

CHRONICLES *in* AGING

 Interdisciplinary
Center on Aging
UNIVERSITY OF MISSOURI-COLUMBIA

DONALD W. REYNOLDS
 Programs
in Geriatrics

Discovery and Learning in Gerontology at the University of Missouri

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Volume 3, Issue 1



Increasing physical activity among chronically ill aging adults: A meta-analytic investigation

— Vicki S. Com, PhD, RN, FAAN; Todd M. Ruppert, MSN(R), APRN, BC

Chronic illnesses among older adults reduce physical function, diminish quality of life, escalate health care costs and result in a shortened lifespan. Despite substantial evidence that physical activity (PA) may delay or prevent some chronic illnesses while slowing the progression of other diseases, the vast majority of older adults remain sedentary. The challenge for health care professionals is finding effective interventions to increase PA. Extensive primary research has examined interventions to increase PA in chronically ill aging adults. The volume of research in this area, coupled with seemingly contradictory findings, makes it difficult for researchers and practitioners to determine the most effective methods to motivate this clinical population to exercise.

The large number of studies and complexity of the findings make this research area a prime candidate for meta-analytic investigation. Meta-analysis helps integrate and quantitatively assess multiple studies to determine the overall effectiveness of interventions on a particular outcome. More importantly, the synthesis across studies permits identification of moderating variables that have the greatest influence on outcomes. A National Institutes of Health-funded meta-analysis of interventions to increase PA among chronically ill adults tackled the enormous challenge of quantitatively synthesizing existing research to identify patterns among studies (R01NR07870, Conn—Principal Investigator, Sinclair School of Nursing).

The process of meta-analysis

Meta-analysis starts with a comprehensive search process to locate as large a sample of diverse studies as possible. Next, data are coded from each research report. Data coded include outcome values and sample and intervention characteristics that might be important moderators. Different investigators may report the same outcome using different scales of measure. To permit analysis, outcome data from each study are converted to a unit-free value called a standardized mean difference effect size (ES). The collection of ES values is examined for outliers and tested for homogeneity. A standardized mean difference ES (weighted by inverse of variance

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Editor's Note

We hope you enjoy the current issue of *Chronicles in Aging*. The bookends of this issue are two articles on exercise in the elderly – one by Vicki Conn, professor and associate dean of the Sinclair School of Nursing, and the other by Marian Minor, professor and chairwoman of the Department of Physical Therapy in the MU School of Health Professions. Both are well worth the read. Keeping older people active has been proven to be a key element in aging successfully. We are fortunate to have two experts in this field on our campus.

Furthermore, these scholars well represent the values promoted by the Interdisciplinary Center on Aging: research, teaching and practice using multiple methods and requiring multiple disciplines. Aging is a complex experience for the individual, his or her family members and health care providers, and society. We will understand and impact it better only through an interdisciplinary perspective.

Welcome Angela Curl, who came to MU last year to join the School of Social Work. Not surprisingly, Dr. Curl became interested in aging issues as a social work practitioner and has become an expert in issues related to retirement.

Similarly, the Reynolds Programs in Geriatrics at the School of Medicine are based on a mix of real-life experience and

curricular innovation. Thanks to support from the Donald W. Reynolds Foundation, geriatric medicine education has been transformed for medical students, resident physicians and others at the University of Missouri. For example, the STEP program described by Peggy Gray in this issue has been an effective way to connect first-year medical students with seniors who live in the community and who experience all of the real-life joys and challenges of aging.

Finally, I hope you will read the news of our READ grants program, the courses on function in aging we have started and the many successes in education and research of our Center fellows. MU is a vibrant place for those pursuing a greater understanding of aging and those committed to the care of elders.

For a free electronic subscription to *Chronicles in Aging*, e-mail chronicles@missouri.edu.



Steven Zweig



MEET THE FELLOW: *Angela Curl, PhD, MSW*

The University of Missouri Interdisciplinary Center on Aging has more than 100 faculty members representing seven schools, six colleges and 32 departments. Meet **Angela Curl**, an assistant professor of social work.

Angela Curl received her doctoral degree in social welfare from Case Western Reserve University in Cleveland, Ohio, where she taught social work courses in research and human development. She received a bachelor's degree in social work from Taylor University and a master's degree in social work from the University of Alabama.

Dr. Curl worked as a social worker in Texas with clients with HIV/AIDS and in Alabama at a counseling agency for children with chronic illnesses. Volunteering has long been a part of her life, including her work at a nursing home and at a food bank. Dr. Curl has a multicultural background gained through living in Haiti, Canada and the United States, and she is interested in research related to retirement and international gerontology.

How did you become interested in international gerontology and retirement?

Living in Haiti exposed me to issues of poverty and privilege and de-

veloped my interest in international gerontology. I became interested in retirement because this area combines economics and health.

I focus on married couples because the majority of Baby Boomers are married, and retirement has the potential to affect the income and activities of both spouses.

What are you researching now?

My current research focuses on the health, work and retirement of middle-aged and older married couples. I am working on a study of the impact of retirement on risk of heart disease for married couples over a 12-year period. I am particularly interested in studying whether retirement's impact differs for men versus women, and by levels of education, income, etc.

I have also conducted prior research on retirement planning and retirement transitions of married couples, as



well as an evaluation of a state-level pension policy designed to encourage older workers to delay retirement.

What are your hobbies?

I enjoy reading, playing board games, taking photographs and cross-stitching.

to account for sample size, adjusted for small sample bias) is calculated for the treatment and control groups from each study. Analysis based on a random effects model determines whether the overall mean ES is statistically significant. Univariate and multivariate moderator analyses also are conducted using meta-analytic analogs of regression and ANOVA to identify which moderators are associated with better outcomes.

Findings

We synthesized PA behavior outcomes across 213 treatment-versus-control comparisons comprising 22,527 subjects.¹ We found the overall mean ES to be statistically significant; subjects receiving interventions were more active in the weeks post-intervention than control subjects. People with arthritis were more likely to increase their PA than people with diabetes or cardiovascular disease. Converting the ES back to their original metrics, the difference between treatment and control subjects amounted to 945 steps per day or 48 minutes per week.¹ While these increases may not seem large and are far below the amount of PA recommended for healthy adults, they represent clinically meaningful increases for very sedentary, chronically ill older individuals.

Many studies in the sample provided data on the health effects of interventions. In studies of individuals with type 2 diabetes, mean HbA1c values were reduced in treatment groups relative to controls (7.38 in treatment vs. 7.83 in control subjects).² Fitness outcomes improved for both type I and type 2 diabetes patients.³ Cardiovascular patients receiving PA interventions exhibited improved fitness and also had fewer subsequent cardiac events than controls.⁴ In studies involving individuals with arthritis, pain and subjective function were improved in treatment groups.⁵ In patients with cancer, treatment groups exhibited improved physical function and body composition.⁶ Quality of life was improved in treatment subjects compared to control subjects regardless of specific disease condition.⁷

Behavioral vs. cognitive interventions

Several interesting findings came from our moderator analyses of PA outcomes. One significant result was that cognitive interventions aimed at educating patients were far less effective than behavioral interventions. Examples of effective behavioral interventions are self-monitoring, goal setting, making contracts to exercise, cues or prompts to exercise, receiving feedback about PA behavior and rewards for exercising. Health care providers have traditionally favored cognitive interventions, perhaps because they are most comfortable in dealing in facts and information. However, the moderator analysis showed that interventions with any behavioral component at all were far more effective than exclusively cognitive interventions. One possible explanation is that media attention on PA has provided the public with adequate knowledge about its importance and that people need strategies that allow them to convert knowledge into action.

We found improved PA outcomes to be particularly strongly associated with self-monitoring of PA behavior,¹ a finding that was consistent with our findings in a previous meta-analysis.⁸ Self-monitoring can be recording PA on a calendar or logbook or entering it into a computer. Self-monitoring may be effective because documenting successes increases

self-efficacy to be active and provides concrete evidence of achieving goals.

Some interventions are designed to change multiple health behaviors at once. For example, an intervention for individuals with diabetes may target PA and diet. However, our moderator analysis found PA was most increased when it was the sole targeted behavior. In situations in which patients need to change multiple health behaviors, a sequential approach may be more effective than trying to change everything at once. Sequential interventions may have surprising health benefits. For example, we found that among samples with type 2 diabetes, interventions that targeted only PA behavior were twice as effective in lowering HbA1c than interventions focused on multiple diabetes self-care behaviors.²

Also important for informing practice are identifying factors that do not moderate PA outcomes. PA behavior change was unrelated to age, gender, ethnicity or socioeconomic class. Interventions were effective whether delivered to groups or individuals. Mediated interventions (i.e., via mail or telephone) were as effective as face-to-face interventions. Outcomes were unrelated to the type of recommended exercise. They also were not associated with expensive intervention components such as supervised, center-based exercise and fitness testing.

In summary, our meta-analysis showed interventions are effective in increasing the physical activity of chronically ill, aging adults and that interventions have concomitant positive effects on health outcomes. Moderator analysis indicated the most effective interventions are those employing action-oriented behavioral strategies rather than merely educating patients about the health benefits of PA. Self-monitoring is an effective, low-cost behavioral strategy to incorporate into any PA intervention. Finally, keeping intervention focus on PA will produce better results than trying to change multiple health behaviors at once. The health benefits that accrue as a result of a more active lifestyle will more than justify continued efforts by health care professionals to get their older patients moving.

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Center awards interdisciplinary grants

The Interdisciplinary Center on Aging awards Research Enrichment and Dissemination grants using a professional peer review process.

This fall, six interdisciplinary research grants were awarded to: Yang Gong, MD, PhD (Health Management & Informatics), who will be developing an innovative sensor data display for TigerPlace; Jean Krampe, MSN, RN (Nursing), who will introduce dance-based therapy at a PACE site; Lori Popejoy, PhD, APRN (Nursing), who will be examining Missouri's hospital discharge planning process; Tina Smilkstein, PhD (Electrical and Computer Engineering), who is exploring the use of ultra-wideband radar for health monitoring; Robin Kruse, PhD (Family & Community Medicine), who will examine how providers share diabetes self-care goals with patients; and Rachael Beard, RN, M.ED (Education/Nursing), who will be developing an online undergraduate course in aging.

Submission deadlines for 2009 are March 31 and Oct. 15. Proposal guidelines are listed at www.aging.missouri.edu.

Fall semester features seminars, new class

Fall was a busy time for the Center on Aging.

Research Seminars on Aging in September and October featured, respectively, George Demiris, PhD, from the University of Washington, who presented "Aging and Technology: Exploring Translational Research," and Moshe Naveh-Benjamin, PhD, of the Department of Psychological Sciences, who spoke about "Age-Related Changes in Cognition." Both seminars attracted more than 50 attendees.

The 18th Annual Caring for the Frail Elderly Conference in August drew more than 250 attendees, and a smaller audience attended the End-of-Life Coalition's Fourth Annual Policy Summit. Both events are co-sponsored by the Interdisciplinary Center on Aging, and the former included a Center-sponsored poster presentation session of aging-related research work.

We offered the second of two graduate courses we recently developed on intervention research to improve physical and psychosocial function and aging. Focusing on psychological and social variables contributing to independence among older adults, this course drew 21 students from eight disciplines and featured lectures by 16 faculty from 10 disciplines.

Rusk Rehabilitation Center honored

Howard A. Rusk Rehabilitation Center, a joint venture of the HealthSouth and the University of Missouri, is one of only 15 hospitals in HealthSouth's nationwide network of more than 90 rehabilitation hospitals to be recognized as a Stroke Rehabilitation Center of Excellence. The internal recognition program highlights the accomplishments of HealthSouth hospitals that have exceeded established benchmarks in clinical programming and patient outcomes for treatment of stroke.

Center Fellow Joseph Burris, MD, is the director of the Stroke and Amputee Programs at Rusk, which includes the Stroke Spasticity Clinic. Through this program, Dr. Burris focuses on providing comprehensive treatment to this unique patient group including therapy, orthotics, oral medications

and botulinum toxin injections. Dr. Burris and his team also meet with the patient and family to obtain input for the plan of care. Structured family education series provide caregivers disease-specific information on prevention, medication management and coping strategies.

As a Stroke Rehabilitation Center of Excellence, Rusk Rehabilitation Center also provides discharge planning and continuing education initiatives to stroke patients in the form of vocational and community re-entry education, transitional living, home evaluations and therapeutic home visits. Stroke support groups are also available to patients for follow-up care.

QIPMO improves care, reduces costs

The Quality Improvement Program for Missouri (QIPMO) is a cooperative service of the University of Missouri Sinclair School of Nursing and the Missouri Department of Health and Senior Services. Led by Marilyn Rantz, PhD, RN, associate director of the Center on Aging, the program was created to provide nursing home staff technical assistance and support separate from the survey process. The Sinclair School of Nursing recruited gerontological nurse experts to work directly with nursing home staff to help them learn best clinical practices, improve care delivery and improve outcomes for nursing home residents.

In 2007-08 there were four gerontological nurse experts with graduate education in nursing working part time for the program throughout the state. They offer consultative and educational assistance to facilities at no charge. The program is funded by Missouri nursing homes, which are required to pay into a Nursing Facility Quality of Care (NFQC) fund. These funds are specifically used to provide training and technical assistance to facilities. (198.018 RSMo). The Nursing Home Reform Bill (SB 556), passed in 2006, generates fines that also pass into the NFQC fund.

The gerontological nurses' site visits help nursing home staff improve the care and outcomes of residents in QIPMO facilities, and that reduces the costs of care.

Highlights of QIPMO improvements in 2007-2008

- QIPMO nurses made 855 contacts with 246 facilities in the state and 417 site visits in 227 nursing facilities.
- A cost analysis of specific improvements (bladder/bowel incontinence, incontinence for low-risk residents, urinary tract infection, bedfast residents and daily restraint use) for July 2007 through June 2008 revealed that 990 residents avoided the development of these expensive, debilitating problems in nursing homes, at a cost savings to the nursing homes of over \$4.7 million in care costs.
- In a special group of facilities most at risk for quality problems, all but three quality indicators improved in facilities using QIPMO staff.
- Total cost savings for the at-risk group accepting site visit improvements for 2007-08 is over \$3.6 million. QIPMO is a good investment of the NFQC funds; savings for this at-risk group are more than 10 times the program costs.

For more information on QIPMO, visit www.nursinghomehelp.org.



CHRONICLE-ing the Reynolds impact

Philanthropist's foundation has a powerful effect on the way physicians are trained to care for elders

Donald Worthington Reynolds was a successful media entrepreneur who in 1954 established a charitable foundation bearing his name. In 2003 the Reynolds Foundation gave MU \$1.9 million to fund "Comprehensive Geriatrics Training Programs at the University of Missouri School of Medicine."

"Reynolds funding, which was available from September 2003 to August 2008, enabled us to make important contributions to the education of those who take care of our most vulnerable population, seniors," reports Steven Zweig, MD, principal investigator of the grant.

Supporting learning, teaching and empathy

During the period of grant funding, more than a dozen cases featuring geriatric care were developed to teach MU's first- and second-year medical students about the biological, psychosocial and ethical care of elders.

"At MU, we employ a problem-based learning curriculum," explains Michael Hosokawa, EdD, Associate Dean for Curriculum. "Students not only obtain a foundation in the basic sciences; they also learn about psychosocial and family issues, medical ethics, the health care system, community resources and team care. The grant from the Reynolds Foundation provided the resources and impetus for us to strengthen the geriatric components of our curriculum."

Funding also revitalized the Geriatrics Interest Group, a collection of students who now meet several times each year to discuss topics such as elder abuse, Medicare and sexuality. During the period of grant funding, the American Geriatrics Society recognized GIG as a student chapter, and it now provides additional funding to support meetings and activities. GIG activities have included the Reflections of Aging photo contest (see Chronicles in Aging Summer 2008 issue).

Another student program that thrived under Reynolds funding is the Heyssel Senior Teacher Educator Partnership. STEP matches first-year medical students with senior-citizen mentors and is enjoying record-breaking popularity.

Enhancing geriatrics training for residents, fellows

Under the Reynolds umbrella, a successful home-visit program was developed. "Today Family Medicine medical students and residents at MU are required to take part in visits to elders' homes following hospital discharge," explains Zweig. "The goal is to teach our students about good transition planning and care in the home setting."

Reynolds support also funded the creation of a master educator program for Family Medicine fellows. The fellows are physicians who have completed residency training and are obtaining additional training in geriatrics.

Improving care for patients

The Reynolds grant supported the development of several clinical pathway projects affecting elders including pneumonia, hip fracture and palliative care. Pathway programs define the steps involved in prevention and treatment, thereby improving efficiency and often improving care. Although the grant is over, work on pathway development continues.

Living up to the foundation's goals

The Reynolds Foundation's mission is "to improve the quality of life for America's elderly by preparing physicians to provide better care for them when they become ill." By providing MU with their magnanimous gift, the foundation has enhanced the way geriatrics is taught to MU's students, residents, faculty and physicians and has made MU a leader in the way care is provided to senior citizens.



2008-2009 STEP program sees record involvement among students

The Heyssel Senior Teacher Educator Partnership, a senior mentor program, was established in 2001. From 2003 to 2008, the program benefited from Reynolds Foundation support, and student enrollment increased by nearly 50 percent. This year a record 50 students, out of a class of 96, joined.

"I joined STEP because we can learn so much from previous generations," explains Angela Bolin, an M1 who enrolled at the beginning of the 2008-09 academic year. "I jumped at the opportunity to spend quality time learning from the wisdom gained by a person who has lived a long life."

Throughout the school year, seniors and students meet at the medical school for lunch and then attend a lecture covering a health topic. STEP partners also see each other outside the school setting and participate in activities such as having lunch or dinner together, going to movies, attending concerts, going for walks and talking on the phone with each other.

"The Heyssel-STEP program is wonderful," reports M1 Doug Overbey. "I have no family in Columbia — my closest relatives are three hours away. STEP allowed me to get in touch with a fun couple who are enjoying their years in a retirement community."



STEP partners meet monthly at the medical school for a luncheon and lecture on a health topic related to aging.

The STEP experience exposes medical students to the joys of being with elders at an early stage in their medical careers. This contact sparks an understanding and connection that cannot easily develop in the clinic or hospital setting.

Continued on page 7

1 An emergency room built for seniors

Holy Cross Hospital in Silver Spring, Md., has set up an ER specifically for patients 65 and older, NPR reports. It opened in November and is designed with simple innovations that support older people, such as colors that provide good contrast for aging eyes. The doctors and nurses in the department are trained in geriatrics, and the ER also has a full-time geriatric social worker.

www.npr.org/templates/story/story.php?storyId=100823874

2 Early aging stereotypes may have health consequences

A researcher at Yale University School of Public Health has determined that younger people with strong negative stereotypes of the elderly may have adverse health consequences as they age. They experience strokes, heart attacks and other heart problems at an increased rate.

<http://opa.yale.edu/news/article.aspx?id=6441>

3 Ginkgo study fails to show benefit in preventing dementia

A study published in the Journal of the American Medical Association indicated that Ginkgo biloba, a dietary supplement, was ineffective in reducing the development of Alzheimer's disease or dementia in older people.

www.nia.nih.gov/Alzheimers/ResearchInformation/NewsReleases/PR20081119ginkgo.htm

4 Market meltdown forces tough choices

MSNBC reports that an AARP survey indicated that even before the downturn in the economy started picking up speed in September, one in five American workers had decided to delay retirement as the value of their investments dwindled.

www.msnbc.msn.com/id/27700954/

5 Aging brains retain good memories, dismiss bad

A study conducted by researchers from Duke University and University of Alberta found older participants did not recall negative images as often as younger people, but they did retain positive memories. "In practical terms, that might mean that an older person's memory of the family reunion will focus on the delights of the grandchildren playing on the lawn, not the shouting match at lunch over their divorcing parents' custody battle," reports The Boston Globe.

www.boston.com/news/health/articles/2009/01/12/aging_has_its_benefits/

6 Eldercare difficult for families as economy suffers

An NPR reporter shares her story of caring for her aging aunt with Alzheimer's Disease, and how the responsibility is sometimes financially overwhelming.

www.npr.org/templates/story/story.php?storyId=101612109&ft=1&f=1003

326,000

....

Number of unemployed adults age 65 and older in December 2008. That's 60 percent more than in November 2007, the last month before the current recession began. The December unemployment rate for this group reached 5.1 percent, a 31-year high. Unemployment rates are lower at older ages partly because older workers often drop out of the labor force when they lose their jobs and thus are not considered unemployed.

Source: Urban Institute, www.urban.org

4
YEARS

.....

Life expectancy for someone infected with HIV at age 65 or older. "HIV prevalence and incidence in the over-50-year-olds seem surprisingly high, and the risk factors are totally unexplored," says the World Health Organization.

Source: www.who.int/bulletin/volumes/87/3/09-064030/en/

\$10,830

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The poverty guideline for 2009, according to the Department of Health and Human Services, for a person living alone in one of the 48 contiguous states or the District of Columbia. The rate is \$14,570 if there are two people in the family.

Source: <http://aspe.hhs.gov/poverty/09poverty.shtml>

\$2.6
BILLION

.....

Estimated annual loss by elderly victims of financial abuse. In a three-month period last year, industry- and business-related fraud against the elderly totaled \$250.2 million, while losses from Medicare and Medicaid fraud were \$121.4 million. Families, friends and strangers swiped some \$13.93 million from the elderly.

Source: MetLife Mature Market Institute, www.metlife.com/mmi/

Center Fellow News and Honors

Fourth-year medical student **Adam Fitzgerald**, sponsored by Center Fellow **Joseph LeMaster**, MD, MPH, received second place for clinical research on Health Sciences Research Day in November 2008.

Brian Hensel, PhD, MSPH, was named a national 2008-2009 Health and Aging Policy Fellow. The program, which is sponsored by The Atlantic Philanthropies, provides professionals in health and aging the hands-on experience and skills to develop and implement health policies that benefit older Americans.

Robin Kruse, PhD, MSPH, research assistant professor of family and community medicine, has received a grant from the National Institute on Aging. The \$800,000 grant will be used to fund "The Effects of Acute Events on Activities of Daily Living Trajectories of Nursing Home Residents."

Damascene Kurukulasuriya, MD, was appointed by the U.S. Department of Veteran Affairs as an adviser to the Education Component of the Geriatric Research Education and Clinical Center of the Veterans Integrated Service Network 15 headquartered at Jefferson Barracks in St. Louis.

Physical therapy student **Emily Parsons** won the Association of Schools of Allied Health Professions Scholarship of Excellence in November 2008.

Two student teams from Architectural Studies earned Honorable Mention awards in a national design competition initiated by The Green House organization. Taught by Center Fellow **Benjamin Schwarz**, PhD, these were the only student teams awarded any honors. Congratulations, Chris Sutton, Andrew Hughes, Aaron Chen, Meredith Jones and Yi-Ching Tsai.

Cheryl Shigaki, PhD, obtained her board certification (ABPP) in Rehabilitation Psychology in 2008, based on her work in Geriatric Stroke Rehabilitation.

Paul Tatum, MD, was made Associate Editor of Fast Article Critical Summaries for Clinicians in Palliative Care (PC-FACS) and evidence-based medicine review for palliative care for American Academy of Hospice and Palliative Medicine.

Ruth Tofle, PhD, Center Fellow and chair of Architectural Studies, reports: Our undergraduate interior design program at MU is in the top 10 in the nation, listed as No. 9 according to the most recent issue of Design Intelligence!

From page 5

Furthermore, the STEP experience reminds students that elderly people are active and fun when they are not in the hospital.

"I've really enjoyed STEP because my STEP partner has so many great stories to share with me — about his parents who grew up in Italy, how Italian cuisine differs by regions, how he loves spending time with his grandkids," says Rebecca Miller, another first-year student. "He's a really inspirational man; he's battled and won against one of the most serious forms of cancer and really seems to live life to the fullest."

For more information about STEP, visit www.aging.missouri.edu.

Upcoming Conferences

Environments for Aging 2009. March 29-31. Boston, MA. www.efa09.com/ME2/Default.asp

Second Annual Spring Geriatrics Mental Health Conference: When the Diagnosis is not Alzheimer's Disease. March 31. Mesa, AZ. www.arizonageriatrics.org

National Osteoporosis Foundation's 8th International Symposium on Osteoporosis. April 1-5. Washington, DC. www.nof.org/professionals/iso2008/index.htm

Geriatric Nursing, Education and Clinical Simulation International Nursing Conference. April 2-3. Durham, NC. <http://nursing.unc.edu/connectingthedots/>

Innovating for Continence: The Engineering Challenge. April 7-8. Chicago, IL. www.simonfoundation.org/Innovating%2009/innovating_conference_09.htm

2009 Annual Scientific Meeting of the American Geriatrics Society. April 29-May 3. Chicago, IL. www.american-geriatrics.org/news/meeting/2009/index.shtml

Center to Advance Palliative Care (CAPC) Audio Conference: Self Care and How to Avoid Burnout. April 30. 1:30-2:30 p.m. ET. www.capc.org/support-from-capc/audio-conf/04-30-09/index_html/

The University of California-San Diego School Of Medicine: Alzheimer's Disease. May 21-22. San Diego, CA. <http://cme.ucsd.edu/alzheimers/>

Seventh Annual Conference of the Association for Anthropology and Gerontology: Aging And The Indigenous People Of North America. June 5-7. Norman, OK. http://aage.clubexpress.com/content.aspx?page_id=87&club_id=497336&item_id=65699

AARP Diversity & Aging in the 21st Century Conference. June 8-10. Chicago, IL. www.aarp.org/diversityandaging

Caring for the Frail Elderly Conference. Aug. 21-22. Columbia, MO. www.aging.missouri.edu

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Overcoming a common barrier to exercise in older adults

— Marian A. Minor, PT, PhD; Professor and Chair, MU Department of Physical Therapy



Osteoarthritis (OA) of the knee is a common condition and a leading cause of functional loss and physical inactivity in adults over 65. By age 60, 14 to 18 percent of women and 10 to 13 percent of men report knee OA. By age 85, nearly one in two adults develops symptomatic knee OA. OA is a common cause of ambulatory care visits, more than 7 million (19.5 percent) in 1997.¹

Many people with chronic conditions such as diabetes, obesity, hypertension and cardiovascular disease also have OA, including 66 percent of obese individuals and 62 percent of individuals over 65 with diabetes.² Nearly 44 percent of people with knee OA report no leisure time physical activity. Regular physical activity is a major component of management for a number of chronic diseases; however, the stiffness, pain and accompanying weakness of OA can create barriers to physical activity for many people who need to become more active. Fortunately, many of the sequelae of inactivity and management of symptoms of diseases common in older adults respond positively to similar exercise. The challenge for the individual is to overcome barriers, choose appropriate activities and maintain regular exercise habits.

Published guidelines for the management of knee OA,³ hypertension, cardiovascular disease, diabetes and obesity consistently recommend exercise. The evidence to support these recommendations arose from clinical trials that used interventions similar to the current American College of Sports Medicine and Centers for Disease Control and Prevention recommendations for exercise.⁴ Although previous assumptions were that weight-bearing exercise was harmful for arthritic joints, current evidence shows the opposite to be true; both strengthening and aerobic exercises bring positive results. Outcomes of exercise in OA include decreased pain and improved function as well as increases in strength, range of motion and cardiovascular health. It appears that moderate exercise does not increase incidence or speed disease progression, and there is emerging evidence that regular moderate exercise can reduce effusions and improve cartilage health. Aerobic walking, stationary cycling, strengthening and water exercise are safe and effective for patients with OA and a number of other common conditions. Whether the exercise is performed alone or in a group setting, benefits are clear with generally moderate effect sizes.

Despite the well-documented evidence for benefits of exercise, most people with knee OA receive little information or support from health care providers to be physically active. There are understandable reasons for this inattention to a known, effective intervention. Pain usually prompts the clinic visit, and immediate treatment focuses on pain relief, usually pharmacologic. Time and resources to prescribe appropriate exercise and follow-up are limited in most clinical encounters. Furthermore, the general nature of exercise recommendations in medical guidelines, the range of possible activities and the diverse patient population make it difficult for the provider to know what to recommend. Although well

intentioned, the general suggestion to “get more exercise” is not particularly helpful or often followed. However, experiences at the clinic visit can influence patients to change beliefs and behaviors in areas such as smoking cessation, diet and exercise.⁵ With knowledge and planning, providers can establish procedures to help patients become more active.

Promote exercise at each visit; refer to local resources

In general, people who receive specific exercise recommendations and regular follow up from their health care providers are more likely to exercise than people who do not.⁵ It is up to the provider to start and continue the discussion.

Learning self-management skills for self-directed exercise is central to long-term exercise maintenance.⁵ There are a number of community-based opportunities that offer initial instruction, access to a knowledgeable leader and social support. Self-management programs include exercise information and teach skills that foster self-directed behaviors and success. Providers need to know what is available, keep information on hand and refer patients to self-management and exercise programs as standard care. The evidence-based programs recommended by the CDC include exercise and self-management appropriate for people with a range of chronic conditions. More information may be found at www.cdc.gov/arthritis/state_programs/programs.

Local hospitals, recreation centers and fitness facilities offer exercise programs suitable for older adults with arthritis and other chronic conditions. Water aerobics, low-impact aerobic dance, cycling, strengthening and tai chi are safe and helpful. Patients are a good source of information on what works and where to find good instructors and classes. It can be efficient to designate a specific staff member to be the knowledgeable exercise resource and to talk regularly with patients and families.

Most people with mild to moderate knee OA can exercise successfully in a community-based program or on their own. People with severe pain or for whom minimal activity increases pain may benefit from a physical therapy referral for individualized evaluation and instruction.

Topics introduced by providers and reinforced regularly are more likely to be remembered and heeded. If providers express interest, engage in discussion, offer positive suggestions and promise to follow up on subsequent visits, the patient is more likely to attempt and maintain the activity. It is not necessary for the provider to be an exercise specialist. It is critical to express interest in what the patient is doing, be positive regarding the importance and feasibility of increasing physical activity, suggest resources and make appropriate referrals.

References:

1. www.CDC.gov/arthritis/misc/osteoarthritis.htm
2. www.rheumatology.org/publications/classification/oaknee.asp?aud=mem
3. Roddy E, Zhang W, Doherty M, Arden NK, Barlow J, et al. Evidence-based recommendations for the role of exercise in the management of osteoarthritis of the hip or knee –the MOVE consensus. *Rheumatology* 2005;44: 67-71.
4. www.cdc.gov/physicalactivity/everyone/guidelines/olderadults.html
5. Rapoff MA, Bartlett SJ. Adherence in children and adults. In *Clinical Care in the Rheumatic Diseases*, 3rd ed. Bartlett SJ, ed., 279-284, Association of Rheumatology Health Professionals, Atlanta, GA, 2006.