GERINOTES

SECTION ON GERIATRICS, AMERICAN PHYSICAL THERAPY ASSOCIATION

IN THIS ISSUE

ARTICLES

January 2011 VOL. 18, NO. 1

TABLE OF CONTENTS

Publication Title: *GeriNotes*

Statement of Frequency: Bi-monthly; January, March, May, July, September, and November

Authorized Organization's Name and Address: Orthopaedic Section, APTA, Inc.
For Section on Geriatrics, 2920 East Avenue South, Suite 200, La Crosse, WI 54601-7202

Newsletter Deadlines: January 15, March 15, May 15, July 15, September 15, November 15

WANTED: ARTICLES FOR GERINOTES

TOPICS: Anything related to older adults

CLINICIANS: Send me an article or an idea

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

EDUCATORS: Send me student papers

Everyone loves to publish and it is easy!

Contact carol schunk, gerinotes editor
carolschunk@earthlink.net

PRESIDENT'S PERSPECTIVE:
LEADERSHIP TRANSITIONS IN 2011

John O. Barr, PT, PhD

As we head into 2011, there are a number of important transitions in leadership for the Section on Geriatrics (SOG) that I want to call to your attention.

When our membership began to grow dramatically in the early 1990s, it became obvious that we needed a staffing model to provide support services to both Section leaders and members. Thus, we hired our first executive in 1992, and there has been no turning back. Even as membership numbers declined after the Balance Budget Act of 1997, we found that the comprehensive services of an executive were essential in helping to coordinate the many activities of our Section. However, since 1992 we have had 10 executives aligned with Component Meeting Services at the APTA, 3 in 2010 alone. Based in part on this high level of turnover, and certainly due to economic factors, the Section's Board of Directors has taken bold action in contracting with the Wisconsin Physical Therapy Association (WPTA) for executive services beginning on January 1, 2011. I am pleased to announce that our new Section Executive is Karen Oshman, CAE. A graduate of Western Connecticut State University with a BS in Education, Karen has been Executive Director of the WPTA since 1997. With the help of a range of SOG leaders, Karen began her orientation to Section operations, issues, and personnel early in the fall of 2010. She is very well-regarded in the world of association management and she worked with some of our current contractors. Karen can be most directly reached at karen.oshman@geriatricspt.org; other contact information can be found in the SOG Directory on the inside back cover of this issue of *GeriNotes*.

On November 11th, the Board of Directors approved the appointment of the following individuals to key positions within the Section:

Melanie Sponholz, PT, MSPT, GCS, will assume the position of Editor for our award-winning magazine, *GeriNotes* in 2011, succeeding Carol Schunk, PT, PsyD. Melanie holds a BA degree in English Literature. Prior to becoming a physical therapist, she was an Editorial Assistant and Publishing Administrator with Random House, and later served as a Managing Editor for The Princeton Review. Presently, she is the Director of Quality Assurance and Professional Development for Fox Rehabilitation, Cherry Hill, New Jersey.

Cheryl Anderson, PT, PhD, MBA, GCS, will first serve as the Co-editor of our Home Study Course (HSC) series in 2011 with Jason Hardage, PT, DScPT, NCS, before assuming the position of Editor in 2012. A past SOG Secretary and HSC author, Cheryl has been involved in on-line course development and implementation that will be important to us as we transition from paper-based to on-line distance education courses. Home-office based, Cheryl currently holds a number of adjunct faculty positions.

Susan Wenker, PT, MS, GCS, has already jumped into her role as Co-chair of the Program Committee, under the mentorship of Jill Heitzman, PT, DPT, GCS. She has extensive experience in planning and coordinating educational opportunities. Sue is the Academic Coordinator for Clinical Education at the University of Wisconsin - Madison.

Our fall elections, conducted primarily by electronic voting, resulted in the following individuals elected to Section office, effective after their installation at the CSM 2011 members meeting on February 11th:

- Greg Hartley, PT, DPT, GCS, will become our Secretary, replacing Rubye Kendrick, PT, MS, GCS.
- Danielle Parker, PT, MPT, DPT, GCS, CEEAA, will join the Board of Directors for her 1st term, replacing Greg Hartley.
- Missy Criss, PT, was elected to the Nominating Committee replacing Carol Schunk, PT, PsyD.
- Cathy Ciolek, PT, DPT, GCS, was elected to a second term as Section Delegate.

Two of our 3 Special Interest Groups (SIGs) also conducted elections, with the following outcomes:

Balance and Falls SIG

- Mike Studer, PT, MHS, NCS, was re-elected as Vice Chair.
- Brady Whetten, PT, DPT, was elected Secretary, replacing Mary Bessette, PT, MPT, GCS.

Bone Health SIG

- Sheri Betz, PT, GCS, was elected as Chair, replacing Nancy Abodeely, PT, MA, OCS.
- Kathy Brewer, PT, MEd, GCS, CEEAA, was elected to the Nominating Committee.

At a time when engagement in leadership positions within professional organizations seems to be lagging, it is wonderful to have such talented and committed individuals stepping forward to serve the Section on Geriatrics. At the CSM 2011 in New Orleans, or perhaps via a quick email, make a point to show your appreciation to both these newly appointed or elected individuals and to the outgoing leaders who have served our Section so ably during their recent terms.

Dr. Barr is a Professor in the Physical Therapy Department at St. Ambrose University, Davenport, IA. He also serves on the Editorial Board for the Journal of Geriatric Physical Therapy.

EDITOR'S MESSAGE: NETWORKING & COLLABORATION

Carol Schunk, PT, PsyD

Combined Section Meeting (CSM) is always a special event for the Section on Geriatrics (SOG). This is the opportunity for SOG members to attend multiple education presentations oriented toward therapists who work with older adults. But the unique part about CSM is the events scheduled for Section members. There is a new comer breakfast and the booth and member meeting and the awards celebration. These are the occasions especially geared toward meeting other Section members and finding out how you might become more active in the Section. I know I have written on this topic before, but each year at CSM time I realize how rewarding it is to be involved. Having been a physical therapist for a hundred years or more, I have so many friends that I met through being involved with the SOG. Our profession is definitely unique in the environment of sharing and bonding that occurs between therapists. We are open and very welcome to the concept of sharing experiences and information. This is not true in all professions where often the competitiveness over rides collaboration and therefore eliminates building relationships.

I just returned from teaching a continuing education program in Kentucky on Home Health. Several times during the 2-day course, the participants break into small groups. One reason is the sanity of the participants since they need a respite from listening to me as the sole speaker. But the value of the small groups is the chance for interaction between the PT, OT, PTA, and COTAs. Value is measured as Quality divided by Cost. Cost in this scenario is the exposure, when you are in a group of 4 or 5 peers, those who tend to be more quiet or introspective may find it uncomfortable. Sometimes it is easier to just sit there and listen. But the quality factor is immense. The exchange of information and sharing experiences definitely overrides the cost, making it a great value and personal contribution to professional development. I get such satisfaction from wandering the room during the break out sessions and listening to the discussions. My hope is that this peer-to-peer interaction is going to have an impact on not only the quality of patient care but also the collaborative nature of rehabilitation and encourage networking. There is also the bonding among therapists who practice in a similar clinical setting. In this case it is home health that has a unique practice environment that facilitates a sharing of stories from the front. It could be interactions with families or caregivers or encounters with animals or strange home settings, all build a commonality among peers. Physical therapy is so unique in the variety of practice settings so the above scenario plays out among those in clinics or acute care or skilled nursing and all the other places we see clients or patients. The Combined Sections Meeting promotes this ability to network and interact so be sure to review the schedule on page 26 as well as Program Chair, Jill Heitzman's description on page 22.

Not only do therapists have multiple practice environments for working with the older adult but we have different roles as described in the *Guide to Physical Therapist Practice.* In this issue the role of advocacy is explored in two articles. Jennifer Bottomley writes about the Underserved Older Adults: The Homeless. Home modification and construction for the elderly who are intending to stay in their homes is the focus in the article by Patrice Antony. Both Patrice and Jennifer practice what they preach and are wonderful role models for the responsibility of therapists as advocates for the older adult. The lead article is on Documentation by Ellen Strunk. I usually do not have a policy topic as the first article in *GeriNotes* but as Ellen states, even though documentation is probably not anyone's favorite subject, it is what keeps us all alive and functioning and allows us to continue to do what we really love—working with our patients/clients. SO READ ON and SEE YOU AT CSM.

WHY DO YOU DOCUMENT?

Ellen R. Strunk, PT, GCS, CEEAA

Have you ever stopped to think about it? Why do you document every day on every patient? Is it because you have to? Is it because your employer requires it? If all the "rules" were taken away, would you still document?

The most common answer given to the question, "Why do you document?" is "Because I want to get paid." And that is probably a very true response for most therapists practicing today. Documentation has become such an onerous part of what we do every day that many therapists cringe and try to go the other way when the subject is even brought up. (So please keep reading!) Most physical therapists prefer to focus on the "clinical" aspects of their job: marketing services to physicians and potential patients, setting up successful clinical programs, and providing therapy services. Coding and documentation tasks are normally given less attention by most therapists. However, these tasks are critical to both the success of a business and the ultimate success of our profession. If our documentation does not support what we are doing or the skill it takes to do it, then no one is going to pay for physical therapy services.

"If our documentation does not support what we are doing or the skill it takes to do it, then no one is going to pay for physical therapy services."

The truth is that physical therapists did not go to school to learn how to write prolifically. We went to school to be hands-on clinicians and experts in functional movement disorders. However, the skills of a therapist today must include skills in comprehensive documentation and appropriate coding. A practitioner with this type of knowledge is much more marketable in any service area.

The reasons why a clinician should be competent in both documentation and billing fall into 3 primary reasons: clinical, legal, and reimbursement.

1. From a clinical perspective, documentation is the basis for establishing medical necessity and a patient's plan of care. Without these two elements, the clinical course may vary, the treatment may only address acute complaints, and the patient's outcome may not be optimal. Using thorough documentation principles, however, will provide a clear roadmap for the practitioner to address all the problems in an organized and comprehensive manner.
2. Documentation and proper billing is also essential for legal reasons. Consistent compliance with coding standards and guidelines will protect a practice from potential fraud or abuse charges. Consistent compliance with documentation standards will protect a practice in the unfortunate event of a lawsuit. Without clear, comprehensive, concise and legible notes, a practitioner will have difficulty defending decisions about the care provided.
3. The final reason for understanding documentation and reimbursement principles is to receive payment for services provided. Documentation and reimbursement are not separate parts of practice, but are inherently connected.

In the September issue of *GeriNotes*, the Policy Talk column discussed some of the initiatives the Centers of Medicare and Medicaid Services are using to safeguard against fraud and abuse in the system.[1] Health Care Spending is growing year over year and is expected to be 16.2% of Gross Domestic Profit (GDP) this year. In calendar year 2008 (the last year of known data), Medicare spent approximately $4.76 billion on all Part B therapy services; 76% of that was spent on outpatient physical therapy services. The average spending on each Medicare beneficiary was $884/year. The problem is that therapy utilization is growing faster than general health utilization – in fact two times as fast. And as more data is analyzed, we know there are two settings where most of these outpatient physical therapy services are provided: skilled nursing facilities and physical therapy private practices.

Within Medicare Fee-for-Service, CMS contractors are responsible for processing and paying approximately 4.5 million claims per day. Therefore, these contractors have a very important role in preventing improper payments from happening. We as physical therapists and physical therapist assistants need to take seriously our role and responsibility in insuring the services we submit on claims are paid.

Physical therapy practitioners should follow good documentation principles regardless of the payer source. The documentation should support that physical therapy services are reasonable, necessary & medically necessary. What do these terms mean? Over the last several years, Medicare has gone to a lot of trouble to outline in its various online manuals exactly what this concept means (see Table 1). For outpatient services, Medicare outlines its expectations in the Benefit Policy Manual Pub. 100-2, Chapter 15, Section 220 and 230.[2] For Skilled Nursing Facility services, its expectations are in the Benefit Policy Manual Pub. 100-2, Chapter 8, Section 30.2[3] as well as the Resident Assessment Instrument Manual, Chapter 3, Section O. Medicare has just recently published extensive documentation requirements for home health therapy services in its 2011 PPS Final Rule.[4] This information will be incorporated into the Benefit Policy Manual Pub. 100-2, Chapter 7 by the first of 2011. Experience also tells us that because Medicare and Medicaid are the largest health programs in the United States, other insurance providers often use the same or similar documentation and coverage criteria in their policies.

Many therapists still struggle with this concept, however, since we may assume that if 'we' are doing it, then 'it is skilled.' Or we falsely think that only 'we' can provide the service rather than using clinical reasoning skills to justify

Table 1. In order for a service to be considered 'reasonable & necessary' and 'medically necessary' in each of these settings:

Outpatient Services	Skilled Nursing Facility	Home Health Services
The services shall be of such a level of complexity and sophistication or the condition of the patient shall be such that the services required can be safely and effectively performed only by a therapist, or in the case of physical therapy and occupational therapy by or under the supervision of a therapist. Services that do not require the performance or supervision of a therapist are not skilled and are not considered reasonable or necessary therapy services, even if they are performed or supervised by a qualified professional. 220.2.B[2]	*If the inherent complexity of a service prescribed for a patient is such that it can be performed safely and/or effectively only by or under the general supervision of…skilled rehabilitation personnel, the service is a skilled service; 30.2.2* *The services must be of a level of complexity and sophistication, or the condition of the patient must be of a nature that requires the judgment, knowledge and skills of a qualified physical therapist. 30.4.1.1*[3]	*The therapy services must be of such a level of complexity and* *sophistication or the condition of the beneficiary must be such that the services required can safely and effectively be performed only by a qualified therapist or a qualified therapy assistant under the supervision of a qualified therapist. Services which do not require the performance or supervision of a qualified therapist are not reasonable and necessary services, even if they are performed by a qualified therapist. CMS 1510-F, pg 116*[4]
The services shall be considered under accepted standards of medical practice to be a specific and effective treatment for the patient's condition. 220.2.B[2]	*The services must be considered under accepted standards of medical practice to be specific and effective treatment for the patient's condition. 30.4.1.1*[3]	*Additionally our coverage regulations at 409.44(c)(2)(i) already mandate that for therapy services to be covered in the HH setting, the services must be considered under accepted practice to be a specific, safe, and effective treatment for the beneficiary's condition. CMS 1510-F, pg 453*[4]

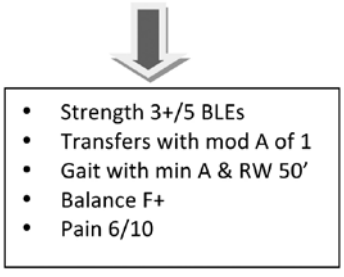
'why' we are continuing to provide the service. With every single treatment visit, we should ask ourselves: "What service am in providing that only "I" – a physical therapist or physical therapist assistant - can provide?" That is the essence of what our documentation must prove. With all the medical review entities out there scrutinizing more medical records, our documentation must leave no doubt that what we are doing is medically necessary. If the answer to our question is "yes!", these services can only be provided by "me", then it becomes easy to document skilled services – you document what you did during that visit that no other person (eg, a caregiver, a CNA, a home health aide, an ATC, a nurse) could have done.

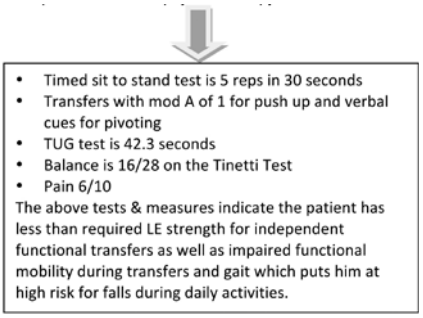
The next step is sometimes the hardest one. Ask yourself "Why am I <u>still</u> doing these services?" It is harder because it gets at the fundamental question of "Are we having a positive functional outcome? Are these services giving us the result of reaching the patient's goals?" This is another aspect of good documentation since it emphasizes the point that our services must be based in evidence. Just providing 'skilled' services over and over regardless of the outcome won't pass the test for meeting medical necessity.

A SOLID PLAN OF CARE IS NECESSARY

This is where a solid plan of care can make your documentation easier to accomplish or make it much harder. The treatment plan should describe the condition being treated, include specific therapeutic interventions with short and long term goals and indicate the amount, frequency, and duration of therapy services. The Medicare Benefit Manual emphasizes the need for using objective measurement instruments that can be used throughout the plan of care to establish that the patient is making progress. The CMS recommends the use of the Patient Inquiry by Focus on Therapeutic Outcomes, Inc (FOTO), the Activity Measure – Post Acute Care (AM-PAC) or OPTIMAL by Cedaron through the American Physical Therapy Association. In lieu of these, CMS encourages the use of instruments that support illness severity or complexity, beneficiary health related to quality of life, and/or objective, measurable beneficiary physical function. Regardless of what is chosen, the tests and measures should yield information that is sufficiently accurate and precise so the medical necessity of the intervention is clear. The results of each test should be clearly documented, since they will help justify the need for physical therapy and support the medical necessity of skilled physical therapy interventions (see Table 2).

Which functional assessment tools are you using in your practice? Do you use at least one on every patient? While range-of-motion, manual muscle testing, mobility task scores are helpful to describe the impairments a patient has, they don't always paint a clear picture of what the patient's "functional impairments" are. Many times physical therapists make the mistake of assuming that if they document something like this everyone will understand why the patient needs physical therapy services.





When instead, using functional assessment scores that are validated in the scientific literature and additional documentation can explain the value of physical therapy in much clearer terms.

Writing goals is the most important part of the plan of care. They should relate to each patient's problems and his everyday life; ie, what do they want to return to doing and why is that important? Although Medicare only requires long term goals to be included in the plan of care, short term goals are helpful to direct the day-to-day care of the patient and lay out the steps necessary to achieve the long term goals. Goals should address 4 major points: (1) who needs to achieve it? (2) what do they need to achieve? (3) by how much? and (4) why do they need to achieve the goal? For example, a goal might be written as:

Table 2. In order for a service to be considered 'reasonable & necessary' and 'medically necessary' in each of these settings:

Outpatient Services	Skilled Nursing Facility	Home Health Services
**Documentation required to indicate objective, measurable beneficiary physical function including, e.g., o Functional assessment individual item and summary scores (and comparisons to prior assessment scores) from commercially available therapy outcomes instruments other than those listed above; or o Functional assessment scores (and comparisons to prior assessment scores) from tests and measurements validated in the professional literature that are appropriate for the condition/function being measured; or o Other measurable progress towards identified goals for functioning in the home environment at the conclusion of this therapy episode of care. 220.3.C*[2]	*Skilled rehabilitation services concurrent with the management of a patient's care plan include tests and measurements of range of motion, strength, balance, coordination, endurance, and functional ability 30.4.1.2.A*[3]	*Our clarifications include requirements to: document necessity for a course of therapy (§409.44(c)(1)); include clinic notes which reflect progress toward goals, which incorporate the functional assessment and reassessments, which justify medical necessity, which describe the content of progress notes, and which include objective evidence of the expectation that the patient's condition will improve (§409.44(c)(2)(i)); document any variable factors that influence the patient's condition or affect the patient's response to treatment, and include objective measurements of progress toward goals in the clinical record (409.44(c)(2)(iv)). CMS-1510-F; pg 452*[4]

Patient (who) *will achieve increased hip extensor strength* (what) *by ½ muscle grade* (how much) *so that immediate standing balance is improved to 2/2 as measured on the Tinetti Balance test and risk of falls is reduced* (why).

Although this goal appears lengthy, it is objective, measurable, and functional. It includes the functional level the patient is expected to achieve on discharge. It supports the medical necessity of the intervention since the patient's risk for falling is at stake. It directs the physical therapist or the physical therapist assistant in specific interventions that need to occur in order to reach the goal.

Documenting and collecting outcomes is a crucial part of the documentation and reimbursement process. Physical therapists often take for granted the service we provide everyday, including the difference that can be made in patients' lives. It is easy to 'water down' the benefits obtained through physical therapy in an effort to explain it to a lay person. However it is important to find ways to illustrate and explain to others in simple terms what it is that we can achieve towards our patient's goals. Practitioners should ask the same types of questions a payer might ask. "Did the final outcome meet the expectation? Was the result worth the investment of time and money for the payer and the patient?" Outcome measures indicate to the payer that services provided are successful and the provider of the services is demonstrating the willingness to constantly improve the services for which payment is requested.

Standardized tools provide therapists with a different king of 'language' through which we can communicate with others. Standardized outcome tools provide a benchmark by which to measure function and with which to examine and treat deviations. It is easy to incorporate outcomes into documentation by using tools with established reliability and validity (See Table 3). Choose one or two outcome measures for those diagnoses seen most frequently in your clinic (ie, high volume) or the diagnoses that are the most challenging to treat (ie, high risk). Use a tool that has already been established for reliability and validity. Set a benchmark for achievement based on national standards; for instance improve ABC scores to 80% after physical therapy intervention.

Table 3. Sample List of Functional Tests & Measures

Activities Balance Confidence Balance Scale (ABC)	Functional Ambulation Profile	Romberg Test
Berg Balance Test	Functional Reach Test	Six Minute Walk Test
Borg's Rating of Perceived Exertion	Gait Abnormality Rating Scale (GARS)	Timed Sit to Stand Test
Disability of Arm, Shoulder, Hand (DASH)	One Legged Stance Test	Timed Up & Go Test (TUG)
Four Square Step Test	Physical Performance Test	Two-Minute Step Test

It is important to recognize that the Patient Protection & Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act of 2010 (HCERA) both have provisions in them that increase the types and number of strategies that CMS can take to reduce improper payments. So ask yourself again: "Why do I document?" If your answer is "to get paid," then make sure it is comprehensive and descriptive enough so that you and/or your employer do get paid and get to keep the money!

REFERENCES

1. "Caution: Rough Roads Ahead" *GeriNotes.* September 2010.
2. Medicare Benefits Manual. Publication 100-2, Chapter 15, Section 220. Accessed December 2, 2010.
3. Medicare Benefits Manual. Publication 100-2, Chapter 8, Section 30.2 – 30.4. Accessed December 2, 2010.
4. Home Health Prospective Payment System Final Rule 2011; CMS 1510-F; http://www.cms.gov/center/hha.asp Accessed December 2, 2010.

Ellen Strunk is President and Owner of Rehab Resources & Consulting, Inc., a company providing consulting services and training to providers in post-acute care settings with a focus on helping customers understand the CMS prospective payment systems. She also lectures nationally on the topics of pharmacology for rehabilitation professionals, exercise & wellness for older adults, and coding/billing/documentation to meet medical necessity guidelines and payer regulations.

ENERGY CONSERVATION GUIDE FOR OLDER ADULTS

Z Altug, PT, MS

Energy conservation is an organized way for finding ways to reduce the amount of effort and energy needed to accomplish a given task. Using energy conservation techniques can help reduce unnecessary effort by allowing a patient make the most of each day with less fatigue and pain. The following table outlining energy conservation guidelines may be issued to help patients reduce fatigue and pain due to an illness, patients recovering from surgery, or a medical condition such as fibromyalgia or cancer.[1-5]

PATIENT EDUCATION: ENERGY CONSERVATION GUIDE

- Do the most strenuous daily tasks when you have the most energy.
- Alternate hard tasks with easy tasks to prevent overloading the muscles and joints.
- Break up difficult and prolonged tasks into smaller steps to allow for adequate recovery.
- Plan to take frequent rest periods during your daily chores or activities by stopping an activity, sitting or lying down for brief periods of time.
- Plan ahead of time to figure what is the easiest and safest way to perform a task. For example, is there an easier way to clean your bathroom by using long handled tools?
- Determine which activities cause excess fatigues or pain and plan how to modify them.
- To prevent unnecessary reaching and bending, change the location of household equipment and supplies for easier access.
- Minimize excess stair use, frequent bending, and squatting as well as heavy lifting and carrying tasks.
- Minimize prolonged overhead activities (such as painting).
- Avoid prolonged static positions by changing positions and postures frequently. For example, alternate between sitting and standing when preparing foods, washing dishes, and ironing.
- Take advantage of labor-saving devices (such as a dishwasher) and tools (such as a power screwdriver and electrical toothbrush).
- Use assistive devices (such as a cane or walker) and splints as needed.
- Get help or delegate tasks and chores when needed.
- Get adequate sleep every night to allow for mental and physical restoration.
- Learn to control stress to avoid tapping into energy reserves. Consider activities such as yoga, tai chi, meditation, and hobbies.
- Eat a balanced diet in order to obtain proper levels of nutrients for repair and recovery.
- Participate in an aerobic exercise program at least 3 to 5 times a week to build and maintain endurance. Consider walking, biking, hiking, or swimming.
- Participate in strength, flexibility, and balance exercises several times a week to improve and maintain strength and mobility, and also help to prevent falls.

REFERENCES

1. Gerber L, Furst G, Shulman B, et al. Patient education program to teach energy conservation behaviors to patients with rheumatoid arthritis: A pilot study. *Arch Phys Med Rehabil.* 1987;68:442-445.
2. Goodman CC. Oncology. In: Goodman CC, Boissonnault WD. *Pathology: Implications for the Physical Therapist*. Philadelphia, PA: W.B. Saunders Company; 1998:152-172.
3. Mathiowetz V, Matuska KM, Murphy ME. Efficacy of an energy conservation course for persons with multiple sclerosis. *Arch Phys Med Rehabil*. 2001;82:449-456.
4. Vanage SM, Gilbertson KK, Mathiowetz V. Effects of an energy conservation course on fatigue impact for persons with progressive multiple sclerosis. *Am J Occup Ther.* 2003;57:315-323.
5. Young GR. Energy conservation, occupational therapy, and the treatment of post-polio sequelae. *Orthopedics*. 1991;14:1233-1239.

Z Altug is a physical therapist with 20 years of experience in orthopedics and geriatrics. He recently co-authored *The Anti-Aging Fitness Prescription* (New York, NY: Hatherleigh Press; 2006). He is a member of the APTA and the Section on Geriatrics. He may be reached at zaltug13@gmail.com.

PROVIDING CARE FOR UNDERSERVED OLDER ADULTS: THE HOMELESS

Jennifer M. Bottomley, PT, MS, PhD

This article is focused on Elder Homelessness, models for providing care for underserved populations, and volunteerism. I'm certain that many of you have worked with an older adult for whom basic needs--food, clothing, shelter--were sparse or unavailable. For the past 30 years, this author has worked with the Committee to End Elder Homelessness (CEEH), recently renamed HEARTH (Helping Elders At Risk Through Homes) in Boston. HEARTH is a nonprofit organization dedicated to the elimination of homelessness among elderly. We have accomplished this mission through a blend of prevention, placement, and housing programs all designed to help elders find and succeed in homes of their own. To this end, HEARTH provides an array of supportive services that assist residents to age with dignity, regardless of their unique medical, mental, or social needs. It is the intent of this article to provide the *GeriNote's* readers with a proven, cost-effective model for service-enriched housing, including physical therapy services that addresses the special needs of homeless elders in our country.

INTRODUCTION

The fact that *anyone* is homeless is a reflection of the disparities of class in society. The fact that elders are homeless is an absolute transgression from societal values. The circumstances of homelessness echo the yawning gap of social policy that should be in place to prevent the loss of shelter, a basic need, from occurring. Is it not the right of every elder American to have a safe and affordable home, adequate health care, and sufficient income to buy food and clothing? Is it not the right of every senior citizen, who has 'paid their dues' over a lifetime, to at least enter old age with a roof over their head? We should be outraged.

It is up to all of us who are benefiting from a prosperous economy to turn our energies and resources towards helping others. As a society, how we treat the least, the last, and the lost reflects our values. How can public and private organizations work together to assure a more compassionate society? How can we as Physical Therapists help to bridge the widening gap between the "haves and the have nots?"

EXTENT OF ELDER HOMELESSNESS

What is the extent of homelessness among the elderly? Estimating the number of homeless elderly is a great challenge. In most studies in the US, seniors are underrepresented among the homeless, compared with the general population. This is felt to be due, in part, to higher mortality rates once elders are on the street. None-the-less their absolute numbers are increasing.

Estimates by the National Alliance to End Homelessness (NAEH) in April 2010 show an overall increase in elder homelessness nationally.[1] This increase reflects both demographic shifts in our country's population and the rate of deep poverty experienced by many older citizens. Using shelter reports from 8 major cities, it is estimated that between 14.5% and 28% of the homeless are aged 50 years or over and 3% to 9% are over 60 years. Those over age 65 years comprised approximately 3% of all shelter users nationwide. These numbers have been criticized as underestimates, because many elderly stay away from public shelters for fear of muggings or insensitive treatment. Street surveys and outreach programs in the US have reported a higher percentage of older people among the homeless—ranging as high as 30%.

The NAEH projects that homelessness among the elderly in the US will increase by 33% between 2010 and 2020, and will more than double between 2010 and 2050.[1] In the NAEH's report, they stated, "In the coming years, the United States will experience a monumental societal shift as baby boomers become senior citizens. Meeting the needs of this population, particularly the economically vulnerable portion of the population will be one of the greatest domestic policy challenges in our lifetime."

There is very limited recognition of the problem. HEARTH remains the only organization in the country with a sole focus and comprehensive approach to ending elder homelessness. HEARTH has built a strong foundation of advocacy to end elder homelessness that is nationally recognized. In Massachusetts, we have observed the growth in elder homelessness first hand through the increased demand in our housing and placement services, as well as through growing numbers of requests for assistance from organizations across the country who are seeing an increase in numbers of homeless elders, and who are looking for proven strategies and solutions.

RISK FOR ELDER HOMELESSNESS[2]

How is it that elders become homeless? Homelessness arises from both the destruction of dwellings through natural disasters and catastrophic events, such as floods, wars, and earthquakes, and the separation of people from their homes through one or more of a combination of socioeconomic, political, and legal conditions and personal behavior.

Increased homelessness among elderly persons is largely the result of the declining availability of affordable housing and increased poverty among the elderly. Yet, homelessness is an issue that cannot be simply explained by these economic and structural factors. Personal relationships and behaviors, as well as biographical factors play important roles. Catastrophic illnesses and the out-of-pocket expenses for medical interventions can force an elder individual to have to make a choice between paying for health care,

buying food, or paying the rent. Lifelong emotional or psychological factors may also play a part in elder homelessness. A great number of elderly individuals become homeless in later life after having held down long-term jobs with retirement benefits. More and more older people are actually losing pensions that they counted on. Many have lived all their lives in houses that they owned and cared for and can no longer maintain. Property taxes can wipe out an entire year of social security income in some states. Many elders have become estranged from family and friends and lose social support. Many once had significant personal relationships that have somehow dissolved.

Worst case housing needs are those individuals at greatest risk for homelessness. They are just on the edge of losing their home. These elders are in need of housing assistance. Of the 12.5 million persons in households identified by the US Department of Housing and Urban Development as having "worst case housing needs," 1.5 million are elderly people.[3] Households with an elderly head of household have almost a one-in-three chance of having worst case needs. Housing assistance has been heavily directed toward elderly people; however, only 37% of very-low-income elderly people receive housing assistance. Why is it that the other 63% have not accessed their eligibility to this help?

Elderly individuals are more likely than the non-elderly to have incomes just over the poverty threshold (10.5%). According to the US Bureau of the Census, 17% of elderly people had family incomes below 125% of poverty. Over 65% of older renters spend more than 30% of their income on housing. With less income for other necessities such as food, medicine, and health care, these populations are particularly vulnerable to homelessness.[4]

Isolation also contributes to homelessness among older persons; older persons are almost twice as likely as younger homeless persons to have been living alone prior to losing their home. They also tend to spend more time alone once they are homeless, typically out of embarrassment for being homeless or out of fear and distrust of others on the street.

The pathways into homelessness for the elderly are multifactorial. Risk factors or triggering events in this group include evictions; the death of a spouse, relative, or significant other; and loss of income. Family dysfunction and gradual loss of social supports may be precipitants to homelessness in older individuals. Older homelessness is also associated with dementia, living alone, an unstable residential history, or to abuse and violence in their homes. Mental illness is often cited as a precipitating factor in elder homelessness.

CONSEQUENCES OF ELDER HOMELESSNESS

Once on the street, elderly homeless persons often find getting around difficult, and distrusting the crowds at shelters and clinics, they are more likely to sleep on the street. Some studies show that homeless elders are prone to victimization and more likely to be ignored by law enforcement. Older homeless persons are also more likely to suffer from a variety of health problems including chronic disease, functional disabilities, and uncontrolled diabetes and high blood pressure. Add to that poor nutrition and hydration that exacerbate many health problems. Hygiene also becomes a problem.[5]

Being homeless is associated with greater incidence of morbidity and mortality and a lifestyle that negates the pursuit of disease-prevention practices and interferes with attempts to treat health problems. The homeless elderly face the conditions associated with aging, magnified by their living conditions. Homeless elders have many chronic health conditions. In addition, they face problems stemming directly from homelessness, such as the consequences of falls, trauma or criminal assault, infestations with scabies or lice, peripheral vascular disease, cellulitis and leg ulcers, frostbite, and communicable diseases such as tuberculosis and HIV, malnutrition, and dehydration. They are more likely to report active medical problems or a chronic illness or functional disability and their overall fitness and health status is worse than elderly people in the general population.[5]

Better knowledge of risk factors, antecedents, and triggering events in this age group may help define a pre-homeless state and inform preventive measures. In the interim, more responsive hospital-discharge planning and the establishment of different levels of care (such as infirmaries and longer-term beds) after hospital discharge are important considerations in the provision of services.

SHELTERS AND THE HOMELESS

The elderly homeless people have multiple needs extending beyond the lack of housing: they face physical and mental health problems. This raises concerns about age-specific unmet physical and mental health needs among homeless seniors, particularly among those with mobility and memory problems.[1] Seniors often have difficulty accessing shelters as a result of mobility needs and physical limitations that compromise their ability to climb stairs or sleep on the floor. Most of the shelters close during the day, leaving older individuals on the street for the better part of the day. Given the growing numbers of homeless elderly people, there may be a role for day programs to engage the homeless elderly and those at risk. It becomes paramount to adapt and improve shelters to suit elderly client needs.

Traditional community-based health service programs for the elderly are not designed to serve the elderly homeless population. Several barriers impede access. A Homeless lifestyle interferes with preventive measures and treatment of acute or chronic conditions, language and cultural barriers; lack of identification, and dissatisfaction with and perceived discrimination in existing services. In response to these barriers, the service providers and government need to provide homeless health services in targeted community health centers, as well as interdisciplinary teams that provide health services within the shelters and on the streets.

Outreach programs are essential. It is important to identify elders that are the "hidden Homeless." Many elders are quite adept at masquerading as an older person "just out for a walk." There is also a lack of staff training regarding age-specific needs. Very rarely are rehabilitation needs addressed in homeless health clinics. Health centers and shelters designed specifically for older homeless individuals have been established in New York and in Boston. These focus on the special needs of the elderly, attention to functional

limitations rehabilitation needs, and comprehensive assessment. Geriatric physical therapists may have a unique advantage in helping other providers assess the homeless elderly. We are skilled in community care, outreach, and comprehensive health assessments. Through direct assessments and indirect consultation, we could assist multidisciplinary teams to assess and treat elderly homeless people in a more comprehensive and holistic way.[5]

PROGRAM AND POLICY ISSUES

There is a great need for public housing assistance. Older homeless persons are often entitled to Social Security benefits; however, these benefits are often inadequate to cover the cost of housing. A person receiving Social Security Income benefits spends at least 69% of their monthly income to rent a one-bedroom apartment. Sometimes the cost of a one-bedroom apartment at Fair Market Rent is more than a person's total monthly Social Security income. Nonetheless, Social Security is a safety net and should be preserved. The total number of elderly with very low incomes actually dropped in the late 2000s by about 300,000. This drop reflects a growing portion of the elderly population protected from severe poverty by Social Security.[1]

A recent analysis of Census data found that without Social Security, nearly half (47.6%) of Americans age 65 or over would have been poor. In fact, Social Security reduced the poverty rate among elderly people in mid to late 2000-2010s by 11.9%, and lifted 11.4 million elderly people out of poverty.[3] Despite this, if this is the only income source, these elders are at risk for homelessness. Even if the Social Security does cover the rent, only a few dollars remain for other expenses. Moreover, some homeless persons are unaware of their own eligibility for public assistance and face difficulties applying for and receiving benefits. Elderly homeless persons often need help navigating the complex application process. Rather than cutting through the red tape, they take the path of least resistance, they become homeless.

There have been some legislative initiatives that have sought to address these issues:

The Stewart B McKinney Homeless Assistance Act

The first national response to the homelessness crisis was the passage of the Stewart B. McKinney Homeless Assistance Act of 1987.[6] Recognizing that homeless people lacked access to health care, Congress funded a health program specifically for them. National demonstration projects showed that health programs specifically targeted to homeless people could dramatically improve the health of this vulnerable population.

Health Care for the Homeless (HCH) Program

This is a federally funded program designed to specifically provide health care to homeless persons. HCH projects provide primary health care. These programs are successful because they are designed and administered by local communities to fill significant gaps in existing health care delivery systems. Health and social service workers provide screening and comprehensive care in accessible clinics. In addition to providing basic health, diagnostic, preventive, emergency medical and pharmaceutical services, HCH projects conduct intensive outreach, case management, and housing, links to income assistance, and transportation. No other indigent care system provides this service. Currently, HCH programs provide grant funding to 123 community-based organizations in turn, have service networks with over 300 service contractors. Last year more than 490,000 clients in 48 states, the District of Columbia, and Puerto Rico were served by these programs. In fiscal year 2009, Congress appropriation was $74 million for the HCH programs. Every year since 2000, these funds have been significantly reduced. As a result, this wonderful care network has diminished since its inception despite the increase in homelessness in all ages.[6] What are the current program limitations? With the crumbling indigent care network, the development of managed care, stagnant program funding, and the increase in homelessness have made it impossible for HCH programs to reach the majority of homeless people in America. We have been forced to reduce program staffing, waiting lists have grown, and many are turned away.

The growth in Medicare and Medicaid Managed Care systems is a central factor in this decline. Limited access to health services for homeless individuals occurs because enrollment processes neglect the special circumstances of those who have no mailing addresses or telephones.

- Managed Care Organizations are not mandated to provide an appropriate range of services, including outreach and case management, for homeless persons.
- There is inadequate payments by Managed Care Organizations to homeless health care providers.
- Clinics are often at inaccessible service locations that ignore the extraordinary transportation barriers of our often penniless clients.
- There is a lack of basic services such as food, clothing, assistance in securing emergency shelter and assistance in securing public benefits.
- There is no requirement that Managed Care Organizations reimburse homeless health care providers for the services rendered at shelters, soup kitchens, and on the streets.

Lack of affordable housing also impacts efforts to provide health care to homeless people: housing is the first form of treatment for homeless people with medical problems.[4] A roof over ones head prevents many illnesses and makes it possible for those who are ill to recover.

Health care reform needs to provide greater access to affordable services essential to end homelessness. Establishing health care based on (1) universal coverage, (2) guaranteed access to the health delivery system, and (3) comprehensive benefits are a fundamental step in correcting this grave social problem. Concerned health care and social service providers have bonded to facilitate access and improve the quality of care homeless individuals receive.

The Association of Clinicians for the Underserved

The Association of Clinicians for the Underserved (ACU) is a grassroots organization created by an interdisciplinary team of health care professionals.[7] This organization is dedicated to improving access to and the quality of health care for the poor and underserved by assisting those who dedicate all or part of their

professional efforts to these populations. The membership reflects all professionals who play a role in improving the health status of underserved populations, whether through health care practice, teaching, research, administration, community involvement, or participation in local, state, or national programs.

National Health Care for the Homeless Council is a HCH Clinicians network with representative from almost all states in the US. The council supports and promotes a universal health care system to replace the inequities and inefficiencies of current health care financing. Homeless people are concentrated in the nation's urban centers AND also scattered throughout rural America. They are often not close to the health care facilities. They don't have transportation or real control over their daily lives, since they depend on the routines of shelters, and soup kitchens to meet their most basic survival needs: food, water, shelter, and safety. In other words, finding health care is tough or impossible for many homeless people. If we look at the outcomes of this problem we would find that unacceptable costs result from poor access to health care.[5] A relatively minor health problem develops into a medical emergency, and treatment then falls in the realm of the most expensive: emergency rooms and acute care wards. We all pay the high costs of care deferred.

Undetected and untreated communicable diseases threaten the health of other homeless people in particular and of the public generally, and the bill increases as disease spreads. In the long run, perhaps the greatest costs are the moral and social results of neglecting the needs of dispossessed, seriously ill people in our midst.

Model interdisciplinary screening and intervention programs have sprouted in many cities throughout the United States over the past 15 to 30 years. This is a sensible and effective response to the health needs of homeless people. In locations where homeless people congregate, health and social service workers have established clinics designed to overcome the access problems faced by homeless people. The interdisciplinary projects provide comprehensive care that improves people's health and helps them to escape the trap of homelessness. These clinics are in shelters, soup kitchens, skid-row store fronts and medical vans that visit parks, underpasses, and encampments.[8] Contact with the homeless population is extended by outreach workers (primarily pro bono) who aggressively seek out and patiently engage the most isolated of homeless people. Here are some examples of current working programs:

The Boston Shelter Project

A program designed to assist the homeless population in Boston was initiated in 1986 by a *volunteer* multidisciplinary group comprised of nurses, physicians, physical therapists, podiatrists, nutritionists, social workers, dentists, psychiatrists, and theologians. This program involves screening and intervention at many of the 33 homeless shelters in the city. Originally this program was under the umbrella of Boston City Hospital, which provided medical care for the homeless in the emergency room and now continues to run a daily medical clinic at the Long Island Shelter (this is a state hospital facility on an island in the Boston Harbor where the movie – Shutter Island – was filmed). Some funding has been allocated state and city provisions, and HCH grants, yet, it is the volunteer health care professionals whose donated time and expertise comprise the biggest proportion of the services rendered. There is a small full-time staff augmented by more than 200 health care volunteers from the various disciplines. The clinic provides health care to more than 7,000 homeless individuals a year.

Going beyond traditional care, the members of this interdisciplinary team work to remedy a variety of problems that affect their homeless clients' health. Issues such as safe shelter and permanent housing, income, family relationships, and substance abuse are addressed. Individuals are screened for medical problems and providing treatment as warranted. The medical team has a well-established relationship with providers of shelters and other resources within the community to facilitate comprehensive care and ultimately to get the homeless a home.

Physical therapists primarily screen for biomechanical disability, musculoskeletal, cardiopulmonary, neurologic, and vascular problems. In addition, functional assessment and the provision of shoes and orthotics is done on our first encounter. Treatment is provided at the time of the screening for identified deficits and includes an emphasis on educating the homeless individual in exercises and prevention of further problems. One difficulty in treating the homeless population is the inconsistency with which they come to the clinics. Often, the first encounter is the only shot the therapist has at addressing the homeless clients' functional problems, so education is crucial. One area of concentration has been to assure that the homeless person has protective shoe gear and orthotics. Foot ulcerations and skin and vascular problems related to constant exposure to the environment often result in the loss of limbs and very costly medical care. Shoes are donated to the clinics by a variety of shoe stores and manufacturers, and the materials for the fabrication of orthotics are donated by AliMed. Equipment has been obtained through Title IIIB federal service grants. Equipment is moved from clinic to clinic and the physical therapists are often seen grinding orthotics off of the back of a van. Staffing is entirely volunteer at each of the sites. Physical Therapy students looking for a real life, direct access, clinical-decision-making-on-the-fly learning experience have become an invaluable resource to these clinics in the Boston area.

Community Foot Care Project

The Community Foot Care Project services low-income and homeless elders in 14 central Massachusetts communities. The purpose of the foot care program is to screen low-income and homeless elders for foot and medical problems, provide education on foot care, and fabricate foot orthotics and free shoes and socks. The ultimate goal is to keep these older folks ambulatory and independent. We also screen for risks of homelessness.

The foot care project is staffed by an interdisciplinary team. Together we hold 24 community-based clinics in 14 different communities each year. The foot care project is funded by a Title IIIB grant dispensed by the Massachusetts Baypath Area Agency on Aging on a yearly basis.

HEARTH

The CEEH was established by a group of professional women in 1990.

In 2005, this dynamic committee became the well-orchestrated organization of HEARTH. The ring-leader, Anna Bissonnette (whom I fondly refer to as *The Mother Teresa of Boston)* and our committee of 6, set out to find 'empty' houses and buildings that could be rehabilitated and provide housing for the homeless elderly of Boston. With generous corporate assistance, donations of materials and labor, private donations, and several golf tournaments, many permanent housing units have been established. Currently, HEARTH has 149 units of permanent supportive housing located in 8 different residences throughout the Greater Boston area.[9] All residences are supported by multidisciplinary teams comprised of site directors, licensed social workers, registered nurses, resident coordinators, resident assistants, overnight managers, activity directors, personal care homemakers, and committed volunteers including physical therapists.

Physical Therapy is involved in each of these facilities. We address functional limitations, environmental modifications, and necessary assistive devices to facilitate the maximal level of independence for each of those elders placed in these housing projects. As these formerly homeless elders now have an address, follow-up intervention to promote function and enhance health is much easier than it was when we were trying to treat them on the street. Physical Therapy provides full screening and interventions as needed. Referral to other services is often made as PT is frequently a point of entry into the health care system for many of these elders.

HEARTH has accomplished much in 20 years, but there's an avalanche here. We're having trouble staying ahead of the cascading snows of elder homelessness. Despite our efforts, homelessness among elders in the Boston area has increased by 27% since 2002. As the number of elderly grows and affordable housing decreases, HEARTH expects the problem will only worsen over the next decade. Massachusetts mirrors the larger scale national prevalence of elder homelessness. HEARTH has been consulted by the current Obama administration to provide guidance in addressing elder homelessness throughout the US.

VOLUNTEERISM/ADCOVACY

Volunteerism is important to public policy and can have an impact on government action. It brings significant benefits to individuals and communities and helps to nurture and sustain a richer social texture and a stronger sense of mutual trust and cohesion. Voluntary action is deeply embedded in most cultures. It is a long-established practice in ancient traditions of sharing and social structures. Voluntary action is an expression of people's willingness and capacity to freely help others and improve society. Volunteering constitutes an enormous reservoir of skills, energy, and local knowledge.

Although listening to, being concerned with, and responding to the needs of others are evidence of our highest human motivations, volunteering is not simply something we do for others. Voluntary action is predicated on reciprocity. In fact, often much is gained personally from voluntary efforts. As Grandma always said, "what goes around comes around--if what is going around is positive, it will come back positive and ten-fold." The benefits of volunteering are realized in many invisible ways. It is one expression of social relationships by which people solve problems. Volunteering generates new networks and norms, extending society's existing capital reservoirs by building new relationships and widening its webs of social interaction. The common thread is the fact that in a world characterized by many uncertainties, volunteering provides a strong platform for reconnecting people who have been divided by chasms created by wealth, religion, class, ethnicity, age, and gender. Nothing is new here. Caring and sharing are essential characteristics of human behavior, indicative of communities' attempts to look after their weakest and most vulnerable members. Volunteerism constitutes the most basic safety net protecting the powerless from despair, destitution, abuse, and fear. Volunteerism is not a nostalgic relic of the past. It is our first line of defense against social atomization in a globalizing world.

Individuals who trust and support each other tend to be more sensitive to the needs of the underprivileged, more tolerant of ethnic and religious diversity, and more concerned with the well-being of unknown and distant peoples. As former president Jimmy Carter states, "I believe that almost every human being has a desire to know and perhaps to serve other people, including those in a completely different social and economic realm of life."

Governments are well positioned to lead the way in devising innovative ways of harnessing voluntary action in support of social programs. The challenge is not to replace the provisions of services by the government, but to enhance and integrate them in a mutually reinforcing way. Government and volunteer organizations need to cooperate and complement each other. An excellent example of a working model of this relationship is HEARTH. HEARTH is supported in part by city partnership with a voluntary agency that facilitates the offering of services to the homeless and formerly homeless elders of Boston. Because this relationship is founded on trust, the city partnership with voluntary stakeholders has never been a rationale for government downsizing or an excuse to exploit volunteers' unpaid work. In welcoming and expanding its network of partners, a government does not curtail its legitimate role and responsibility. Partnership in this case is aimed at full collaboration and mutual support. HEARTH has increased the efficiency and outreach of government programs while strengthening people's and community's trust in them and in their government.

Physical Therapists, as a whole, are a "giving" breed of professionals. Frequent examples of volunteer and pro bono services are often found in our professional publications. As the rate of homelessness increases in the United States on an annual basis, more pro bono services will be required. If each of us volunteered just one hour of our time a month for one year, there is much we could accomplish. Many we could serve. We as a profession need to serve as advocates for all underserved individuals regardless of age or circumstance. We need to spread the word about social responsibility. Ultimately, homelessness needs to be eliminated for all age groups in the United States. Similar to many other areas of geriatrics and gerontology, the understanding of the causes and possible interventions for homelessness in the

(continued on page 16)

MEDICATION USE AND THE RISK OF FALLS IN OLDER ADULTS

Michelle Ziegler, SPT
William E. Healey, PT, EdD, GCS

INTRODUCTION

Falling is a major health concern that faces the older adult population, but this issue seems to be under recognized despite the fact that falls and fall-related complications are the fifth leading cause of death in the developed world.[1] Most health care providers are aware of the typical risk factors for falls, such as decreased balance or strength, environmental conditions, or problems with vision. However, prescribed medications are also an important contributor to falls and the risk of falling in older adults, despite the fact that medications are not always recognized as such.[1] As a health care provider, it is crucial to recognize which classes of medications can increase the risk of falls in older individuals so that proper precautions or preventative measures can be taken to avoid the devastating effects that may result due to falls.

RISK OF FALLS AND SPECIFIC MEDICATIONS

When evaluating the effects of certain medications on the problem of falling in older adults, most researchers organize their investigation by grouping classes of medications. In 2009, a meta-analysis of 9 different medication classes was conducted to determine the impact of prescription drugs on falls in the elderly.[1] The classes included antihypertensives, diuretics, beta-blockers, sedatives/hypnotics, neuroleptics/antipsychotics, antidepressants, benzodiazepines, narcotic analgesics, and NSAIDs, all medications that are commonly prescribed for older adults. While the study did not elaborate on the actual mechanisms that increase fall risk for each medication class, antihypertensives, sedatives/hypnotics, antidepressants, and benzodiazepine classes of medication substantially increased falls. In contrast to previous studies, beta-blockers were not found to increase fall risk.[1]

In addition to understanding which medications may predispose an individual to greater risk of falls, it is crucial to understand why certain medications increase the risk of falling in older persons. With this knowledge, adjustments can be made to accommodate the side effects that may lead to falls, or, if necessary, the health care team may decide to withdraw a certain medication from a patient's regimen if the risk of taking the medication outweighs the benefit. Benzodiazepines have been the focus of many medication studies since they are frequently prescribed in the older adult population and known to cause side effects that may increase falls and risk of falls.[1,2] Evidence of a correlation between benzodiazepine use and falls has been inconsistent, with some studies finding a significantly increased risk of falls with use and others finding no significant correlation.[2] However, a recent study by Tsunoda et al[3] elucidated a possible mechanism for benzodiazepine-induced falls. Postural stability in standing was assessed using the Clinical Stabilometric Platform that measures the range and total length of trunk motion by varying resistance applied to the platform. Measures were taken at baseline and after gradual discontinuation of subjects' benzodiazepine prescriptions. A shorter range and length of trunk motion is indicative of greater stability. After discontinuation of the benzodiazepine, subjects had significantly reduced range and total length of trunk motion, indicating greater postural stability.[3] While the functional implications of these results are not clear, it can be hypothesized that benzodiazepines increase the risk of falls by decreasing standing postural stability.

"Prescribed medications are also an important contributor to falls and the risk of falling in older adults, despite the fact that medications are not always recognized as such."

For the other medication classes that have been shown to increase falls, explicit research similar to that in the Tsunoda study has not been conducted, but theories based on physiological processes and pharmacology suggest why the other classes may lead to falls. Sedatives/hypnotics may cause cognitive deficits, confusion, motor incoordination, and gait irregularities, all of which could predispose an individual to falls.[4] Antihypertensives can cause drug-induced orthostatic reactions, estimated to occur in 5% to 33% of geriatric patients, which contribute to the risk of syncope and falls.[4] The antimuscarinic effects of certain antidepressants and neuroleptics, which are more pronounced in the elderly, may cause confusion and delirium,[4] subsequently increasing falls and the risk of falls.

In determining the effect of medication on falls in the elderly, it is crucial to consider not only what type of medication an individual is taking, but the combination of medications that have been prescribed. Polypharmacy refers to the use of more than 3 or 4 medications, and is often regarded as a risk factor for falls.[5] However, some have argued that it is not the polypharmacy *per se* that increases fall risk, but the use of a medication that is known to increase risk of falls.[5,6] The risk of falling increases significantly with the number of drugs taken per day, and the probability of taking a drug that has a higher risk of falls also increases proportionally with the total number of medications.[5] Overall, studies have found that even after adjusting for comorbid conditions and disability, polypharmacy remains a significant risk factor for falls, but only when at least one fall risk-increasing medication is part of the therapeutic regimen.[5,6]

The timing of medication adjustments is a third consideration that must be recognized when evaluating the effects of medication on falls. Sorock et al[7] specifically looked at the effects of beginning a new medication, changing a dose, or discontinuing a medication on the occurrence of falls. Six classes of medications were investigated, but only changes in central nervous system (CNS) medications were found to significantly affect risk of falls.[7] Specifically, the risk of falling increased 3.4 times within 1 to 3 days of changing a CNS medication, which is speculated to be due to their side effects of increased dizziness, orthostatic hypotension, sedation, or confusion.[7] Another similar study found an 11-fold increase in falls among nursing home residents within 1 to 2 days of starting or changing the dose of a benzodiazepine or antipsychotic.[8] While both of these studies are based on a relatively small number of falls, it is vital to acknowledge the drastic effects that a medication change may have on an individual's risk of falling, especially within the first couple of days.

STRATEGIES TO REDUCE FALLS

The statistics on falls related to medication are disturbing, but the health care team can take simple steps towards reducing falls and their devastating effects through increased awareness and an emphasis on prevention. First, when providing physical therapy, it is crucial to know what medications a patient is taking. This is even more important in the older adult population as they are often taking a greater number of medications and are already at a greater risk of falling due to age-related changes. When beginning treatment with a new patient, an accurate list of medications should be obtained, either through the patient's medical record in an inpatient setting, or through a thorough interview in an outpatient setting. The physical therapist (PT) should be aware of which classes of medication can cause side effects that may contribute to falls. If the PT is unfamiliar with a certain medication, information on that medication should be obtained before starting any activity that may challenge balance. Additionally, the therapist should maintain an updated medication list throughout the treatment period, either by asking the patient or referencing the chart if available.

If a patient is taking one of the high fall risk categories of medications, such as antihypertensives, sedatives/hypnotics, antidepressants, or benzodiazepines, more detailed questions should be asked during the interview to obtain information about what side effects the patient experiences, when the side effects occur, and if the patient has ever fallen or come close to falling. When performing the examination, the PT should be cautious when challenging balance and should perform additional tests to assess the effect the medication may have on the patient. It would also be wise to assess the patient's safety during his or her daily activities. If a medication seems to affect postural stability, developing a treatment plan to improve general strength, range of motion, and balance responses would be beneficial, especially if discontinuing the medication is not an option. In more severe cases, an assistive device may be considered.

In addition to considering which medications a patient is taking, health care providers must also be vigilant about the timing of medication changes. As previously discussed, the risk of falling increases within the first couple of days after beginning a new medication or changing a dose. The PT or physical therapist assistant (PTA) must be cognizant of these changes, especially if treatment is occurring during the first few days after a medication change. If the older adult has recently changed medications, the therapist should ask the patient about side effects and changes in functional ability. The PT/PTA can educate the patient about expected side effects and advise the patient to be especially cautious immediately following a medication change. This may include temporary modifications to activities that may excessively challenge balance. The patient should also be advised to consult with his or her physician if the side effects remain intolerable.

AREAS TO EXPLORE

More research into the effect of medication on falls and the risk of falling is needed to continue addressing this major public health concern. One direction that future research should take is to investigate the effects of falls using much larger sample sizes. With smaller sample sizes, conclusions cannot be made regarding specific medications or dosages. For instance, Sorock et al[7] found significant increases in fall risk with CNS medications, but this large class of medications included 92 individual drugs, so a correlation could not be made between this increase and specific medications or dosages. Even with 158 fallers in the sample, there were enough individual medications that there may have only been one or two individuals on a specific medication, which does not allow for conclusions to be made regarding those specific drugs.

Future research should also include more randomized-controlled trials that look at the effect of withdrawing medications from a population and the subsequent impact on falls. So far, only two randomized-controlled trials have investigated this, but studies are needed to evaluate the feasibility of discontinuing medications and the likelihood that discontinuing medications will actually decrease falls and the risk of falls.[3,9] Likewise, more studies similar to that of Tsunoda et al[3] are needed to determine the actual side effects of these medications that are leading to falls so that more effective interventions to prevent falls can be implemented. Studies of this nature should be conducted on the other high fall risk medications, such as antihypertensives, sedatives/hypnotics, and antidepressants.

Lastly, future research should investigate the effectiveness of physical therapy interventions on increasing safety when a high fall-risk medication is an unavoidable part of a patient's medical treatment. It is important to know if certain lifestyle changes or training programs can significantly affect a patient's outcome when taking high fall risk medications. If so, it would be helpful to develop and test specific interventions for their effectiveness in training an individual who experiences side effects from medication.

Based on the literature, it is clear that medications play a huge role in the problem of falling in the older adult population. The devastating effects of falls are largely avoidable and can be drastically decreased through relatively simple preventative measures. Physical therapists and physical therapist assistants need to take an active role in the prevention of falls, not only by advocating for their patients when medications seem to be a

major safety risk, but also by addressing the aspects of a patient's function that can be improved to decrease the risk of falls, regardless of the medications that a patient must take.

REFERENCES

1. Woolcott J, Richardson K, Wiens M, et al. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. *Arch Intern Med.* 2009;169(21):1952-1960.
2. Pariente A, Dartigues J, Benichou J, Letenneur L, Moore N, Fourrier-Reglat A. Benzodiazepines and injurious falls in community dwelling elders. *Drug Aging.* 2008;25(1):61-70.
3. Tsunoda K, Uchida H, Suzuki T, Watanabe K, Yamashima T, Kashima H. Effects of discontinuing benzodiazepine-derivative hypnotics on postural sway and cognitive functions in the elderly. *Int J Geriatr Psychiatry.* Epub 2010 Jan 6.
4. Turnheim K. When drug therapy gets old: pharmacokinetics and pharmacodynamics in the elderly. *Exp Gerontol.* 2003;38:843-853.
5. Ziere G, Dieleman JP, Hofman A, Pols HAP, Cammen TJM, Stricker BHC. Polypharmacy and falls in the middle age and elderly population. *Brit J Clin Pharmaco.* 2006;61(2):218-223.
6. Baranzini F, Diurni M, Ceccon F, et al. Fall-related injuries in a nursing home setting: is polypharmacy a risk factor? *BMC Health Serv Res.* 2009;9(1):228.
7. Sorock G, Quigley P, Rutledge M, et al. Central nervous system medication changes and falls in nursing home residents. *Geriatr Nurs.* 2009;30(5):334-340.
8. Neutel C, Perry S, Maxwell C. Medication use and risk of falls. *Pharmacoepidemiol Drug Safety.* 2002;11:97-104.
9. Campbell A, Robertson M, Gardner M, Norton R, Buchner D. Psychotropic medication withdrawal and a home-based exercise program to prevent falls: a randomized controlled trial. *J Am Geriatr Soc.* 1999;47(7):850-853.

Michelle Ziegler is a 2nd year physical therapist student at Northwestern University.

Dr. Healey is an assistant professor and Coordinator of Alumni Affairs in the Department of Physical Therapy and Human Movement Sciences, Feinberg School of Medicine, Northwestern University, Chicago, IL. He co-coordinates part-time clinical education experiences and manages continuing education efforts at Northwestern. His research interests include management of hospitalized older adults and health promotion behaviors of PTs working with older adults.

(Providing Care for Underserved Older Adults: The Homeless continued from page 12)

elderly needs to be expanded. Perhaps this article will inspire you to take action towards eradicating homelessness among our countries and the world's elderly. Together we can build a strong collaborative network across the country providing PT to underserved populations and assisting in the efforts of providing permanent housing solutions for the most vulnerable homeless population--the elderly. *There's No Place Like Home…*

REFERENCES

1. National Alliance to End Homelessness. Demographics of homelessness series: The risking elderly population. April 2010. http://www.endhomelessness.org/content/article/detail/2698. Accessed November 19, 2010.
2. Folsom DP, Hawthorn W, Lindamer L, et al. Prevalence and risk factors for homelessness. *Amer J Psychiatry.* 2005;162(3):370-376.
3. US Department of Housing and Urban Development. Defining Chronic Homelessness: A technical guide for HUD Programs. 2010. http://www.hud.gov/offices/cpd/homeless/library/tgchronichomeless.pdf. Accessed November 11, 2010.
4. Kochera A. Developing appropriate rental housing for low-income older persons: A survey of Section 202 and LIHTC property managers. 2006. http://assets.aarp.org/rgcenter/consume/dd149_lihtc.pdf. Accessed November 11, 2010.
5. Bottomley JM. Health care and homeless older adults. *Top Geriatric Rehab.* 2001;17(1):1-21.
6. Fleetwood M. Homeless services in the US: looking back, looking forward: An open letter to policymakers, advocates, and providers. *Health Services Policy J.* 2010; 3(1):27-29.
7. http://acu.org
8. Bureau of Primary Health Care. US Health Resources and Services Administration. Homeless and elderly: Understanding the special health care needs of elderly persons who are homeless. http://bphc.hrsa.gov/policy/2008-09.pdf. Access November 11, 2010.
9. http://www.hearth-home.org

Jennifer M. Bottomley is an independent consultant in geriatric rehabilitation, an educator, and has authored numerous articles, chapters, and texts. She currently serves on an Interdisciplinary Medicare Advisory Board for the White House, assisting in recommendations towards Health Care Reform.

Friendship is always a sweet responsibility, never an opportunity.

-Kahlil Gibran

MALNUTRITION IN THE ELDERLY

Christine Newsome, DPT
Alice Salzman, PT, EdD

Imagine you are a physical therapist in the acute care setting at a suburban hospital, and one of your initial evaluations today is for a 76-year-old female who fractured her femur two days ago. Upon chart review, you notice she has hyperkalemia and hypernatremia. During your interview, you notice the woman appears confused about where she is and what has happened over the past couple days, has difficulty speaking, reports she is constipated, and presents with overall upper extremity weakness. What are your thoughts regarding your patient? Dehydration and malnutrition are a strong hypothesis to explain the signs/symptoms you are seeing in your patient and could have led to the patient's fall in the first place. Of the hospitalized elderly, 30% to 60% are malnourished. The consequences of malnutrition are mortality rates of 12.4% vs. 4.7% in the well-nourished, hospital stays lasting approximately 16.7 days vs. 10.1 days in the well-nourished, and hospital costs up to 308% higher compared to those who are well-nourished.[1]

CONTRIBUTING PHYSIOLOGICAL CHANGES

Dehydration and malnutrition are common in the elderly due to the physiological changes a person goes through as they age. Specifically regarding dehydration, the elderly have decreased kidney functioning due to decreased blood flow to the kidneys, decreased glomerular filtration rate, and decreased urinary creatinine excretion. As a result of these changes in the kidneys, a person has difficulty excreting salt/urea and reabsorbing water that could lead to dehydration.[2] In addition, the elderly person might consume less than the recommended 6 to 8 glasses of water a day due to a fear of incontinence, inconvenience of constantly having to go or find a bathroom, or fear of choking if dysphagic. Also, elderly people experience a decrease in thirst drive as they age, so they are not always consciously aware that they are thirsty and need to consume water. Finally, an elder adult might be taking a diuretic medication for a cardiovascular condition, which encourages the body to remove water from its system. As a result of all these possible causes of dehydration, a person might appear confused, complain of constipation, present with hyperkalemia and hypernatremia, have dry mucous membranes around the mouth, general upper extremity weakness, and skin breakdown.[3] Regarding malnutrition, as a person ages they experience a decrease in appetite and feel satiated more quickly. This leads to eating both fewer and smaller meals. Also, the elderly have a change in their body composition, where they have an increase in adipose tissue and a decrease in muscle mass.[2] As a result of these changes, a person has an increased risk for protein-malnutrition and vitamin B, C, D, and E malnourishment that makes it difficult for a person to appropriately recover from physiologically insults.[2] In addition, people who are malnourished have higher complication/death rates and increased rates of hospitalization readmission.[2]

INTEGUMENTARY COMPLICATIONS

One of the major integumentary complications due to dehydration is the development of pressure sores due to thinning of the dermis and skin. In order to heal a pressure sore, micronutrients and macronutrients are needed for the wound healing cascade of inflammation, proliferation, and remodeling.[4] "Pressure sores increase the metabolic demands of the individual and initiate a cascade of catabolic events that includes an increase in the release of catabolic hormones (eg, cortisol and catecholamines) and a simultaneous down-regulation of anabolic hormones. This stress response results in the breakdown of the body's tissues, including stored fat and protein, for gluconeogenesis, which is a process that produces glucose to meet the increased energy needs associated with the metabolic stress of having a pressure ulcer."[4(p 10)] If a person is malnourished, they will not be consuming enough of the 50 essential nutrients, including water, that are required for improving skin integrity and the healing process of the pressure sore. As a result, an individual may experience pain, delayed healing of the pressure sore, or increased risk of complications, such as infection.

PREVENTION

Research suggests that malnutrition and dehydration are manageable conditions and are preventable.[5,6] Management of these conditions requires a multidisciplinary approach where all key members are educated on the risk factors and signs/symptoms of dehydration and malnutrition, especially in the elderly. In addition, strategies to maintain a healthy nutritional intake and hydration consummation should consist of practical approaches. Some key strategies regarding hydration that were suggested by Ferry include "frequent encouragement to drink, offering a wide variety of beverages, advising to drink often rather than large amounts, and by adaptation of the environment and medications as necessary."[5(p 24)] Regarding strategies to prevent malnutrition, Dwyer states that "there needs to be increased awareness among health care professionals regarding nutrition, assess older individuals at risk, identify nutritional problems and correct them, since malnutrition can be corrected by early detection."[7(p 18)]

PHYSICAL THERAPY INTERVENTIONS

In order to help prevent a person from becoming dehydrated or malnourished and the unfortunate complications associated with the conditions, there are strategies physical therapists can incorporate into the daily plan of care for our patients. One of these strategies is screening our patients, specifically the elderly, about their overall nutritional and hydration status during our initial evalu-

ations. Specifically, we should be asking about how many glasses of water they drink a day and their overall caffeine intake, and we can administer a tool, such as "Determine Your Nutritional Health," to get a better understanding of their nutrition.[7,8] In addition, we should make a concise effort to obtain information from our patients regarding the medications they are on and their possible side effects. Polypharmacy is common in the elderly and can affect a person's overall appetite and how much food they consume. When we recognize that polypharmacy might be occurring, we should make an effort to contact their primary care provider to discuss our concerns with them. Finally, when we do identify a patient who is at risk for malnutrition or dehydration, we should refer them to a dietician who can recommend appropriate amounts and types of food or provide strategies in increasing water consumption.

FUTURE RESEARCH

Regarding the evidence on the topic of malnutrition and dehydration, there are multiple resources available. However, there are some recommendations that I would suggest for future research. A lot of the research I viewed indicated that malnutrition and dehydration increased the risk of pressure sore development in the elderly. However, the evidence lacked descriptions of nutritional interventions to be used as a treatment for pressure sores. So, one recommendation is investigating various nutritional interventions in comparison to a control plus standardized positioning for all groups and their effect on length of time for healing a pressure sore. Also, research suggested there were clinical indicators for dehydration in the elderly, but it is difficult to find any research that specified clinical indicators for malnutrition. Another recommendation for future research is performing a standardized objective exam on elderly individuals entering the emergency department to determine if there is a correlation between certain signs/symptoms and the individuals that are determined to be malnourished. Finally, another recommendation would be to explore the effectiveness of a nutritional intervention for the elderly that are at risk for falls. The research I explored stated that there was an association between being malnourished and falling, but did not investigate the causal link between the two factors or examine what a nutritional intervention would look like.

SUMMARY

Dehydration and malnutrition are serious conditions that affect the elderly and can have serious consequences, such as the development of pressure sores or increased incidence of falls. The elderly are susceptible to both dehydration and malnutrition due to the physiological changes that occurs as a person ages. As a result, it is our job as physical therapists to relentlessly screen our patient's nutrition and hydration status and implement an appropriate plan of care to improve our patient's overall health and quality of life.

REFERENCES

1. Correia M, Waitzberg D. The impact of malnutrition on morbidity, mortality, length of hospital stay and costs evaluated through a multivariate model analysis. *Clin Nutr.* 2003;22(3):235-239.
2. Stalling L. Pharmacological and nutritional considerations for older adults. Chicago: Northwestern University, Department of Physical Therapy and Human Movement Sciences; 2010.
3. Gross CR, Lindquist RD, Woolley AC, Granieri R, Allard K, Webster B. Clinical indicators of dehydration severity in the elderly. *J Emerg Med.* 1992;10(3):267-274.
4. Harris C, Fraser C. Malnutrition in the institutionalized elderly: the effects on wound healing. *Ostomy Wound Manage.* 2004;50(11):10.
5. Ferry M. Strategies for ensuring good hydration in the elderly. *Nutrition Review.* 2005;63(6):22-29.
6. Hoffman N. Dehydration in the elderly: insidious and manageable. *Geriatrics.* 1991;46(6):35-35.
7. Dwyer J. Strategies to detect and prevent malnutrition in the elderly: the nutrition screening initiative. *Nutrition Today.* 1994;29(5):14-24.
8. KE Miller, RG Zylstra, Standridge J. The geriatric patient: a systematic approach to maintaining health. *Am Fam Physician.* 2000;61:1089-1104.

Christine Newsome is a graduate of Bradley University and received a Doctorate of Physical Therapy from Northwestern University in December, 2010. She authored this article while a student at Northwestern. In February, she will start a position at Alexian Brothers Medical Center in Elk Grove Village, IL.

Alice Salzman is an Assistant Professor in the Department of Physical Therapy and Human Movement Sciences at Northwestern University. Her research interests are health literacy, professional development of physical therapists, and development of cultural competence. Her teaching focuses on psychosocial and professional issues.

CALL FOR CANDIDATES

The Nominating Committee is looking for members who would like to be considered as a candidate for office in the SOG. Offices to be elected in 2011 include:

President
Vice President
Director
Nominating Committee

Please send your name or the name of a peer for consideration on the 2011 slate to Nominating Committee Chair, Carol Schunk at carolschunk@earthlink.net.

EDUCATION FOR STROKE SURVIVORS AND THEIR SPOUSE/CAREGIVER: THE ROLE OF THE INPATIENT REHABILITATION TEAM

Jennifer Wickerham, SPT

Stroke is the major cause of long-term disability among older adults in the United States.[1] There are approximately 5.7 million stroke survivors living in the United States today and most of them live at home with family.[1] These patients are being sent home earlier from inpatient rehabilitation (IPR) secondary to the change of focus toward community-based rehabilitation.[2] Therefore, since the length of stay in IPR is shorter, there is decreased time for patients and families to absorb all of the educational information recommended for post-hospital care. As part of the IPR team, health care professionals, such as physical therapists, need to provide the appropriate educational information before discharge.

The education received in IPR plays a very important role in preparing both the survivor and the caregiver for what to expect in the next weeks, months, and years. Stroke survivors who are better informed about their stroke and prognosis have less depression and make better functional recoveries than poorly informed patients.[3] Education information provided while patients are in IPR should address the topics of stroke recovery, stress, promotion of a healthy lifestyle, special problems specific to the patient, therapeutic skill training, coping, and community networks. These follow the educational guidelines set by CAReS, Committed to Assisting with Recovery after Stroke.[4] Refer to Figure 1. Each of these themes outlines specific topics such as management and medical follow-up, depression, pain, positioning, physical fitness, relaxation exercises, and financial assistance.[4] For example, within therapeutic skill training there are activities of daily living, home safety, mobility, range of motion, and use of special equipment.[4] Some of these thematic categories of education are appropriate within weeks after the stroke (stroke recovery, therapeutic skill training, special problems, and community networks) while some are more appropriate after a few months (stress of stroke, coping strategies, and promotion of a healthy lifestyle). As part of the IPR team, it is important to introduce all of these topics as areas to educate the patient and their spouse/caregiver.[4]

INPATIENT REHAB TEAM

The IPR team includes, but is not limited to physicians, nurses, physical therapists, occupational therapists, speech therapists, social workers, and psychologists. Within this team of professions, all of the thematic categories can be addressed while the stroke survivor is in IPR. For example, physical therapists can address fatigue related to stroke recovery, stress related to the stroke, physical fitness related to promotion of a healthy lifestyle, activities of daily living, positioning, range of motion, and home safety related to therapeutic skill training, and relaxation exercises related to coping. On the other hand, a psychologist or social worker can address topics such as anger management, depression, grief and loss, support systems, and financial assistance. While each professional has their area of specialty of educating the stroke survivor and caregiver, it is through the interdisciplinary approach that prepares the survivor and caregiver best for the stress that may follow.

Once at home, both the survivor and their caregiver experience many challenges and much stress for years after

Figure 1. Educational guidelines from Committed to Assisting with Recovery after Stroke.

Stroke Recovery	Stress	Promotion of a Healthy Lifestyle	Special Problems	Therapeutic Skill Training	Coping	Community Networks
• Types of stroke • Prevention of stroke • Management and medical follow-up • Fatigue • Intimacy	• Anger management • Behavioral issues • Depression • Grief and loss • Death and dying • Stress of stroke	• Adaptive activities • Leisure activities • Physical fitness • Nutrition • Sleeping patterns	• Aphasia • Bladder/bowel function • Complex disease management • Dysphagia • Emotional lability • Facial paralysis • Pain • Right-brain issues • Spasticity	• Activities of daily living • Home safety • Mobility • Positioning and range of motion • Use of special equipment	• Problem solving • Relaxation exercises • Support system • Thought stopping • Time management • Coping strategies	• Financial assistance • Agencies, support groups, and resource people

Reprinted with permission from Ostwald SK, Davis S, Hersch G, Kelley C, Godwin KM: Evidence-based educational guidelines for stroke survivors after discharge home. *J Neurosci Nurs*. 2008;40(3):173–191.

the stroke, but especially within the first year. Strokes not only affect the motor and cognitive function of the survivor, but it affects the physical and psychological demands of the spouse/caregiver.[4,5] It is important for the IPR team to educate the caregiver to take care of their own well-being because when their well-being declines, so does their ability to provide care.[6]

After discharge from IPR, educational interventions such as home visits and group support can be very beneficial to the caregiver. Both interventions have their strengths and weaknesses with characterizations of preference.[7] People who prefer group support are characterized by being burdened, living with a more psychologically handicapped relative, using active coping strategies more frequently, or living in a more sociable region.[7] Overall, group support is preferred by caregivers secondary to the informational and emotional support.[7] Home visits, on the other hand, are beneficial to those people that have transportation difficulties or would like individualized education.[7] The IPR team should be able to help caregivers identify which type of interventions would be most beneficial based on their characterization.

STRESS EDUCATION

The IPR team should also educate the stroke survivor and caregiver about how their stress levels are positively correlated and how mean stress levels decrease over the course of the year after discharge.[8] Higher self-reported stroke recovery and higher functional independence measurement scores at baseline are predictors of lower stress scores at 12 months postdischarge.[8] Lower stress is also related to the perception of strong positive relationships between the survivor and the caregiver; higher survivor function; increased caregiver age; and increased emotional, informational, and peer support.[8] Higher stress is related to lower self-rated health status at discharge, female caregivers, and lower caregiver self-rated health status at discharge.[8]

Preparation for care giving responsibilities is the strongest predictor of stress in spousal caregivers, which is why it is so important for IPR staff to educate the caregiver on their responsibilities.[8] Included in the preparedness is being able to take care of physical and emotional needs of the stroke survivor, respond to emergency situations, get information and help from the health care system, and find resources and set-up services.[9] In order for caregivers to reduce stress and avoid burn-out, home-care services, stroke support groups, and family social support are necessary.[6] The IPR team should educate the caregivers about these resources in order to help reduce and manage stress related to their responsibilities. Stress management skills and anticipatory guidance should be used by the caregiver to assist in managing physical, cognitive, and behavior changes in the stroke survivor, as well as changes in the relationship, and loss of their own life rhythm.[8] Lower stress levels in spousal caregivers during the first year after discharge from IPR are related to availability of emotional and informational social support, the number of available family and friends, and the use of strategies to face and solve problems.[8] During a stroke survivor's stay in IPR, the caregiver can be educated on all of these factors in order to reduce and manage stress in the future as well provide a resource for the future.

Both the caregiver's stress and the survivor's stress can alter the outcomes in which the survivor experiences. Outcomes of stroke survivors can be affected by internal and external buffers. Some internal buffers that affect outcomes include outlook on life, attitudes regarding the stroke, ability to cope, depression, irritability, and loss of autonomy.[8] External buffers include social support, family dynamics, survivor-caregiver relationship, and physical function.[10] Both internal and external buffers affect the ability of one to cope.

LIFE SATISFACTION

Coping is one of the themes of educational considerations for stroke survivors and caregivers. Stroke survivors and caregivers generally have lower life satisfaction compared to the general population. Survivors' satisfaction is found to be related to their motor impairments, limitations in activities of daily living (ADLs), persistent aphasia, and post-stroke depression.[11,12] At 4 to 6 years post-stroke, 61% of stroke survivors are still dissatisfied with their lives while 50% of caregivers report being satisfied with their lives one year post-stroke.[13,14] Poor life satisfaction of the survivor is related to depression and increased in caregiver burden.[15] Decreased spousal life satisfaction is associated with the survivor's physical and cognitive impairments and the couple's lack of reintegration into normal patterns of living.[16,17] The health care team can assist in these areas by helping improve functional mobility, communication, and depression to allow for more independence with ADLs and better coping strategies.

Depression of stroke survivors at 12 months is a strong predictor of decreased life satisfaction, while being older and perceiving emotional recovery are predictors of higher life satisfaction.[18] Caregivers who have a good relationship with their spouses and feel prepared for their role reported higher life satisfaction.[18] Decreased spousal life satisfaction at 24 months is associated with perception of poorer health and greater stress at 12 months.[18] The only variable that serves as a significant predictor of life satisfaction for both the stroke survivors and the spousal caregivers is their mutuality of their relationship.[18] Therefore, this is an area that IPR staff should educate the couple by providing coping strategies, resources available, and improving independence of the stroke survivor to decrease the burden on the caregiver.

One factor that can affect educational needs, stress, predictors of outcomes, and life satisfaction is positive emotion. Positive emotions are considered optimistic subjective feelings or attitudes that can affect change in functional status following a stroke.[19] An example of positive emotions includes viewing the stroke as a challenge where a favorable outcome is possible.[19] This influences positive coping allowing for better management of stress and maintaining a positive outlook.[19] Positive coping provides comfort to the individual and gives a sense of meaning and purpose to life by setting new and valued goals.[19] This is in contrast to those with negative emotions who tend to have the opposite responses such as viewing the stroke as a burden and a limitation that can lead to depression, decreased coping ability, increased stress, and decreased functional independence.

CORRELATION TO FIM

Several studies have correlated Functional Independence Measure (FIM)

scores with minutes per day of help required by the stroke survivor for ADLs.[19] Each increase of one FIM point of the survivor corresponds to approximately 2.2 minutes of less assistance required for ADLs.[20] When looking at positive emotions, there was a 22 point difference in total FIM ratings between those with low and high positive emotions at discharge from IPR.[19] This equates to a change of 48 minutes per day of caregiver assistance.[19] Positive emotions in general are correlated with less stress, increased ability to handle stress, and therefore, decreased depression.[19]

There is a significant association between higher positive emotion and higher functional independence.[19] Positive emotion score at discharge and total motor and cognitive FIM rating 3 months later are significantly associated.[19] Predictors of both motor and cognition FIM scores at follow-up include ethnicity, depressive symptoms, and number of comorbidities.[19] Covariates significantly associated with only motor FIM include length of stay, type of stroke, and total FIM ratings at discharge.[19] Positive emotions reported at discharge do not significantly differ by sociodemographic characteristics.[19] Higher discharge positive emotion is significantly associated with higher FIM with and without adjustment for sociodemographic characteristics and health-related measures known to affect functional status.[19] This association is also maintained after adjustment for depressive symptoms in order to reduce the reflection between depression and functional ability.[19]

It appears that the FIM is a helpful tool to determine outcomes of patients in preparation for discharge. It is important to be aware of the high association between improving functional mobility and positive emotions and the predictability that positive emotions have on FIM score at 3 months postdischarge. With this in mind, it is important for physical therapists to maximize functional mobility and work with other interdisciplinary team members to improve overall quality of life.

SUMMARY

Overall, IPR staff needs to maximize the survivor's function before discharge as well as educate survivors and caregivers about the stress that is inevitably associated with strokes after discharge home. Some predictors of stress include the survivor's impairment, knowledge of the disease, social support, and coping strategies. Physical therapists can educate patients on the importance of addressing predictors of life satisfaction such as patient's depression, caregiver's health, caregiver's confidence in his or her ability, mutuality in the couple's relationship, and stress.

Physical therapists can also educate stroke survivors that positive emotions may help the recovery process as well as assist in preventing negative emotions such as depression or anxiety. It may also be useful to encourage patients to reflect positively on their health challenge by creating new goals for their life or areas for potential growth. Health care professionals working with stroke survivors in IPR play a crucial role in their recovery. Knowledge of the predictors of stress and function will assist in focusing the education provided to each patient and caregiver based upon their specific needs within CAReS.

ACKNOWLEDGEMENTS

This work was in partial fulfillment of my second internship at Walsh University. I wish to thank Dr. Christine McCallum for her assistance in editing this project.

REFERENCES

1. American Heart Association. Heart Disease and Stroke Statistics—2007 Update. 2007. www.americanheart.org/downloadable/heart/1166712318459HS_ StatsInsideText.pdf. Accessed July 26, 2007.
2. Lincoln NB, Walker MF, Dixon A, Knights P. Evaluation of a multiprofessional community stroke team: A randomized control trial. *Clin Rehabil.* 2004;18:40–47.
3. Clark MS, Smith DS. Factors contributing to patient satisfaction with rehab following stroke. *Int J Rehabil Res*. 1998;21:143–154.
4. Ostwald SK, Davis S, Hersch G, Kelley C, Godwin KM. Evidence-based educational guidelines for stroke survivors after discharge home. *J Neurosci Nurs*. 2008;40(3):173–191.
5. Franzen-Dahlin A, Larson J, Murray V, Wredling R, Billing E. Predictors of psychological health in spouses of persons affected by stroke. *J Clin Nurs*. 2007;16(5):885–891.
6. van den Heuvel ET, de Witte LP, Schure LM, Sanderman R, Meyboom-de Jong B. Risk factors for burn-out in caregivers of stroke patients, and possibilities for intervention. *Clin Rehabil*. 2001;15(6):669–677.
7. Schure LM, van den Heuvel ETP, Stewart RE, Sanderman R, de Witte LP, Meyboom-de Jong B. Beyond stroke: description and evaluation of an effective intervention to support family caregivers of stroke patients. *Patient Educ Couns.* 2006;62:46–55.
8. Ostwald SK, Bernal MP, Cron SG, Godwin KM. Stress experienced by stroke survivors and spousal caregivers during the first year after discharge from inpatient rehabilitation. *Top Stroke Rehabil*. 2009;16(2):93–104.
9. Archbold PG, Stewart BJ, Greenlick MR, Harvath T. Mutuality and preparedness as predictors of caregiver role strain. *Res Nurs Health*. 1990;13(6):375–384.
10. Glass TA, Matchar DB, Belyea M, Feussner JR. Impact of social support on outcome in first stroke. *Stroke.* 1993;24(1):64–70.
11. Bays CL. Quality of life of stroke survivors: a research synthesis. *J Neurosci Nurs.* 2001;33(6):310–316.
12. King R. Quality of life after stroke. *Stroke*. 1996;27:1467–1472.
13. Viitanen M, Fugl-Meyer KS, Bernspang B, Fugl-Meyer AR. Life satisfaction in long-term survivors after stroke. *Scand J Rehabil Med.* 1988;20(1):17–24.
14. Visser-Meily A, Post M, Schepers V, Lindeman E. Spouses' quality of life 1 year after stroke: prediction at the start of clinical rehabilitation. *Cerebrovasc Dis*. 2005;20(6):443–448.
15. Anderson CS, Linto J, Stewart-Wynn E. A population-based assessment of the impact and burden of caregiving for long-term stroke survivors. *Stroke.* 1995;26:843–849.
16. Forsberg-Warleby G, Moller A, Blomstrand C. Life satisfaction in spouses of patients with stroke during the first year after stroke. *J Rehabil Med*. 2004;36(1):4–11.

17. White CL, Poissant L, Cote-LeBlanc G, Wood-Dauphinee S. Long-term caregiving after stroke: the impact on caregivers' quality of life. *J Neurosci Nurs*. 2006;38(5):354–360.
18. Ostwald SK, Godwin KM, Cron SG. Predictors of life satisfaction in stroke survivors and spousal caregivers twelve to twenty-four months post discharge from inpatient rehabilitation. *Rehabil Nurs*. 2009;34(4):160–174.
19. Ostir GV, Berges IM, Ottenbacher ME, Clow A, Ottenbacher KJ. Associations between positive emotion and recovery of functional status following stroke. *Psychosom Med*. 2008 ;70(4):404–409.
20. Granger CV, Cotter AC, Hamilton BB, Fiedler RC. Functional assessment scales: a study of persons after stroke. *Arch Phys Med Rehabil.* 1993;74:133–138.

Jennifer Wickerham is a student physical therapist in the Doctorate program at Walsh University in North Canton, Ohio. She will graduate May 1, 2011 and plans to find a job in either Ohio or Virginia. Her clinical areas of interest are outpatient, inpatient rehabilitation and outpatient pediatrics using hippotherapy. She received her Bachelor of Science degree from Marietta College in Marietta, Ohio. She is interested in hiking, running, fishing, playing/coaching soccer, and spending time with her family and fiancé.

UPCOMING MEETINGS

2011

Combined Sections Meeting 2011
February 9-12, 2011
New Orleans, LA

Annual Conference: PT 2011
June 8-11, 2011
National Harbor, MD

National Student Conclave
October 21-23, 2011
Minneapolis, MN

CSM 2011—BE THERE!

Jill Heitzman, PT, DPT, GCS, CWS, CEEAA, FACCWS
Program Chair, Section on Geriatrics

CSM 2011 is shaping up to be another fantastic event. We head back to New Orleans for the first time since Hurricane Katrina. New Orleans is an exciting city that allows the physical therapy profession to experience the warmth of the South.

A new addition to the Exhibit Hall is the Technopalooza. This exciting addition has been a multi organization event that will enable attendees to actually try many of the new technologies available for use in the clinic and classroom. There will be scheduled demonstrations as well as expanded open times so that more people can do hands on learning. Don't miss this exciting new event.

The Section on Geriatrics has joined the Orthopaedic, Sports, and Research Sections to develop an educational tract on osteoarthritis of the knee. The 4 sessions will build on issues related to development of knee OA from the sports injury to the aging and biomechanical changes with a look at the interventions along the way and ending with the total knee arthroplasty. This is only one of many education sessions that we have joined with other sections for a more collaborative effort in bringing the best evidence-based education programs we can find.

Join the Section on Geriatrics for many exciting education and social events, and check out our booth form more information. As you go through the exhibit hall, look for signs that identify our Section corporate sponsors. Thank them for their support as without them, we would not be able to offer the wide variety of programs at CSM.

Check out the Section's schedule (we also have joined many other Sections in planning their education program, so check those out too) and plan to attend CSM2011. Don't forget, our preconferences are planned to help you develop clinical residencies and learn how working with residents and new employees is different than with students on affiliations.

The APTA Web site will again have the program planning and abstract information on posters, platforms, and education sessions so you can develop your own personal schedule.

Anyone interested in joining the Section on Geriatrics Program Committee, come to the Section suite (this will be posted at our booth) on Friday, February 10 from 11:00-1:00. We are always looking for new ideas.

Look forward to seeing everyone in New Orleans! Any questions can be sent to me at jheitzpt@aol.com.

SECTION ACTIVITES AT CSM

Wednesday, 7:30pm
Opening Ceremonies/Clinical Specialist Recognition

Thursday, 6:45am
Geriatric Clinical Specialist and Newcomer Breakfast

Thursday, 7:00pm
Balance and Falls SIG

Friday, 7:00am
Bone Health SIG Meeting

Friday, 5:30pm
Section member meeting and Awards Celebration

Saturday, 7:00am
Health and Wellness SIG

HOME FOR LIFE
THERAPISTS ROLE IN THE BUILDING INDUSTRY

Patrice Antony, PT, GCS, CMC, CAPS

If you ask anyone over the age of 45 where they want to grow old, they will invariably say that they want to remain in their homes. Despite this, very few retirees have prepared their homes to meet their aging needs. Aging in Place is a philosophy that promotes independency and livability of all types of living environments no matter the age of the occupant or their level of abilities. There is a growing movement to educate the public on how to build or modify homes to enable people to continue to enjoy life in their living space as their physical needs and abilities change.

As we face the "Silver Tsunami" wave of aging baby boomers, we are also facing a reality of where and how all of these seniors are going to be cared for as they grow old. It is estimated that the population over 65 will increase by 36% by 2020. That means that there will be 72.1 million people over the age of 65 by 2030. Of that number, 6.6 million people will be over the age of 85. The number that is NOT growing is that only 4.4% of the population over 65 lives in institutional settings such as nursing homes.[1] This number has not really changed over the past decade which means that the growing number of seniors are choosing alternative means to providing for their aging needs.

PARADIGM SHIFT

Physical therapists can play a vital role in this paradigm shift. We have always been involved in assisting with home safety evaluations to provide function to people with physical impairments. We just aren't accustomed to being proactive in our thinking. How many times have you sent a 3 in 1 commode or elevated toilet seat home with a hip fracture patient only to find it in the closet or yard sale 2 months later?

The problem may be that we are a vain society. Nobody wants to be reminded of their limitations or physical frailty. These "appliances" that we prescribe are an embarrassment to the patient. They don't want their friends to see such things when they come to visit. The patient readily acknowledges how useful the device is, but still hauls it out to the garage at the first opportunity. To combat this situation, an alternative is that the way to provide functional safety in the home is to build it into the structure itself. A taller toilet with decorative bars strategically placed is more likely to remain in place and get used daily providing the safety that it is designed for without making obvious statements about the home occupants. This can be extrapolated to the entire house for maximum function.

"The building industry has not traditionally built homes that were designed to 'fit' the occupants."

The reality is that this new wave of seniors is going to be very different. This is a savvy, educated group coming forward. Boomers are very much into doing their own research and demanding what they want. The days of 'spec' home building could well be over. My elderly parents would never have dreamed of asking a builder to do anything different from what they saw in the model they toured. They would have obediently picked from the color chart given, and patiently waited until the home was finished and ready to move into. The thought of moving walls, demanding more flooring options, planning for optimal natural lighting, and pushing for creative financing was simply unheard of. You could only do that with custom built home--and then only if you had a lot of money.

The building industry has not traditionally built homes that were designed to 'fit' the occupants. Building contractors are very money driven. They are willing to do whatever the buyers want to make them happy, but generally don't get vested in the decision making. Most developers and contractors are seeking to find the most efficient and cost effective way to build as many homes as possible. They don't really care 'why' you might want it a certain way, they just want to get the job done and move to the next job. This leaves the home buyer trying to design the home on their own. Architects and engineers can certainly help, but even these professionals lack the knowledge of what the aging body might require in the future. However when you consider who has the expertise and should therefore have an expanded role, it is the medical community. Physical and Occupational Therapists, as team players with builders, are the perfect choice for helping to tie these entities together. It is almost embarrassing that the National Association of Home Builders came up with the concept without us.

CERTIFIED AGING IN PLACE SPECIALIST

The Certified Aging in Place Specialist is a certification process that was developed by the National Association of Home Builders (NAHB) Remodelers in conjunction with the AARP, NAHB Research Center, and NAHB Senior Housing Council. This program was developed to provide professionals training that would enable them to accommodate the needs of people over the age of 50, as well as the knowledge they would need to modify their homes for aging in place. The training is a 3-day course followed by exams to become certified. To maintain the certification, the specialist has to have 12 hours of continuing education in building industry education per year. The training is relatively simple. It involves a section on design techniques, marketing, customer service and business training, and universal/accessible design training. Contractors and remodelers tend to be the biggest attendee population, although there are a handful of PTs and OTs starting to take interest. There is an assumption that the attendees have a basic knowledge of building and construction technique prior to the training. It is also not

a cheap process. Expect to spend about $1000 or so before it is all over.

I found the training to be fascinating. The courses really focused on the particulars of installing grab bars, and designing kitchens and bathrooms. The attendees in my training were all builders and interior designers who had no clue as to 'why' these appliances were needed or used, but more interested in the 'how to' of installation. That was not to say that they weren't appreciative of the perspective that my OT colleague and I had to offer. We were welcomed with open arms and bombarded with questions. The whole experience really opened my eyes to a whole new niche practice where my expertise and skills are badly needed.

TEAM HOUSING BUILDING

Since the housing market crashed a couple of years ago, builders are suddenly more open to new lines of business. Many are opening up to the concept of 'team building' as a way to meet the demands of the savvy, senior wave coming. This is a huge paradigm shift for them, but because many of the contractors are dealing with aging parents or starting to age themselves, they are really starting to 'get it.' Finding willing and qualified medical professionals isn't easy. To be able to work in the trenches with builders, I have had to learn to speak a completely foreign language. I have had to learn a lot about products I never knew existed, what they cost, and where to get them. I have had to learn about creative financing, and lots about compromise to get to the goal. It is no longer useful or practical to simply hand over a list of recommendations. We need to be prepared to do feasibility and cost reports that go with that. We need to stay with the client until the project is completed to ensure that the desired functional outcome is achieved. I think that we are talking about a whole new specialty of physical therapy practice here.

This is the first in a series of articles in *GeriNotes* on the skills and the process for becoming a valued member of the home building team for the senior population. The first article will speak to the different types of design and their uses. Subsequent articles will speak to implementation and decision making for the design, product availability and uses, and marketing of services. This is an exciting area of opportunity for therapists so stay tuned!

To get more information on the Certified Aging In Place Specialist process, go to www.nahb.org.

REFERENCE

1. 2009: A Profile of Older Americans Administration on Aging U.S. Department of Health and Human Services.

Patrice Antony is a Florida International University graduate who has been practicing physical therapy in the Central Florida area since 1981. Patrice became a Geriatric Clinical Specialist in 1992 and is founder and President of Elder Advocates Inc., a care management company designed to meet the needs of the frail elderly and the medically complex client. She is also a founding partner of Adaptable Living Design, a company that provides Age in Place functional design consulting services to home builders and remodelers. She was certified as an Aging in Place Specialist (CAPS) in 2008 by the National Association of Home Builders.

CALL FOR VOLUNTEERS: SECTION ON GERIATRICS LIAISON TO THE INTERNATIONAL ASSOCIATION OF PHYSICAL THERAPISTS WORKING WITH OLDER PEOPLE (IPTOP)

The IPTOP is one of 7 subgroups of the World Confederation for Physical Therapy (WCPT), the sole international voice for physical therapy, representing more than 300,000 physical therapists worldwide through its 101 member organizations. The primary purpose of IPTOP is to maintain and/or restore function, activity, and independence. This requires a client/patient-centered, collaborative, interprofessional approach to a wide range of conditions affecting older people. Since its inception in 2002, IPTOP membership has grown rapidly and now includes groups from 16 WCPT member organizations representing over 8,000 physical therapists. Further information can be found at www.wcpt.org/iptop/about.

The IPTOP liaison works to share resources and information between the international community and the Section on Geriatrics, in order to advance physical therapy for aging adults. This individual will have the opportunity to make lasting contacts and friendships with outstanding PTs and PTAs from all over the US, and internationally, with an interest in geriatrics. Liaison duties include, but are not limited to:

1. Representing the SOG at IPTOP meetings and at WCPT. Partial reimbursement for travel to IPTOP's annual meeting and to the WCPT meeting (which is held in place of the IPTOP meeting every 4 years) will be based on the SOG annual budget.
2. Assuring that links to each IPTOP newsletter are posted on the Section Web page.
3. Working creatively to fulfill the objectives of IPTOP, by completing at least one special project per year related to their objectives.
4. Regularly sharing international PT news with SOG members via the listserve, Web site, and *GeriNotes.*
5. Developing strategies to advertise Section resources to international PTs & PTAs.
6. Providing timely responses to member and SOG officer inquiries.

The IPTOP liaison must be a member of the SOG throughout their 4-year term of appointment, beginning in March 2011. Interested individuals should send a cover letter that describes their related qualifications and basis for interest in this position, and a current resume, to John O. Barr, PT, PhD, SOG Pesident at BarrJohnO@sau.edu no later than February 1, 2011.

AEGIS THERAPIES RECOGNIZED AS 2010 ICAA INNOVATOR FOR "WALK! WITH AEGIS THERAPIES"

Martha Schram
Mark Besch

The International Council on Active Aging® (ICAA) has selected Aegis Therapies to receive a 2010 ICAA Innovators Award for WALK! with Aegis Therapies, a 5-day celebration of health and wellness that was conducted at nearly 600 locations around the country during the week of Sept. 20-24.

Recognizing creativity and excellence in active aging, ICAA's annual awards program honors innovations that are leading the way, setting new standards, and making a difference in the lives of older adults. These efforts support healthier, more vital living by targeting any or all of the 7 dimensions of wellness, including social, emotional, occupational, spiritual, intellectual, physical, and environmental.

Using ICAA's Active Aging Week as a springboard, Aegis created an exciting nationwide event that involved thousands of participants. Launched as a one-day event during Active Aging Week in 2009, WALK! with Aegis Therapies in 2010 expanded into a 5-day celebration of health and wellness.

WALK! with Aegis Therapies events were hosted at Aegis' skilled nursing facility client locations. In addition to walking, the 5-day series of events featured other activities designed to encourage active aging and wellness. Each day, one of 6 dimensions of wellness were highlighted including: physical, intellectual, emotional, spiritual, occupational, and social. The events were structured to remind participants of the importance of nourishing their emotional and intellectual health, in addition to maintaining their physical well-being.

Everyone participating in WALK! with Aegis Therapies received an activity card for the week. Attendees walked 15 to 30 minutes on each of the 5 days. They listened to upbeat songs on a CD narrated by national fitness expert Chris Freytag that was custom-made for these activities.

Each participant's activity card was stamped to mark days they completed both the daily walking exercise and the wellness activity planned for the day. Participating sites calculated the number of miles walked at their location daily and reported this information on a special Web site Aegis created for the celebration. Collectively, participants at sites across the nation walked 100,000 miles by the end of the week!

As an additional element of excitement, national fitness expert, Chris Freytag, made personal appearances at 10 WALK! with Aegis Therapies locations (in Napa, CA; the Minneapolis, Boston and Miami regions; Washington, DC; and Charlottesville, VA) during the week. Chris personally led the walking program for that day at each location she visited.

During last year's event, more than 50,000 employees and patients used the opportunity to celebrate wellness together by counting their steps and doing other exercises to keep fit. This year's program was even more well-attended and successful. In many locations—including those visited by Chris Freytag—members of the community, families, and friends joined in the fun.

WALK! with Aegis Therapies served not only as a highly worthwhile educational tool at each location, but also as a terrific morale booster for residents and staff alike. The excitement was palpable for weeks leading up to the event as participants planned for and looked forward to the various activities.

The program garnered attention from local media in many communities including television news coverage in Greenville, NC, and an article in the *South Florida Sun-Sentinel*. In this regard, not only did direct participants benefit from increased knowledge about healthy living at any age, so did readers and viewers of the broadcasts and articles.

Aegis is committed to our community service and to spreading the knowledge that remaining active as people age is vital to health and quality of life. We look forward to motivating our patients and communities with future Active Aging Week activities and anticipate continued growth in participation next year.

Five Days of Fun

In addition to the daily walking exercise, each day of WALK! with Aegis Therapies incorporated another dimension of wellness as follows:

Monday (9/20) - Intellectual Wellness — Participants engaged in creative and stimulating mental activities including trivia questions about America and brain teasers.

Tuesday (9/21) - Emotional Wellness — Participants engaged in activities that encourage them to stay positive, connect with others, and remain physically active. Attendees wrote thank you or caring notes to friends, loved ones, or caregivers. Alternatively, they might have engaged in another activity that promotes positive thinking.

Wednesday (9/22) - Spiritual Wellness — Participants were encouraged to merge the physical realm of wellness with the spiritual as they complete a 15-minute guided meditation segment.

Thursday (9/23) - Occupational Wellness — Occupational wellness involves the skills that enable us to complete the activities of daily living — such as grooming — to more complex activities such as maintaining finances and driving, among other skills. During this day's events, participants engaged each other in a game that involved going through the alphabet and listing as many occupations as they can for each letter.

Friday (9/24) - Social Wellness — On this day, activities promoted social wellness and the importance of socializing with others. Socializing involves using good communications skills, having meaningful relationships, respecting yourself and others, and creating a support system that includes family, friends, and caregivers.

(continued on page 30)

SECTION ON GERIATRICS CSM SCHEDULE

*New Orleans, LA * February 9-12, 2011*

PLAN TO ATTEND

TIME	TUESDAY FEBRUARY 8, 2011	WEDNESDAY FEBRUARY 9,2011
7:00 AM-5:00 PM Preconferences	Clinical Residency 101: Getting Started and Doing it Well	Residency/Fellowship Mentoring: Advancing the Resident and Developing the Faculty
TIME	**WEDNESDAY, FEBRUARY 9,2011**	
7:30 PM-8:30PM	**ABPTS OPENING CEREMONIES/RECEPTION**	
TIME	**THURSDAY FEBRUARY 10**	
6:45 AM-8 AM	**GCS/Newcomer Breakfast** Join us for a fun way to start off the conference and meet the Section leaders	
8:00 AM-10 AM	Multi section Programming: Health and Wellness Across Life Stages	
10:30 AM-12 noon	Strong Bodies-Strong Minds: The Role of Physical Activity and Exercise in the Cognitive Function of Older Adults	
12:30 PM-2 PM	Intensity in Geriatric PT: Determining the Dosage	
2:30 PM-4:30 PM	Workers' Compensation and the Older Worker: Case Based Approach	
4:30 PM-6:30 PM	Unopposed Exhibit Hall	
6:30 PM-7:30PM	**Balance and Falls SIG Meeting**	
7:00 PM-10:00 PM	***Section on Geriatrics: Board of Directors Meeting #1***	
TIME	**FRIDAY FEBRUARY 11**	
7:00 -8:00AM	**Bone Health SIG Meeting**	
8:00 AM-11:00 AM	Platform Session #1	Models for Safe Community-based Group Exercise Programs for Osteoporotic Fit and Frail Older Adults / OA Tract: Knee Cartilage/Meniscal Pathology
11:00 AM-1:00 PM	Unopposed Exhibit Hall hours PROGRAM COMMITTEE MEETING IN THE SECTION SUITE! STARTING AT 11:15 AND ENDING BY 12:30	
1:00 PM-3:30PM	Student Forum: Supporting Optimal Aging Across the Health Care Continuum	Return Motor Skill to Walking in Older Adults / OA Tract: Biomechanical Approach to Knee OA
4:00 PM-5:30 PM	ABPTS: Enhancing Professional Development Through Certification	
5:30 PM-9:00 PM	**SECTION ON GERIATRICS: Members Meeting and Awards Celebration Come join us and advance our section**	
TIME	**SATURDAY FEBRUARY 12**	
7:00 AM-8 AM	**Health and Wellness SIG Meeting**	
8:00 AM-11 AM	Platform session #2	OA Tract: Exercise, Manual Therapy or Both for Hip & Knee OA
11:00 AM-1:00 PM	Unopposed Exhibit Hall Hours	
1:00 PM-4:30 PM	Geriatric Competencies for Physical Therapy: Preparing for the Future Discussions	OA Tract: Current Concepts in TKA
6:00 PM-9:00 PM	***Section on Geriatrics: Board of Directors Meeting #2***	

PHYSICAL THERAPISTS AS THE PHARMACISTS OF EXERCISE: DETERMINING THE APPROPRIATE DOSAGE (INTENSITY) FOR YOUR PATIENT

Brady K. Whetten, DPT
Mike T. Studer, MSPT, NCS, CEEAA

INTRODUCTION

For 2010, the Medicare therapy cap is $1860. Are your services worth it? Can you prove the value of your visits? Did the therapy that you provided make a lasting and meaningful functional change for this individual? As a profession, physical therapy is in a difficult position, advocating for more – when we have often ineffectively used what we have been given in the past. We have a unique opportunity to make positive changes in functional safety and quality of life for the elderly individual. Given the astronomical cost of falls and secondary complications from deconditioning on our health care system, we can and NEED TO make a difference. We have the ability and training to reduce the risk/frequency of falls, improve strength and endurance, and guide the ever-increasing geriatric population to a better quality of life. Are we justified in advocating for more? Absolutely. First, we must do more with what we already have. As a profession, we have been too careful and too conservative with our geriatric patients, attempting to strengthen frail elderly patients by putting them on an exercise machine for 3 minutes. We have committed the inexcusable sin of under-dosing our therapeutic intervention. There is an abundance of evidence to support the use of high intensity training for improving strength, endurance, gait speed, and dynamic balance. Yet we are unwilling to apply this to our elderly patients. What is the result? Our patients miss the opportunity of capitalizing on their rehabilitation potential to improve their overall well-being and quality of life. They remain at high risk for falls and other secondary conditions related to weakness and deconditioning. Payers are unsatisfied with the care and are less likely to increase the amount of visits allotted. This leads to a vicious cycle that does not support our efficacy. We must do a better job of maximizing our time with our patients by applying an appropriate level of intensity during our therapeutic interventions. In this paper, we will suggest mechanisms for appropriately loading or 'dosing' our patients in a comprehensive fashion. This mechanism is as yet imperfect, but may be an effective catalyst driving one of you to future research. We begin with a clear review of the recommendations in strength, endurance, gait speed, balance, and dual tasking to understand the evidence and will consistently suggest a mechanism that allows objective testing to guide our treatment and subsequent reassessment.

STRENGTH

Our understanding of the therapeutic stimulus for strength has been well understood for many decades. However, we have been largely unwilling to apply this level of intensity to our geriatric patients. Fortunately, strength training in the elderly is becoming more accepted and published[1-3] leaving a growing minority of therapists that are willing to truly load patients at the recommended levels. There are many applications that have proven efficacy for building strength. High intensity eccentric training has been found to effectively improve strength and muscle mass.[1,2] Power training, with focus on high velocity training, can help to improve strength and functional performance in elderly individuals.[4] We must do more to advocate and educate about the capacity to improve strength and balance in the elderly. Many seniors do not engage in wellness or rehabilitative efforts because of the misconception that they cannot get stronger. Yardley et al[5] write, "…older people view themselves as … too old or frail to be able to carry them (strengthening and balance programs) out or to benefit from them." We can and need to do a better job at dispelling this myth and giving them hope for increased functional independence. They also need proper guidance to ensure optimal training. The most commonly cited parameters for strengthening from the ACSM[6] (American College of Sports Medicine) include:

- 2-3 times per week
- 2-3 sets (building with training)
- 10-12 repetitions of a load that can be rated 60%-80% perceived exertion

Normative values for upper and lower extremity (UE, LE) strength are cited elsewhere[7] and are not the scope of this paper. However, for a complete understanding of dosage and setting an attainable goal, we direct the reader to these resources. Progressive resistance exercises are a proven means to build strength for individuals of all ages.[8] Another viable option for improving strength is through the use of repetitive functional strengthening exercises. This will allow for improved carryover into real life for the elderly individual. Sit-to-stands are a very functional task that is repeated throughout the day, and requires adequate strength in multiple key muscle groups. Lord et al[9] found a correlation between improved performance on sit to stand testing and strength of key lower extremity musculature. Testing with a 30 or 60 sec sit to stand effort is a good way to determine strength and endurance of lower extremity muscles. This can then be given as an exercise to perform at home several times a week, with the goal of improving on the score with each session. Given the element of speed required for this exercise, this is also an effective way to build power in the legs. There are countless other functional activities that allow for resistance training in a functional manner. All we need is a little creativity and the willingness to let our patients truly experience a strength stimulus. Delivering the appropriate dosage at times may seem as though we are allowing patients to struggle.

Regardless of the mode of the intervention, the individual should feel physically challenged at the end of each set. In order to effectively build muscle strength, there needs to be sufficient stress applied to the muscle. This level of exertion is difficult to measure, and will vary depending on the type of intervention. The simplest way to measure this would be using a 1-10 Rating of Perceived Exertion (RPE) scale. As previously mentioned, resistance training should induce an RPE of 6-8/10. Education is paramount for the patient to understand this level of dosage for progressing exercises in the home and clinic.

ENDURANCE

To be functional in community mobil-

ity, a person must be able to ambulate over 1968 ft.[10] Rikli and Jones[7] cite the average 6 minute walk test distance for persons 75-80 is cited as 555 yards (1725') with a standard deviation of 126 yards. This is to say that most of your patients that have goals of returning to community mobility should be able to walk 6 minutes. Given this standard, we must ask ourselves, "Are we doing enough to train our patients for functional endurance?" As with the discussion of strength, it is more likely that we are routinely under-dosing patients. The American College of Sports Medicine[6] recommends 3 to 7 endurance training sessions per week for 30 to 60 minutes in sessions no smaller than 10 minutes at a time, with an intensity of 55% to 75% of HRM (heart rate maximum) or RPE of 6-7/10. There must be sufficient intensity with the training to allow for appropriate physiologic changes to occur. With appropriate monitoring and education, this is an easy means to increase the individuals' functional independence and quality of life.

Endurance testing and training provide a perfect functional intervention for PTs to show objective improvement. However, most of the therapists that we have engaged during continuing educational offerings provided are not aware of any of the following standardized endurance tests: 6 min walk test, 2 min walk test, 400 m walk test, 2 minute step test.[11] Endurance testing is an excellent means to establish baseline for the individual and to demonstrate objective improvement. It can also be an excellent catalyst for endurance training interventions. For example, if the individual was able to walk for 4 min during the 6 min walk test before taking a break, you could have them perform 2 to 3 sets of 4 min walking on the treadmill, with adequate rest breaks in between. As they tolerate it, the goal would be to increase the duration of each set, using the above guidelines as the basis for progression. A meaningful task that is sufficiently challenging is essential to train endurance.

GAIT SPEED

There is a clear correlation in the literature between gait speed and risk of falls.[12] In fact, this is the basis for the Timed Up and Go test as a fall screening tool. Gait speed has also been used to define levels of functional mobility, between household ambulators (< 0.4 m/s), limited community ambulation (0.4-0.8 m/s), and full community ambulation (> 0.8 m/s).[13] Moffat, in the CEEAA course series, cites frail, functional and "fun" levels of geriatric fitness. Within each, she offers a gait speed range that is commensurate – being 1.4 m/s-2 in the functional category while the "frail" and "fun" categories fall on either side of this range respectively (Table 1). It is clear that gait speed is highly indicative of current functional status. In addition, a strong correlation has been found between the onset of dementia and reduction of gait speed.[14,15] In fact, it has been found that certain gait variables can actually predict future cognitive decline.[14,16] Research has proven the benefit of training gait speed and its relation to fall risk,[17,18] yet the importance is more than statistical. Patients that have the capacity to move and react at higher speeds are more likely to have timely and accurate balance responses. Additionally, they may possess the capacity to change direction or hurry as the environment may demand.

Table 1. Moffat M, Kemmis K. Certified Exercise Expert in the Aging Adult series.

Parameter	Frail	Functional	Fun
Gait speed	< 1.4 m/sec	1.4-2.0 m/sec	>2.0 m/sec
6 min walk	< 1200'	1200-1750'	1750'
5 times stand	< 8 repetitions	8-12 repetitions	>12 repetitions
Berg Balance	<45/56	45-49/56	>49/56

Given that improving gait speed is a common goal for most individuals, appropriate use of objective tests is essential to establish baseline and monitor progress. Common tests for gait speed include Timed Up & Go (TUG), 10 m walk test, and 3 m walk test. These tests can also be helpful with establishing dosage for interventions. Gait speed can easily be calculated from the above tests. By converting the gait speed to miles per hour, treadmill speed can be appropriately "dosed" and progressed to allow for optimal training effects.

Training gait speed is most easily accomplished using a treadmill, at progressively increasing speeds from the baseline maximum gait velocity. However, gait speed can additionally be trained in the home or other clinical setting, asking patients to compete against their own "personal best" performances on the TUG test or even a 10 m walk test. The key is that gait speed be challenged above their current abilities in a safe manner.

BALANCE

Balance and fall prevention research articles are no longer hard to find. Evidence-based practice continues to be more successfully translated into the clinic as well. We have learned several things over the last decade about balance, through research:

1. Balance should be practiced in a dynamic fashion.
2. Balance is a task-specific function, dependent on similarity of conditions (speed, directionality, perturbation or feet forward error, posture, environmental conditions, etc) for optimal carryover.
3. Balance improvements are greater as the intensity of practice increases.

It is important to reiterate that the concept of task specificity is ultimately dependent on accurately assessing or imitating the learner's real world. That is to say that a task is only as beneficial and reality based as it approximates the learner's reality. This allows for optimal learning to occur with the balance challenge. Rehabilitating balance requires that the task provide a strong stimulus, challenging enough to allow for neuroplastic changes to occur in the brain. There needs to be a "threat of failure" with the practice, causing a patient the need to react in a new manner or faster than their current level of capabilities.

As with strength and endurance training, objective balance measures are essential to monitor progress and establish dosage for effective balance training interventions. The Berg Balance Scale is a commonly used balance measure. This scale looks at a variety of static and dynamic balance tasks to identify specific impairments. Shumway-Cook et al[19] has shown a correlation between increasing scores on the Berg Balance Scale and decreasing fall risk.

Given the results of the balance outcome measures, interventions can be appropriately dosed based on particular items that were challenging. While it can be more difficult to establish dosage for balance training because of the more subjective nature of the training, there can be some helpful guidelines to ensure that our patients are receiving sufficient stimulus. At the IIISTEP conference, it was suggested that a patient should be successful at a task approximately 75% of the time.[20] If they are always successful and don't feel sufficiently challenged, there is inadequate stimulus to make the necessary changes. On the other hand, if the task is too challenging, the body will not learn the correct motor pattern and positive changes will be more challenging to obtain.

The ACSM[6] recommendations for balance training include 1-7 days per week, with emphasis on reducing the base of

support, a focus on postural muscles, and dynamic training. Single limb stance is a static balance task that has been shown to be effective at improving balance. Training on compliant surfaces is a functional means to train balance that has carryover into daily life. An effective exercise for elderly individuals to do at home is performing a sit to with their feet on a pillow. A chair or walker can be placed in front of them to ensure safety. As they are able, they can progress to performing this task with their eyes closed. Individual differences occur, yet for many on an outpatient level, this is a safe way to challenge balance in a functional manner.

DUAL TASKING

Literature on dual task screening, testing and training appears to have hit an all-time high. In 2007, 178 articles in the Cumulative Index to Nursing and Allied Health Literature (CINAHL) used the key words dual task in their article. This number increased to 208 by 2008 and up to 290 by 2009.

The connection between dual task capacity and balance/ fall risk is now clearly linked.[21-24] In addition, there is mounting evidence that improvements in dual task performance can be made with training.[25] Unfortunately, training dual tasking is as yet not common in a clinical setting. For therapists to perform dual task training, it is important to follow 3 main theorems:

1. Dual task training is modality specific to the type of distraction.
2. Training should be reality-based and task specific. (As noted above in balance – to the learner and their environment.)
3. Motor performance (accuracy, speed, force) is expected to decline under dual task conditions. Patients should be made aware of this expectation.

As with strength, endurance and balance, it is important that we advocate testing to measure the objective change and to prescribe dosage for our patients. Dual task testing can be carried out in many ways. As yet, there is no true gold standard. The literature offers solid advice on this topic, from the Walking and Talking test, to the Walking and Remembering Test (WART) to the Cognitive Timed Up and Go (CTUG), as well as the TUG manual (TUG-m). Additionally, the authors routinely use the BERG balance test or DGI, with a full scoring of the test to be followed by the same test, run with auditory or visual distractions. Another alternative includes a very simple but challenging derivation of the TUG. Patients are asked to perform the TUG as quickly as they are capable (a change from standard instructions) while they are carrying a cordless phone, dialing their home phone number. This test provides a great deal of insight on those patients with dual task impairment.

When selecting interventions for dual-task training, it is important to find tasks that are sufficiently challenging. Similar to balance training, there needs to be a 'threat of failure' with the tasks. Table 2 below lists several possible ideas for training. These tasks are only as good as the application, however. If the task is not meaningful (present in) the patient's routine or is not challenging enough to offer a stimulus… then it is a waste of time. Interventions should be progress in the level of complexity and challenge as the patient tolerates. With timed tests, the expectation is that performance will decline with a dual task when compared to a single task. This can be helpful when establishing dosage for dual task interventions. Following skilled intervention on dual-task training, it is expected that performance will improve and the difference between single and dual task conditions will decrease, which is an effective way of measuring progress.

Table 2. Task Specific Dual Tasking Activities

While walking…
- Pulling a kleenex from your pocket
- Retrieving an item from your purse
- Holding eye contact in conversation
- Buttoning a shirt
- Brushing teeth
- Donning clothes – shirt/jacket most common
- Eating or drinking
- Adjusting glasses/cleaning
- Looking up a name in a phone book
- Reading the paper
- Dialing a phone
- Texting

CONCLUSION

As physical therapists' working with elderly adults, we must do a better job of selecting interventions and outcome measures to validate our care. Outcome measures that are evidenced-based provide a great opportunity for establishing baseline and measuring progress to justify our care. It can also be a critical means to establish sufficient dosage for our interventions. It is critical that we provide an appropriate level of dosage to our geriatric patients. The dangers of using therapy visits and allocated resources while under-dosing patient and providing insufficient impetus for gain include:

1. low efficacy for the profession outcomes that do not support the care and expense;
2. missing the opportunity for patients to see their potential, for example, a patient that has sustained a CVA sees no gains and gives up; and
3. future referrals + word of mouth.

With the goal of improving safety and quality of life in elderly individuals, we must find interventions that will make meaningful changes. Strength, endurance, gait speed, balance, and dual tasking are all areas that have relevance to the above mentioned goals. Appropriate levels of dosage in these areas have the potential to make positive changes in their lives. The uses of appropriate outcome measures in these areas are a necessary catalyst for appropriate dosage and measuring progress.

Future research is needed to further define appropriate levels of dosage in all of the above areas. This is currently not well-defined, especially in relation to geriatric individuals. Research is also needed to show correlation between appropriate levels of dosage and improvements in quality of life and fall risk reduction.

REFERENCES

1. LaStayo P, McDonagh P, Lipovic D, et al. Elderly patients and high force resistance exercise--a descriptive report: can an anabolic, muscle growth response occur without muscle damage or inflammation? *J Geriatr Phys Ther*. 2007;30(3):128-34.
2. LaStayo PC, Ewy GA, Pierotti DD, Johns RK, Lindstedt S. The positive effects of negative work: increased muscle strength and decreased fall risk in a frail elderly population. *J Gerontol A Biol Sci Med Sci*. 2003;58(5):M419-424.
3. Bonnefoy M, Jauffret M, Jusot JF. Muscle power of lower extremities in relation to functional ability and nutritional status in very elderly people. *J Nutr Health Aging*. 2007;11(3):223-228.
4. Sayers SP. High-speed power training: a novel approach to resistance training in older men and women. A brief review and pilot study. *J Strength Cond Res*. 2007;21(2):518-526. Review.
5. Yardley L, Donovan-Hall M, Francis K, Todd C. Attitudes and beliefs that predict older people's intention to undertake strength and balance training. *J Gerontol B Psychol Sci Soc Sci*. 2007;62(2):P119-25.
6. Nelson ME, Rejeski WJ, Blair SN, et al. Physical Activity and Public

Health in Older Adults: Recommendation from the American College of Sports Medicine and the American Heart Association. *Med Sci Sports Exerc*. 2007;39(8):1435-1445.
7. Jones C. Jessie, Rikli R.:Senior Fitness Test Manual. *J Aging Phys Activ*. 2002;10:110.
8. Farr JV, Going SB. Progressive resistance training improves overall physical activity levels in patients with early osteoarthritis of the knee: a randomized controlled trial. *Phys Ther.* 2010;90:3.
9. Lord SR, Murray SM, Chapman K, Munro B, Tiedemann A. Sit-to-stand performance depends on sensation, speed, balance, and psychological status in addition to strength in older people. *J Gerontol A Biol Sci Med Sci*. 2002;57(8):M539-543.
10. Andrews AW, Chinworth SA, Bourassa M, Garvin M, Benton D, Tanner S. update on distance and velocity requirements for community ambulation. *J Ger Phys Ther*. 2010;33(3):128-134.
11. Enright PL. The six-minute walk test. *Respir Care*. 2003;48(8):783-785.
12. Fritz S, Lusardi M. White paper: "walking speed: the sixth vital sign". *J Geriatr Phys Ther*. 2009;32(2):2-5.
13. Perry J, Garrett M, Gronley JK, Mulroy SJ. Classification of walking handicap in the stroke population. *Stroke.* 1995; 26: 982–989.
14. Buracchio T, Dodge HH, Howieson D, Wasserman D, Kaye J. The trajectory of gait speed preceding mild cognitive impairment. *Arch Neurol.* 2010;67(8): 980-986.
15. Verghese J, Robbins M, Holtzer R, et al. Gait dysfunction in mild cognitive impairment syndromes. *J Am Geriatr Soc.* 2008;56(7):1244-1251. Epub 2008 May 14.
16. Verghese J, Wang C, Lipton RB, Holtzer R, Xue X. Quantitative gait dysfunction and risk of cognitive decline and dementia. *J Neurol Neurosurg Psychiatry*. 2007;78(9):929-935.
17. Howe TE, Rochester L, Jackson A, Banks PM, Blair VA. Exercise for improving balance in older people. *Cochrane Database Syst Rev*. 2007 Oct 17;(4)
18. Barak Y, Wagenaar RC, Holt KG. Gait characteristics of elderly people with a history of falls: a dynamic approach. *Phys Ther*. 2006;86(11):1501-1510.
19. Shumway-Cook A, Baldwin M, Polissar NL, Gruber W. Predicting the probability for falls in community-dwelling older adults. *Phys Ther.* 1997;77(8):812-819.
20. Callahan J, Parlman K, Beninato M, Townsend E. Perspective: impact of the IIISTEP conference on clinical practice. *J Neurol Phys Ther*. 2006;30(3):157-166.
21. Koskas P, Saad S, Belqadi S, Drunat O. Gait analysis with simple and dual-task paradigm in community-dwelling old people attending a geriatric outpatient clinic. *Rev Neurol* (Paris). 2010;166(3):321-327.
22. Silsupadol P, Lugade V, Shumway-Cook A, et al. Training-related changes in dual-task walking performance of elderly persons with balance impairment: a double-blind, randomized controlled trial. *Gait Posture*. 2009;29(4):634-639.
23. Cantin JF, McFadyen BJ, Doyon J, Swaine B, Dumas D, Vallée M. Can measures of cognitive function predict locomotor behaviour in complex environments following a traumatic brain injury? *Brain Inj*. 2007;21(3):327-334.
24. Beauchet O, Annweiler C, Dubost V, et al. Stops walking when talking: a predictor of falls in older adults?
25. Schwenk M, Zieschang T, Oster P, Hauer K. Dual-task performances can be improved in patients with dementia: a randomized controlled trial. *Neurology.* 2010;74:1961-1968.

Brady Whetten received a degree in Exercise Science from Brigham Young University and a Doctorate of Physical Therapy from the University of Utah. He is currently practicing as a physical therapist at Northwest Rehabilitation Associates in Salem, OR. He specializes in working with geriatric and neurologic populations and is passionate about learning and applying the latest evidence to maximize improvements for elderly individuals and individuals with neurologic disorders. He has presented nationally on topics of geriatric and neurologic rehabilitation.

Mike Studer received his physical therapy degree from the University of Missouri-Columbia in 1991. He received his postprofessional MHS degree in physical therapy with neurologic emphasis from the University of Indianapolis. He was a 2 term Vice President of the Neurology Section, APTA and has been board-certified Neurologic Clinical since 1995. Mike is the Vice Chair of the Balance and Falls Special Interest Group of the Geriatrics Section, APTA and is both an international continuing education instructor and a full-time treating therapist at Northwest Rehabilitation Associates in Oregon.

(Aegis Therapies Recognized as 2010 ICAA Innovator for WALK! continued from page 25)

Martha Schram is the President of Aegis Therapies, a position she has held since 2004. She is responsible for the overall leadership and direction of Aegis, including the management of rehabilitation services provided in the Golden Living Centers, and oversight of the contract rehabilitation and wellness services Aegis provides to other health care organizations. Aegis clients include skilled nursing facilities, assisted living facilities, independent living facilities, continuing care retirement communities, and home care organizations.

Mark Besch is the Vice President of Clinical Operations for Aegis Therapies. His multiple roles with the company include involvement with regulatory affairs, program development and implementation, and manager of development and training.

Section on Geriatrics Directory

EDITORIAL BOARD

Carol Schunk, PT, PsyD, Editor
19625 Sunshine Way
Bend, OR 97702
carolschunk@earthlink.net

Patrice Antony
Orlando, FL

Jennifer Bottomley
West Roxbury, MA

Kathy Brewer
Phoenix, AZ

Helen Cornely
Miami, FL

Jill Heitzman
Auborn, AL

Lucy Jones
Blackwood, NJ

Ken Miller
Islip, NY

Bill Staples
Carmel, IN

Ellen Strunk
Birmingham, AL

Pam Wenndt
Cedar Falls, IA

BOARD OF DIRECTORS

Greg Hartley
Miami, FL

Ellen Strunk
Birmingham, AL

Bob Thomas
Portland, OR

Mary Thompson
Celina, TX

Delegate
Cathy Ciolek
Wilmington, DE

EXECUTIVE OFFICERS

President
John O. Barr
Davenport, IA

Vice President
Alice Bell
Agawam, MA

Secretary
Rubye Kendrick
Tyler, TX

Treasurer
Ann Coffman
New Berlin, WI

COMMITTEE CHAIRS

Awards
Sara Knox
Kettering, OH

Bylaws
Pam Duffy
Adel, IA

Advanced Clinical Practice
Greg Hartley
Miami, FL

Education Coordinator
Alice Bell
Director

Program (CSM & Annual Conference)
Jill Heitzman
Auburn, AL

PTA Advocate
Karen Ryan
Englewood, CO

Home Study Course Editor
Jason Hardage
San Marcos, TX

Regional Courses Co-Chairs
Novaleigh Dodge-Krupa
Reading, MA

Danille Parker
Muskego, WI

CEEAA Co-Chairs
Marilyn Moffat
Locust Valley, NY

Karen Kemmis
Syracuse, NY

Journal of Geriatric Physical Therapy
Michelle Lusardi, Editor
Middletown, CT

Public Relations
Kerri Bednarcik
Yardley, PA

Listserv
Evan Post
Columbia, MO

Finance
Ann Coffman
New Berlin, WI

Membership Chairs
Tamara Gravano
New Orleans, LA

Cultural Diversity
Tsega Mehreteab
Piscataway, NJ

Nominating Committee
Carol Schunk
Bend, OR

Reimbursement/ Legislation Co-Chairs
Carol Knudson
St. Louis, MO

Ellen Strunk
Birmingham, AL

Research
Jessie VanSwearingen
Pittsburgh, PA

Web Site
Lucy Jones
Blackwood, NJ

Physical Activity Conference Chair
Ellen W. Miller
Indianapolis, IN

LIAISONS

APTA Board Liaison
Nicole Stout
Bethesda, MD

IPTOP Liaison
Jennifer Bottomley
West Roxbury, MA

SPECIAL INTEREST GROUPS

Health Promotion & Wellness SIG
David Morris
Birmingham, AL

Bone Health SIG
Nancy Abodeely
San Rafael, CA

Balance & Falls SIG
Judy Daniel
Rochester, NY

SECTION ON GERIATRICS APTA

Section Executive
Karen Oshman, CAE
Section on Geriatrics
3510 East Washington Avenue
Madison, WI 53704
Ph: 866/586-8247
Fax 608/221-9697
karen.oshman@geriatricspt.org

SOG Website
http://www.geriatricspt.org

Geriatric Physical Therapy Listserv
Join at http:/groups.yahoo.com/group/geriatricspt and click 'Subscribe.' When you receive an email confirming your subscription, you have full access to member areas of the site.

PUBLISHER OF GERINOTES

Sharon Klinski
2920 East Avenue South, Ste 200
La Crosse, WI 54601-7202
W 800/444-3982 x 202
FAX 608/788-3965
sklinski@orthopt.org

The secret of staying young is

to live honestly, eat slowly, and lie about your age.

- Lucille Ball

Section on Geriatrics - APTA
GERINOTES
2920 East Avenue South, Suite 200
La Crosse, WI 54601-7202

APTA
American Physical Therapy Association

Non-Profit Org.
U.S. Postage
PAID
Permit No. 149
La Crosse, WI