical therapy visit informs discharge disposition and establishes vital baseline information, which can be used to facilitate care throughout the episode.

Acute Level of Care

Historically, acute care therapists make discharge recommendations after seeing a patient once or twice postsurgery while the patient is recovering from the effects of anesthesia. This is not the optimal way to accurately assess baseline function and likelihood of a rapid return to independence. Furthermore, PTs often have difficulty ascertaining caregiver availability and getting information about the home environment. This paucity of information often leads PTs to reflexively recommend that patients be discharged to nursing homes or inpatient rehabilitation facilities when many patients could have safely transitioned to home with advanced planning.

When effectively implemented, the

TJR Care Model makes available the preoperative PT assessment throughout the episode. Having a comprehensive assessment of the patient's home environment and knowing what was taught preoperatively, the hospital-based therapists can review exercises and functional mobility efficiently and progress patients rapidly.

Together, preoperative and ACH physical therapy, prepares patients for their next site of care, which is increasingly in the quiet and comfort of their own homes (Figures 3 and 4).

Post-acute Care

Medicare's PAC costs have gone from \$27 billion in 2001 to \$59 billion in 2012.⁴ While care redesign efforts including preoperative physical therapy, efficient treatment, and informed discharge decisions at the ACH have led to reduced PAC utilization, it has not eliminated it. Remedy's TJR Care Model addresses the need for an appropriate length of stay (LOS) through the application of SNF TJR Care Guidelines.

As reduced function and/or fall risk are often the sticking points holding up discharge to home, PTs can play a

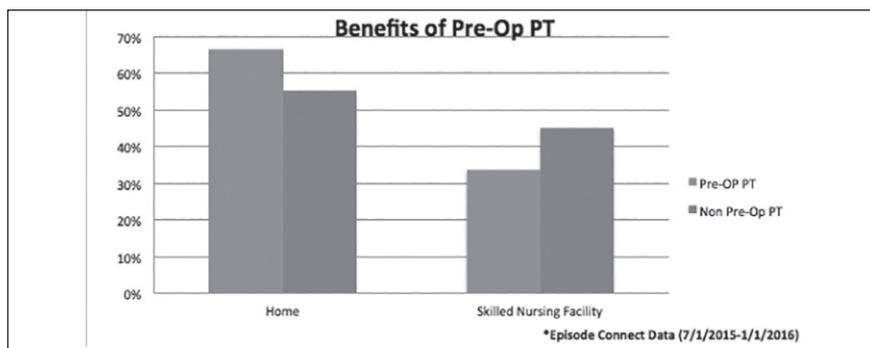


Figure 1. Premier Orthopaedic and Sports Medicine Associates.

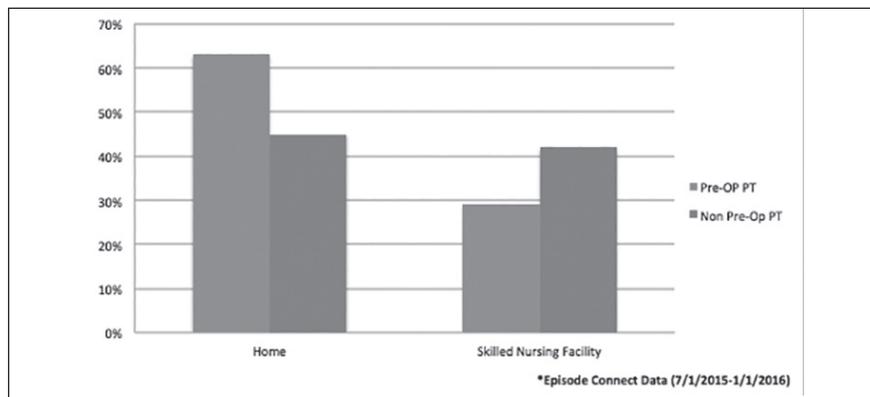


Figure 2. Hinsdale Orthopaedic Associates Benefits of Pre-Op PT.

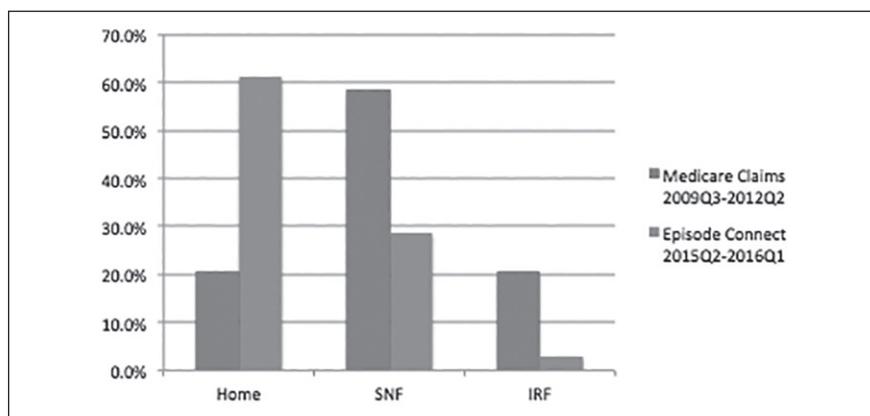


Figure 3. Premier Orthopaedic and Sports Medicine Associates Overall Performance.

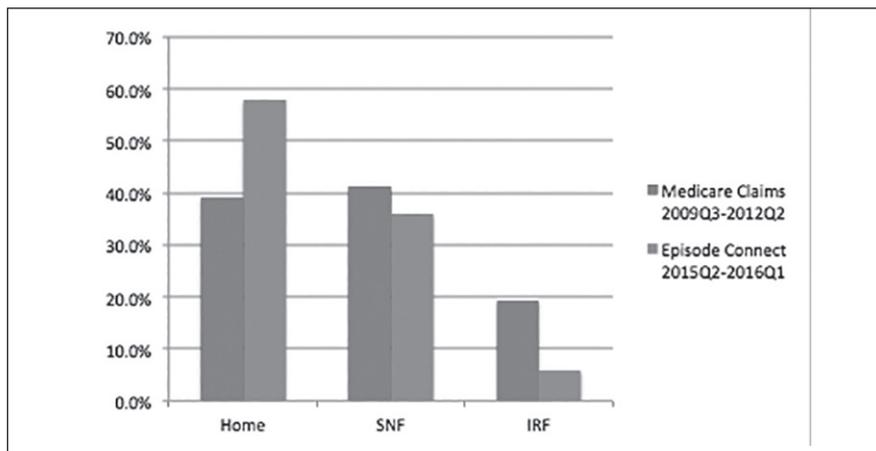


Figure 4. Hinsdale Orthopaedic Associates Overall Performance.

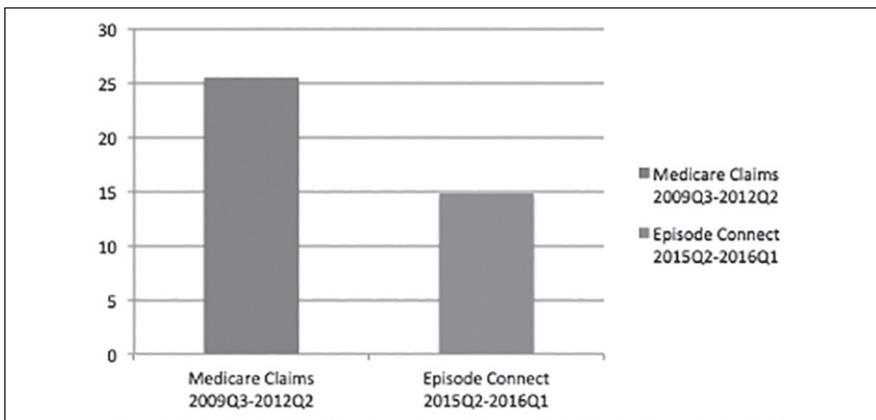


Figure 5. Premier Orthopaedic and Sports Medicine Associates SNF Length of Stay.

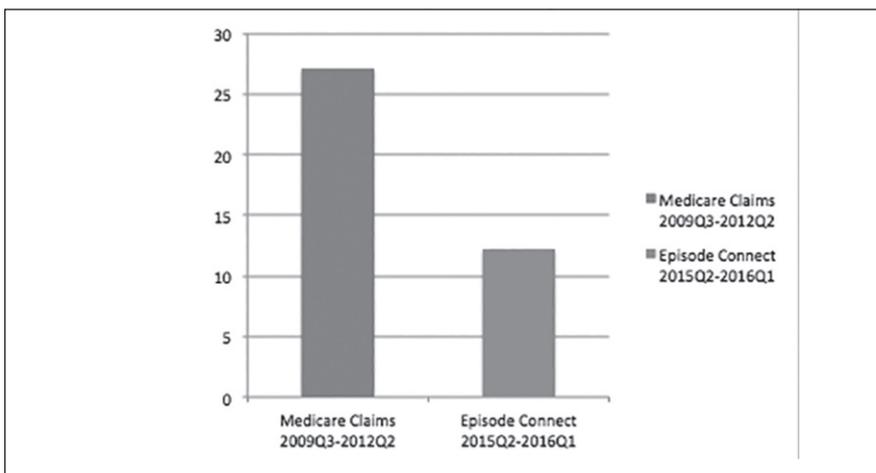


Figure 6. Hinsdale Orthopaedic Associates SNF Length of Stay.

lead role. No longer focused on return to prior level of function, therapy goals include necessary functional milestones for safe transition to the next LOC.

Early results from practices that have implemented the TJR Care Model show concrete results in the reduction of SNF LOS. According to 2009 - 2012 Medicare claims data, historical SNF

LOS for Premier patients post TJR was 25.5 days. Since starting BPCI July 2015 and implementing the SNF TJR Care Guidelines as protocols, LOS has been reduced to 14.8 days. Similarly, Hinsdale has seen a dramatic reduction in their SNF LOS, from 27.1 to 12.2 days (Figure 5 and 6).

SUMMARY

Physical therapy is vital to success in bundled payment reimbursement models. Bundled payments for Care Improvement and CJR, incentivizes us to do what we should have been doing all along—coordinating optimal, patient centric care with all members of the health care team throughout an entire episode. Physical therapists can take a lead role in providing quality care while being great stewards of our Medicare dollars. As a profession we need to embrace the opportunity that these new value-based payment models offer.

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Luann Tammany Tribus is the Director of Rehabilitation for Remedy Partners. She got her PT degree at Boston University and MBA from the University of Chicago. She can be reached at Ltribus@remedypartners.com or 608-695-8675.

VOLUNTEER SPOTLIGHT: IAN INQUIMBOY, PT, CEEAA

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



Ian began volunteering for the Academy of Geriatric Physical Therapy in early 2010 with the Website Committee. Ian initiated a Facebook and Twitter account to expand the reach of AGPT to the health care community of PTs, PTAs, PT students, and beyond. Facebook and Twitter accounts for AGPT have grown to 2000+ Facebook likes and 1200+ Twitter followers. This has directed Physical Therapists to the AGPT website which assists members to stay current, alerts practitioners to

new possibilities and opportunities for education, encourages best practice for all, and motivates others to pursue the Geriatric Certified Specialist certification. He continues to be the administrator of Facebook and Twitter and occasionally initiates a contest such as giveaways of physical therapy products from company sponsors. Keep your eyes out for the next giveaway.

Ian is married to Catherine and they have 2 boys, Yopi (16 y/o) and Izi (10 y/o). He lives in Pinehurst, NC. Ian

is an avid fan of the Carolina Panthers, meanwhile the 2 boys are big fans of the NY Giants. Football is a family affair they say.

Ian Inquimboy, PT, CEEAA, is a Director of Rehab at Genesis Rehab Services at Fox Hollow Senior Living in Pinehurst, NC. He received his BS in Physical Therapy in Manila, Philippines and completed his certification from the Academy of Geriatric Physical Therapy as a Certified Exercise Expert for Aging Adults (CEEAA) in September 2010.

TRAINING PROSTHETIC LIMB SKILLS: YOU CAN TEACH AN OLD DOG NEW TRICKS

Daniel J. Lee, PT, DPT, GCS

UNDERSTANDING THE ISSUE

As the old adage goes, “You can’t teach an old dog new tricks.” From years of working with an older adult population, I can say that the veracity of this claim is dubious. Older adults must adapt to new challenges as their health, finances, and support systems change. In fact, one theory on aging supports that those who can sustain active involvement, regardless of change, are more likely to excel than those who do not.¹ Therefore, older adults who are to succeed in optimal aging must be adept at learning new tricks, and we as physical therapists are in a position to facilitate that.

As a physical therapist who works primarily with an older adult population, the reality of that old adage never became more apparent than when working with patients attempting to rehabilitate after a lower limb amputation. Older adults experience the majority of non-traumatic lower limb amputations (Figure 1).^{2,3} The “new trick” in this case is the management of the prosthetic fit, maintaining the integrity of the residual limb, and becoming a functional ambulator with the prosthesis. Many of my patients had lost limbs due to vascular complications, slowing accumulating comorbidities and functional limitations on the long journey through the conservative management of limb salvage.² By the time they arrive at a subacute setting, they had been through the ringer: decreased strength, pain, and learned hypokinesia. With limited interaction between the patient and the prosthetist, the majority of this training experience falls on the hands of the physical therapists.

Being able to manage a prosthetic leg is a daunting endeavor. Beyond having the physical strength, dexterity, flexibility, and endurance to use the limb functionally, one must also possess the cognitive ability to problem solve and

make decisions regarding the integrity of the limb and socket fit on a continual basis. The interface between the residual limb and the prosthetic socket can be problematic, and where preventable, secondary complications can occur.⁴ So many different combinations of sockets, liners, socks, and suspensions make it so that no “one solution fits all” applies. It is at that interface that a patient must problem solve the appropriate fit solution for any given presentation of his or her residual limb. Furthermore, patients must learn to do it at home, without the support of a rehabilitation team or the prosthetist.

The decision making skill is dependent on the combination of education provided by the rehabilitation team and the patient’s ability to discern what the issues are. The ability of our patients to be able to decide how, when, and why to modify their socket fit can be the difference between a high quality of life and potential non-use of the device due to pain in the residual limb.⁵ For

example, in the facility the patient may have used a 3-ply sock in order to comfortably place the limb into the socket. Now, after gaining 8 pounds 3 weeks after discharge, placing a 3-ply sock on results in an improper fit. The resultant improper fit could lead to musculoskeletal impairments, which in turn could lead to functional decline.⁶ Ultimately, neglect of the proper fit can lead to re-amputation or death, which historically occurs in 50% of dysvascular lower limb amputees within 5 years following the initial limb loss.⁷

Both extrinsic and intrinsic factors are working against the successful management of the prosthetic fit by the patient. Extrinsic factors, the rehab gym in a bustling inpatient environment is not conducive to supporting the principles of older adult learning. That is, a noisy, complicated, distracting environment is counter-productive to learning in an older adult. Additionally, the limited amount of time spent practicing with the device, either due to concerns of

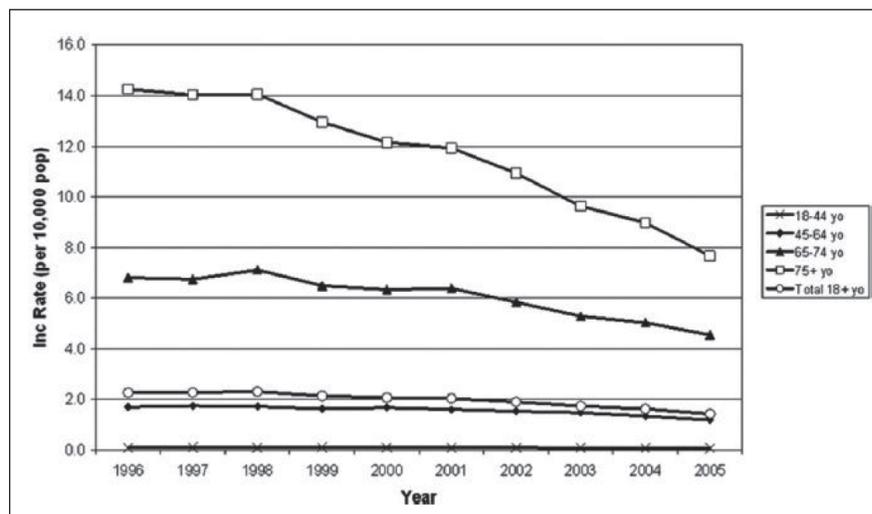


Figure 1. Rates of major amputation for peripheral arterial disease by age in the United States from 1965 to 2005. Overall incidence rate reflects population-adjusted incidence rate among individuals aged 18 years and older in the United States (adjusted to 1996 population). Reprinted with permission from Rowe V.² Adapted from Santosa and Kroger.³

leaving the device with the patient or the device being out for modifications, is antipodal to learning for an older adult. Older adults benefit from more time and practice, in a distraction free environment, in order to optimally learn.¹ Intrinsic factors such as dexterity of the upper extremities and limb size fluctuations must also be mitigated. Dexterity can be improved through targeted therapeutic procedures performed by the rehabilitation team. Fluctuations in limb size can be managed through the use of a residual limb shrinker, medications, and dietary control.

WHAT CAN I DO?

Start by reviewing the principle of teaching to an older adult so you are familiar with the important concepts. This means creating a learning environment that is free of distractions, is organized, and allows for increased time and frequency of practicing. Additionally, ensuring that the tasks and goals you are performing are aligned with the patients' values will improve their participation and motivation in learning.⁸ One such environment we can find in a rehabilitation facility is the patient's room. Not only does it align with a structured learning environment, but you can apply the learning process directly to functional tasks the patient will likely perform, and thus be motivated to participate. For some patients, that means getting out of bed, being able to reach their prosthesis and componentry, donning, accepting the weight, and then being able to walk to the bathroom.

Since we know that fluid intelligence and memory may decline with aging,¹ I have found a particular strategy useful in helping train older adults on how to manage their prosthesis. After formally going through the steps, I take pictures and create a step-by-step booklet that can be used to help learn the process. This creates a unique, personalized, problem solving and instructional guide that covers everything from the rehabilitation plan to problem solving prosthetic socket fit issues. I choose language that the patient will understand, and number the steps that can be referred to in other steps if the need to go back arises.

For those who have issues with obtaining the proper fit in the socket, I can go one step further. I design individual decision trees for the patient, focusing

on the specific suspension type and componentry. Decision trees show all possible issues and solutions in an easy to navigate format, and are commonly used in clinical problem solving.⁹ I can focus it on the most common issues, for example the socket feeling "too loose" or having pain in the distal end of the residual limb. The decision trees must be comprehensive enough to cover the scope of problems a patient could encounter, but not so overwhelming that it becomes onerous to navigate. An example can be seen in Figure 2.

TAKE HOME MESSAGE

Perhaps it is less about "teaching new tricks to an old dog," but rather

adopting new strategies to educate our patients that effectively empower the patient to manage their condition. Doing so takes patience, a firm understanding of the principles of educating an older adult, a comprehensive understanding of prosthetic training, as well as the ability to dynamically modify the care plan to meet the patient's goals. This means creating individualized educational and problem solving interventions that patients find meaningful as well as useful. Doing so will result in both greater outcomes for your patients and reduced frustration on the behalf of the therapist.

(Continued on page 26)

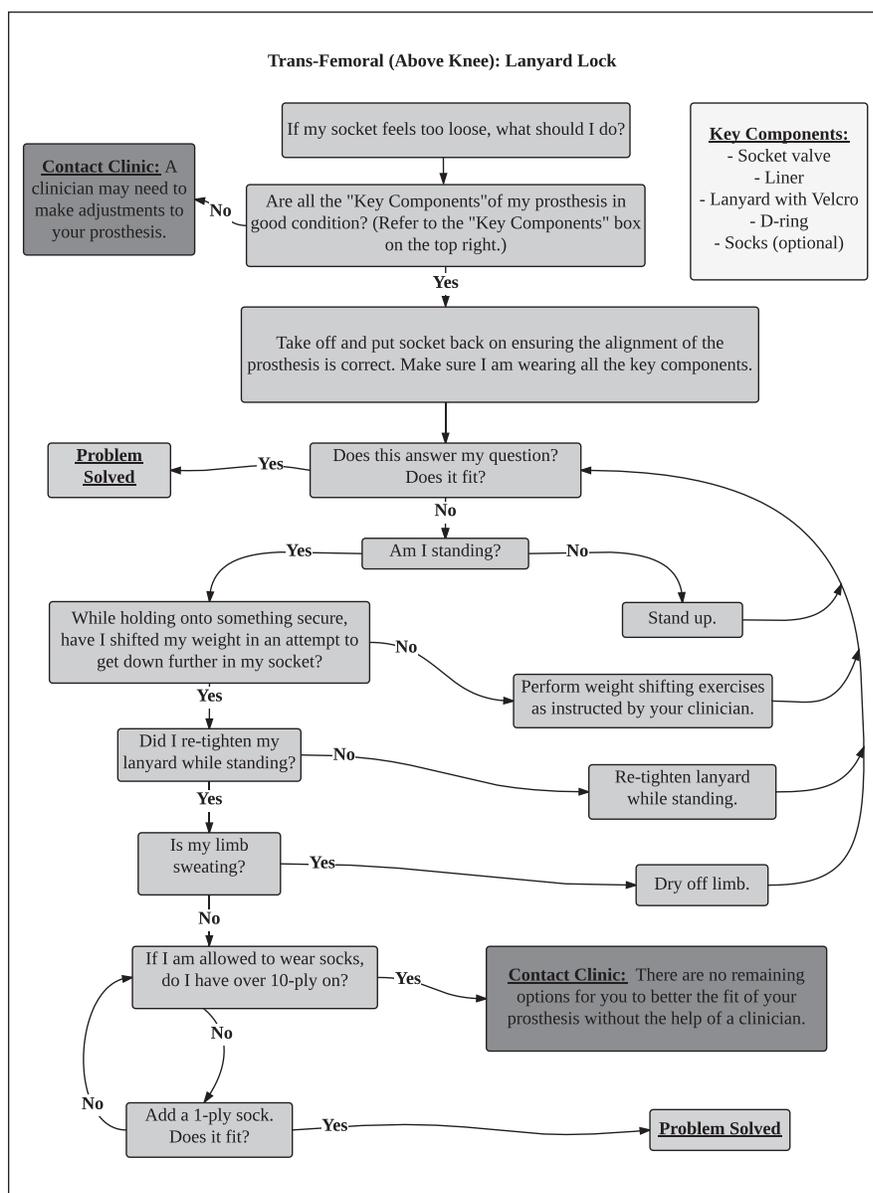


Figure 2. Decision tree.

AN OVERVIEW OF HIV AND OLDER ADULTS (Part 2 of 2)

Carlo Mabilog, PT, DPT, MBA, MSHS, MS, CSCS

INTRODUCTION

Part one of “An Overview of HIV and Older Adults” was published in the January 2016 issue of *GeriNotes*. The objectives were to provide rehabilitation professionals an overview of human immunodeficiency virus (HIV), including history and transmission, facts and figures of older adults with HIV, screening/testing and diagnosis, treatments/interventions, and recommendations for prevention. This article will discuss the interactions and comorbidities of HIV and aging, and review evidence-based exercise recommendations for older adults with HIV.

INTERACTIONS OF HIV AND AGING

Human immunodeficiency virus is viewed as a manageable, chronic infection. Both younger and older adults living with HIV are living longer and longer with adherence to effective therapies. Human immunodeficiency virus and the aging process presents unique challenges to health care providers.¹ The normal aging process decreases individual immunity and older adults are more vulnerable to reactivation diseases such as tuberculosis and varicella zoster. Aging also impacts the course of HIV. Within 40 months of newly diagnosed patients >55 years old, 90% of patients had an AIDS diagnosis compared to 20% of younger patients.² Aging may also explain a blunted immune response. Graset al found that the lower an older adult's immune function was at the beginning of HIV treatment, the lower were the T-cell counts after 2 years.³ More than half of patients >50 years old with a new HIV diagnosis already had advanced disease with AIDS-defining condition versus a younger age group.⁴ Patients >50 years old were more likely to have an AIDS diagnosis within a year.⁵ The benefits of HIV therapies towards reduction of mortality do not seem to benefit the same degree for individuals with a more

advanced HIV.^{6,7}

There are two main factors that impact how and when older patients receive care. The first factor is the effect of aging. Older bodies/cells are more vulnerable and less robust; therefore, symptoms that relate to HIV infection in the older adult may be misconstrued to the aging process. For example, an acute process involving fever, pneumonia, weight loss, etc will not alert or point the clinician to the direction of HIV; rather, the clinician would attribute it to age-related diseases. The second factor relates to older adults who may have been completely asymptomatic and may now present with symptoms of a later stage of HIV infection. Other factors to seeking care include social, educational, financial, access to care, and emotional barriers; including the stages of being in denial and the fear of stigmatization of a HIV diagnosis.

Comorbidities of Aging in HIV-Infected Adults

Human immunodeficiency virus accelerates the aging process and increases the risk for developing various common disorders. Human immunodeficiency virus-associated and non-AIDS conditions are far more likely to be the cause of death than HIV alone. Patients with HIV infection have higher rates of cardiovascular disease, renal insufficiency, diabetes mellitus (DM), osteoporosis, liver disease, and cognitive impairment compared to non-HIV infected individuals. Below is a breakdown of the most common comorbidities in HIV-infected older adults.

Cardiovascular Disease

- Concern for increased risk for myocardial infarction (MI)
- The effect of protease inhibitors as part of ART (anti-retroviral therapy) increased lipid levels
- Impaired left ventricular function affecting oxygen delivery

- Traditional risk factors such as smoking, hypertension, family history, metabolic syndrome make the largest contribution to the risk for MI

Renal Disease

- Chronic kidney disease (CKD) is one of the most common comorbidities
- HIV-associated nephropathy (HIVAN) is a viral infection of the renal epithelial cells resulting in glomerular disease
- African Americans/Blacks have an increased vulnerability to HIVAN with 90% requiring hemodialysis
- Other factors that contribute to CKD include DM, hypertension, Hepatitis C
- ART may reverse kidney damage
- Polypharmacy is a concern that may lead to rising creatinine levels

Bone Loss

- ART may increase rate of bone loss
- Increased rate of fractures in HIV-positive males
- Smoking cessation and regular exercise: slows or reverses bone loss

Malignancy

- Primary central nervous system lymphoma or Kaposi's sarcoma
- Non-Hodgkin's lymphoma, cervical cancer, anal cancer, liver cancer
- Lung and gastric cancers more common in younger HIV-positive patients

Liver Disease

- Hepatitis C (HCV) is the most common liver disorder in HIV patients
- 20% HCV: does not replicate
- 80% HCV: increased risk for cirrhosis or liver cancer

Depression/Neurocognitive Decline

- HIV-associated dementia occurs in higher rates in patients >50 years old
- Depression (initiated or worsened)
- Feeling of isolation, loss of loved ones/friends

- Stigma/rejection
- Substance abuse
- May present in various ways such as sleeplessness, poor adherence to ART, poor hygiene, forgetfulness, weight loss/gain, overt sadness, anhedonia

Other Health Problems or Impairments

Lipodystrophy is associated with abnormal lipid metabolism or dyslipidemia. Physical changes include reduction in subcutaneous fat commonly seen on the face, arms, and buttocks. Visceral fat accumulation is commonly seen on the neck, back, and chest without changes in body weight. Dyslipidemia is associated with hyperglycemia, glucose intolerance, and insulin resistance.

Peripheral neuropathies primarily affects sensory nerves and induces balance impairments, walking difficulties, and increases risk for falls. Distal symmetrical polyneuropathies present as burning, numbness, and paresthesias of the lower extremities occur in individuals with CD4 counts less than 190 cells/mm³.

Myopathies are characterized as generalized muscle pain with progressive muscle weakness. It is associated with proximal muscle weakness, limited oxygen perfusion on the extremities during exercise, increased fatigue, lactic acidosis, shortness of breath, and diminished muscle function. Individuals have a higher energy expenditure and impaired glucose uptake.

Fatigue is one of the most frequent and debilitating complaints of HIV-infected individuals. Its etiology is unclear and may be attributed to structural changes within the muscle fibers. It predisposes individuals to deconditioning, activity intolerance, and a decline in the participation of activities of daily living.

EVIDENCE-BASED EXERCISE RECOMMENDATIONS FOR ADULTS WITH HIV

We now know that ART improves life expectancy in HIV-infected individuals. However, ART and HIV-associated comorbidities develop and affects activities of daily living and the quality of life of HIV-infected individuals. Exercise programs have been used to improve cardiopulmonary fitness, strength, and body composition, and decrease fatigue. Studies have shown aerobic training,

resistance training, or the combination of both to have beneficial effects in the quality of life of individuals living with HIV.⁸ Based on Ortiz' review,⁸ the author cited two studies. The first study by Dolan et al⁹ is a 16-week supervised home-based aerobic, progressive aerobic, and resistance program. There were 40 HIV-positive women randomized to control and intervention groups. The intervention group used a cycle ergometer at 50% max HR and the strengthening component at 60% 1RM (for the first 2 weeks) progressed to 75%. The participants exercised 3 times per week for 16 weeks lasting 2 hours each session. Improvements were seen in all outcome measures of strength, cardiopulmonary endurance/fitness, and body composition.⁹ The second study by Fillipas et al¹⁰ is a 24-week supervised aerobic and resistive exercise program. There were 40 males randomized to control and intervention groups. The control group performed an unsupervised walking program while the intervention group performed 20 minutes on the treadmill, cycle ergometer, stepper, or cross trainer at 60% max HR progressed to 75% and the strengthening component at 60% 1RM progressed to 80%. The participants exercised 2 times per week for 24 weeks at a hospital-based facility. Improvements were seen in all outcome measures of self-efficacy, cardiovascular fitness, and quality of life.¹⁰

The American College of Sports Medicine released exercise recommendations for individuals living with HIV.¹¹

- Aerobic Exercise
 - 3-4 days per week
 - 40-60% VO₂ or HRR
 - 30-60 minutes per day
 - Walking, jogging, running, bicycling, elliptical trainer
- Resistance Strength Training
 - 2-3 days per week
 - 60% 1RM or 80% 10RM involving 10-12 muscle groups in 2-3 sets
 - Machines, free weights, resistance bands
- Flexibility Exercise
 - 3-5 days per week before and after aerobic or resistance strength training
 - 30 seconds for each stretch
 - Static stretching, yoga, dynamic stretching

Other Recommendations

- More vigorous exercise can be prescribed for asymptomatic patients
- Supervised exercise if there are HIV/AIDS related comorbidities
- High intensity exercise or lack of exercise exposure has shown poor adherence to exercise programs due to side effects of medications
- Progressive resistance and moderate aerobic exercises are safe and beneficial for people living with HIV at any stage of the disease
- Adequate rest is required for prolonged high intensity exercises as it negatively affects the immune system

EVIDENCE-BASED EXERCISE RECOMMENDATIONS FOR OLDER ADULTS WITH HIV

There have been numerous studies regarding exercise recommendations for younger HIV-infected individuals and little research on exercise and HIV-infected older adults. Can an exercise program be constructed to target the clinical issues older adults with HIV encounter such as side effects of ART, loss of lean muscle mass, and metabolic changes? Yahiaoui and colleagues¹² reviewed several studies on the effects of physical exercise for HIV-infected young adults (12 RCTs), frail older adults (3 RCTs and 1 single cohort), and elderly individuals with metabolic syndrome (4 studies) having a primary objective of developing age-appropriate, evidence-based exercise recommendations for older HIV-infected adults >50 years old. Due to space limitations, the following is a summary of the results from the studies the authors have reviewed:

- Results: Response to Exercise in Frail Older Adults
 - High intensity supervised exercise training can significantly improve physical function in older adults with frailty compared to low intensity exercised controls due to a lower stimulus
 - Low to moderate intensity (40% 1RM) did not achieve the desired level of improvement in functional performance
 - High intensity (80% 1RM) physiologically and functionally effective
 - Challenge patients more to elicit positive changes

- Results: Response to Exercise in Young Adults with HIV
 - Significant improvements with VO₂ max
 - Improved functional capacity after 3 months of aerobic activity
 - Resistance exercise improves muscle strength and function
 - 40%-95% improvement of maximum dynamic muscle strength
 - 26%-29% moderate increase in muscle strength
- Results: Response to Exercise in the Elderly with Metabolic Syndrome
 - Physical exercise improves glucose metabolism and insulin sensitivity
 - Low volume, high intensity program lowered severity of metabolic syndrome in elderly females
 - 17.7% no longer had metabolic syndrome after 6 months
 - 22% reduction in metabolic syndrome after 40 minutes of supervised aerobic training 2 times per week

The results from the studies in older adults living with frailty or metabolic syndrome, as well as, younger adults with HIV were “borrowed” in the absence of sufficient studies and evidence for exercise recommendations for older adults with HIV.

- Aerobic Exercise Recommendations¹²
 - Moderate to high intensity exercise leads to beneficial outcomes
 - At least 3 days per week for 20-40 minutes
 - Should last at least 6 weeks
 - Warm-up major muscle groups for 5-10 minutes of stretching before and after each aerobic session
 - HR max should vary from 50%-90% of estimated HR max
 - Recommended level of intensity: 70%-80%
 - Begin at a lower intensity and increase difficulty each week
 - Aim for at least 5% increase in intensity
- Resistance Training Recommendations¹²
 - Resistance training after aerobic exercise on the same day
 - Average of 3 days per week for at least 6 weeks
 - Focus on different major muscle groups

- Begin with 1-2 sets of 6-8 repetitions of each muscle group 60% 1RM
- Gradually increase to 3 sets of 8-10 repetitions 80%-90% 1RM
- 20-30 second rest period in between sets

- Other Exercise Recommendations
 - Intense exercise for a prolonged period of time can have a negative impact on the immune system
 - Exercise >90 minutes in healthy adults increases levels of plasma concentrations of pro and anti-inflammatory cytokines and decreases natural killer cell function
 - Too much exercise may also increase susceptibility to viral and bacterial infections due to a suppressed immune system (American Heart Association)

CONCLUSION

The article reviewed the interactions and comorbidities of HIV and aging and a review of evidence-based exercise recommendations for older adults with HIV. Ongoing care and support are needed for older adults living with HIV. This will include risk reduction and lifestyle modifications such as smoking cessation, weight loss, alcohol reduction, improved nutrition, and increased physical activity and exercise. Medication issues arise due to polypharmacy and will require observation of side effects, toxicities, and drug-drug interactions.

Rehabilitation professionals can make a significant impact not just on the restoration or maintenance of physical activity and exercise but through other ways of enhancing an older adult's independence, safety, and quality of life. This may include assessment of home accessibility to remove hazards and prevent falls, support patients to help deal with social stigma through family, friends, and community support groups, prevent hospitalization/institutionalization, reduce medical/functional complications, and provide information regarding advanced directives to save time, efforts, and resources.

Specific exercise recommendations and guidelines are available for the younger individuals but has been absent for older adults living with HIV. Human immunodeficiency virus individuals will live longer with improved and advanced

therapies. Future studies are warranted focusing on the needs of older adults living with HIV.

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