

# GEC Channel

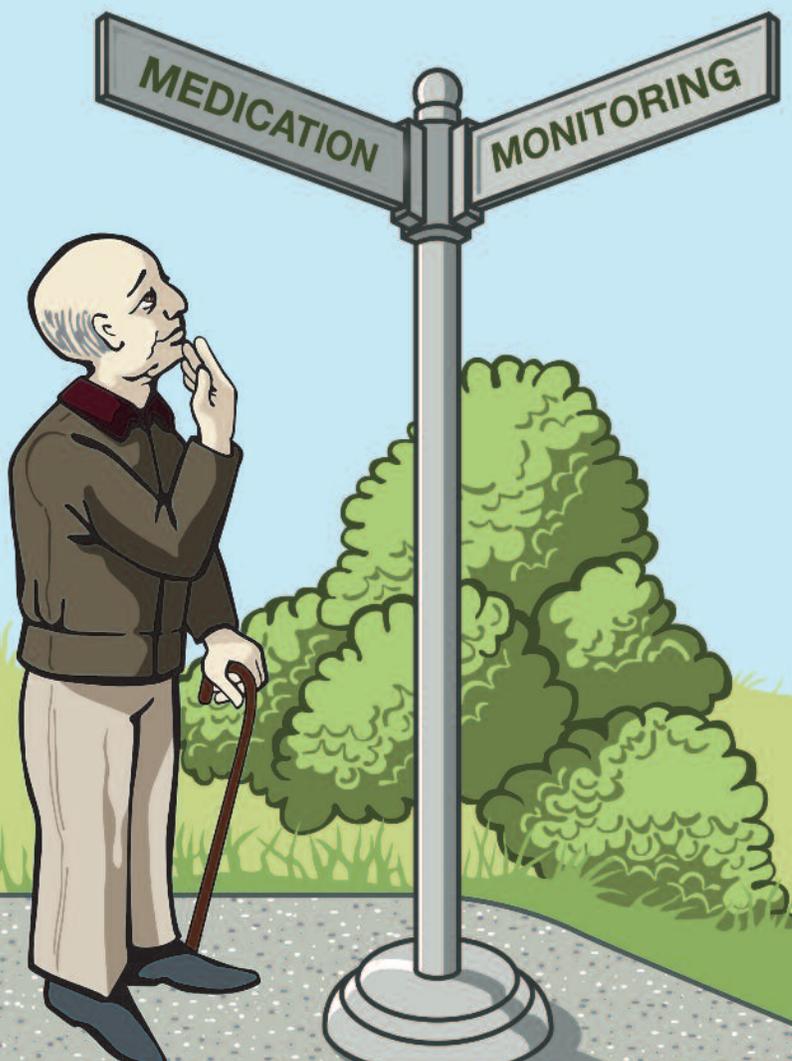
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## NATIONAL FOCUS ON DEMENTIA CARE COMBINES MEDICATION WITH INCREASED MONITORING

By Naushira Pandya, M.D., CMD

GREAT GEC Project Director and Professor and Chair of the Department of Geriatrics



In the United States, dementia affects over 5 million persons, and the prevalence of dementia is projected to increase to over 16 million by the first half of the 21<sup>st</sup> century as the boomers age. Dementia is defined as a chronic acquired decline in memory and at least one other area of cognitive function such as language, visuo-spatial, or executive function. Although dementia is a well-recognized chronic condition, it is important to be aware that it is not a uniform disease entity.

Alzheimer's is one cause (and the most common) of dementia and affects 60 to 70 percent of adults with dementia. Other causes of dementia include vascular dementia, Lewy Body dementia, and frontotemporal dementia, which are collectively responsible for 15 to 30 percent of cases. In addition, there are those causes of dementia that may be completely reversible if detected and treated in a timely manner. These include drug toxicity, metabolic disorders such as electrolyte disorders, thyroid disease, subdural hematoma, and normal pressure hydrocephalus.

This devastating condition can lead to significant medical and psychosocial problems for both patients and families. It increases caregiver burden as well as financial and psychological distress for families and leads to a gradual inexorable decline in cognition and executive function in affected individuals. As dementia progresses from mild to the moderate and severe stages, patients become more disoriented, get lost in familiar places, and require assistance with meal preparation, shopping and banking, and dressing and grooming.

Although these tasks require much time and care coordination on the part of caregivers and families, the most distressing aspects are behavioral and mood disorders that can develop into frankly psychotic symptoms with delusions and hallucinations. Individuals may become aggressive toward caregivers, agitated, restless, anxious, or depressed. They may develop delusions (such as spousal infidelity, belongings being stolen, food poisoned) or auditory or visual hallucinations, the latter being more common and affecting about 11 percent of patients.

Agitation or aggression is seen in 80 percent of Alzheimer's disease patients and is a common precipitating cause for nursing-home placement. An acute infection, delirium, pain, or medication-related problem, and environmental changes can also contribute to agitation and aggression, as can unmet needs. Patients may be hungry, thirsty, bored, depressed, upset by noise level, or be cared for by unfamiliar or inexperienced caregivers. Most experts agree that these behaviors are a result of frustrated attempts by individuals to communicate, and their failure to do so results in frustration and acting out.

In the clinical arena, it has become increasingly common to treat the behavioral symptoms of dementia with antipsychotic medications such as haloperidol, or atypical antipsychotics such as risperidone, olanzapine, and quetiapine, although antipsychotics have not been

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approved by the Food and Drug Administration (FDA) to treat dementia. In 2005 and 2008, the FDA issued the strongest possible warnings called *black box warnings*, stating that patients administered antipsychotics were 1.6 to 1.7 times more likely to die than those who took a placebo. This risk appears to be greater in individuals with existing cardiovascular conditions and risks.

Nearly 40 percent of patients with dementia who reside in nursing homes receive antipsychotics. A report issued in May 2011 by the Office of Inspector General of the Department of Health and Human Services (DHHS) found that 305,000, or 14 percent of the nation's 2.1 million nursing home residents, had at least one claim for antipsychotics. In the past 12 years the use of antipsychotics has increased and the DHSS reports that currently antipsychotics are used for 24 percent of long-stay residents.

Moreover, these medications are costly and require a considerable amount of monitoring. Clinical guidelines on dementia, such as those from the American Medical Directors Association, advise practitioners to address underlying contributing factors through a "detailed review of the patient's symptom history and a careful assessment of the circumstances in which problematic behavior occurs as a basis for both medication treatment and non-pharmacological interventions." Indeed, the body of evidence regarding the effectiveness of behavioral modifications and non-pharmacological interventions to manage dementia is growing. Antipsychotics should only be used if these measures have been tried without success and the patient has true psychosis.

In May 2012, the Centers for Medicare and Medicaid (CMS) set a goal for reducing the use of antipsychotics in long-term care facilities by 15 percent by the end of 2012 (overall and not necessarily in each long-term care facility). A collaborative effort is being made by the Partnership to Improve Dementia Care (comprising industry partners and advocacy groups) to enhance provider and staff education and to develop appropriate alternatives to antipsychotics for dementia patients in the nursing-home setting.

The CMS has prepared a training manual called *Hand in Hand*, which will be sent to each facility. This initiative requires current and future increases in interprofessional collaboration between practitioners, family members, clinical pharmacists, nurses, nursing assistants, and therapists as well as mental health professionals. Current regulations require that the medication regimen is reviewed each month by a consultant pharmacist in order to assess the appropriate use of each medication and in particular whether there is a bona-fide indication for each psychotropic medication (including anxiolytics, antidepressants, mood stabilizers, and hypnotics) followed by recommendations for dose reduction and monitoring.

There is a reporting process for psychotropic medication use in each facility by the pharmacist to the medical director, administrator, and the director of nursing. The best practice currently is for facilities to convene regular interprofessional psychotropic management meetings to ensure appropriate use of these medications and to brainstorm in order to identify non-pharmacological interventions whenever possible.

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## GEC LEADS THE WAY FOR INTERPROFESSIONAL EDUCATION AND PRACTICE

## GREAT GEC Receives Supplemental Grant for Alzheimer's Education

Over the past four years, interprofessional education and practice have headlined annual meetings, strategic plans, and curriculum-planning initiatives for professional organizations and academic institutions throughout the United States, Canada, the European Union, Australia, and New Zealand. Following the work of the Institute of Medicine and the Interprofessional Education Collaborative, interprofessional education has become a part of all health professional education.

As we focus our efforts on curriculum development and clinical practice, we are all presented with the reality that GECs have been leading the way in developing interdisciplinary (now interprofessional) leaders for over 20 years. GECs are incredible resources for academic programs as program planners attempt to make interprofessional education a reality for all the health professions and practice, not only in geriatrics.

The GECs have built a foundation for interprofessional education that can be borrowed and modified for all of the health and health-related professions involved in health care delivery, which is why there is no need to reinvent what the GECs have developed in terms of ongoing and effective interprofessional education and practice.

As we look to a new era in American politics, GECs need to be at the forefront of providing interprofessional education and practice models that will continue to shape the health care reform mandates that are now a reality. With our shared work in education and interprofessional leadership development, this opportunity also provides for GECs the challenge to disseminate and publish our work and its outcomes in interprofessional education and practice. We have all too often been consumed with the process of doing and have not let our professional colleagues know how much ahead of the curve we are.

We must seize our opportunity not only to grow in our GEC mission, but we must integrate our strength, knowledge, and experience into the health care reform initiatives, including ongoing interprofessional education and practice.

The aging tsunami of the 21<sup>st</sup> century will be managed and well cared for with health professionals educated in interprofessional environments starting from day one of their education. GECs are leading the way. It is time for everyone to take note and for us to let everyone know about the incredible resources we can provide. The importance of GECs is more essential than ever before.

The GREAT GEC has received a \$134,906 supplemental two-year grant to provide Alzheimer's disease education to practitioners and caregivers. The Professional Education for Alzheimer's Resources and Leadership (Project PEARL) team will be revising and enhancing existing evidence-based education curricula from Alzheimer's Community Care, Senior Helpers, and the Johnnie B. Byrd, Sr. Alzheimer's Center & Research Institute focusing on training in Alzheimer's prevention, diagnosis, and care in medically underserved areas to address special needs elderly, particularly Hispanics. The curriculum revisions and enhancements will concentrate on two overarching goals that will serve as the umbrella for the objectives and activities to be delivered:

- provide a cultural and linguistic approach to existing evidence-based curriculum available from the national Alzheimer's Association for health care professionals working with Hispanic elders
- incorporate interprofessional core competencies into the professional training provided

The curricular revisions and enhancements will be translated into Spanish, and both English and Spanish training will be provided. Curricular materials will be disseminated online on the GREAT GEC Web site and will be part of the Health Resources and Services Administration centralized Web site. As one of 29 osteopathic medical colleges in the United States, and with the support of the American Association of Colleges of Osteopathic Medicine, all these approved continuing medical education training programs will be disseminated and available online to osteopathic physicians.

The GEC project team has identified a need for training among medical residents. In conjunction with current residency affiliations through NSU's College of Osteopathic Medicine, approximately 200 residents can also be trained through this targeted initiative on Alzheimer's disease.

# NSU-CPS GRANTED MEMBERSHIP IN COPGTP



*By Michelle Gagnon-Blodgett, Psy.D.  
Geriatric Clinical Services Coordinator and Clinical Assistant Professor  
Department of Geriatrics*

In July 2012, the NSU Doctoral Clinical Psychology Program in the Center for Psychological Studies (CPS) was granted membership in the Council of Professional Geropsychology Training Programs (CoPGTP). This membership is formal recognition that the NSU program meets the gold standard Pikes Peak training model established in 2006. The Pikes Peak model, developed by geropsychology experts, is an effort to advance geropsychology training across a continuum of training levels, including graduate school, internship, postdoctoral fellowship, and post-licensure. Please visit the CoPGTP Web site for more detail at <http://www.copgtp.org/>.

Geropsychologists are clinical or counseling psychologists with specialty education and training in working with older adults. As with other disciplines, there is a large gap between the need for geropsychologists, both currently and predicted for the future, and the actual number of these professionals. While large, systematic studies of geriatric mental health trends, including unmet current and future needs, are absent, the Institute of Medicine is currently conducting an analysis of workforce challenges in geriatric mental health. The results of this study should shed light on this subject and help the movement in geriatric mental health to improve training, advance interest in the field, and promote a narrowing of the gap of unmet needs.

NSU's program is on the cutting edge of geriatric mental health education and training. Two major strengths that set it apart

from typical doctoral psychology programs are the breadth of interprofessional clinical training opportunities and diversity of service settings available to students. The NSU Counseling Center for Older Adults (NCCOA), which can be accessed at [nova.edu/healthcare/psychology/coa.html](http://nova.edu/healthcare/psychology/coa.html), is a component of the Psychology Services Center in the CPS that provides outpatient services to people ages 55 and older.

Every year, doctoral students and one intern receive 12 months of training with this clinic's population, under the direct supervision of geropsychology expert Michelle Gagnon-Blodgett, Psy.D. In addition to outpatient psychological testing and psychotherapy practice, NCCOA students and interns collaborate with other disciplines to provide mental health services in other health care venues. These include the NSU Parkinson's Support Group, Aphasia Caregiver Support Group, Geriatric Medicine Clinic, and Interdisciplinary Fall Prevention Clinic Team.

Other clinical training centers in the CPS that advance geriatric mental health knowledge and skills include the Neuropsychological Assessment Center, where students conduct outpatient neuropsychological evaluations under the supervision of Charles Golden, Ph.D., a world renown expert in neuropsychology, the Biofeedback and Health Psychology Clinic, under the direction of health psychologist Jeffrey Kibbler, Ph.D., and the Sleep Disorders Clinic, overseen by health psychologist Ana Fins, Ph.D.

In addition, there are several external practicum opportunities for CPS students interested in geropsychology training, including those at the Miami Veterans Affairs Medical Center, Broward Health Medical Center, the Center for Group Counseling, Henderson Behavioral Health, and Camillus House (services for homeless individuals).

Academic coursework at the CPS in geriatrics and related subjects includes a required Adult Development and Aging course and many elective courses in neuropsychology and health psychology. The CPS has specialty-training tracks in neuropsychology and in health psychology, which allow many of the doctoral students to develop basic core competence in geriatric psychology. During the academic year, students, along with faculty and staff members, interns, and postdoctoral fellows, are able to attend a variety of geriatric mental health educational programs at NSU, including the annual GEC Training Institute, numerous CPS continuing education workshops, the Interprofessional Geriatric Journal Club sessions, and various brown-bag colloquiums.

The NSU Center for Psychological Studies, in collaboration with the College of Osteopathic Medicine's GREAT GEC, is leading the field in geriatric mental health education and training and is proud to be a member of the Council of Professional Geropsychology Training Programs. For more information, please visit the CPS Web site at <http://cps.nova.edu/>.

## GREAT GEC PARTNER NEWS

### Interprofessional Approach Offers Improvement in Function and Pain Reduction in Elderly Patients

By Fernando Branco, M.D., Elsayed Abdel-Moty, Ph.D., and Brian Kiedrowski, M.D., Miami Jewish Health Systems/Stein Gerontological Institute

Chronic pain is a prevalent problem in the elderly, with over six million having chronic back pain alone. A chronic pain problem can lead to functional decline and disability. Unfortunately, invasive techniques can cause complications in the elderly, and in some cases, may not be an option. Therefore, noninvasive treatment modalities such as a multidisciplinary pain treatment approach may be a more appropriate and effective option in treating pain in the elderly.

Management of the back-injured elderly is not simple. An early referral to a rehabilitation center may prevent a simple injury from becoming a total disability. Moreover, the early referral can help avoid the behavioral consequences that are certain to arise if chronic conditions develop.

The interprofessional team at the Rosomoff Comprehensive Rehabilitation Center at Miami Jewish Health Systems comprises full-time personnel. Physical medicine and rehabilitation experts direct the application of all physical medicine modalities and treatments. Nurses trained in pain management, rehabilitation, and behaviors monitor patient progress. The psychologists are assigned as counselors to each patient and administer behavioral modification or other applicable techniques. A vocational rehabilitation division evaluates and directs job placement, while an ergonomics division simulates the job and adapts the patient and/or worksite while computing daily achievement goals. The average program will last four weeks on an inpatient or outpatient basis or a combination thereof based on medical criteria.

Therapies include gait retraining, proper use of effective modalities, elimination of adjunct equipment when possible, strength and endurance conditioning with instruction of body mechanics, prevention of reinjury, vocational or avocational requirements, and a home maintenance program. Passive, then active, ranging of motion is essential, especially about the hips. Hamstring lengthening is another mandate, because hamstring tightness will affect back movement. Full ranges of back motion are the ultimate goal, so flexion and extension exercises are instituted. A full compendium of exercises is employed to establish full ranges of motion throughout the lower body.

As this is being achieved, muscle strengthening and cardiovascular conditioning are added to the regimen with monitoring of those patients who have associated medical problems or comorbidities. When a specific muscle group is weak, functional electrical neuromuscular stimulation and muscle reeducation are implemented. This technique can produce rapid and dramatic increases in muscle recruitment patterns and muscle strength.



Occupational therapy concentrates on body mechanics, energy management, and activities of daily living. Sitting, standing, walking, lifting, and driving tolerances are established and brought to normal levels of function. In addition, pacing of activity, along with energy-saving techniques, is taught. Posture and gait are corrected since most patients are found to have poor posture and maladaptive gaits due to pain.

Activities of daily living are reviewed for home and work, looking for the proper use of body mechanics, with correction as needed. Driving evaluation is conducted and proper transfers are taught if needed. Education and vocational goals are set and jobs are simulated.

Behavioral management is a key issue. Nearly 20 percent of Americans suffer one or more emotional disorders, so the low-back injury patient may be harboring such a problem. Our study of pain population patients found 62.5 percent have anxiety disorders and 56.2 percent have current depression. Behavioral analysis considers compliance, achievement level

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before injury, activity level after injury, functional capacities, anxiety, depression, personality disorders, marital status, role reversal, and family history. Psychological services offer biofeedback and relaxation training. Group and family therapy deal with social interactions, return to environment, employment, and disability versus wellness with an emphasis on function, not pain.

Individual counseling is given when needed, including intimacy counseling. Every patient has an assigned counselor who monitors daily progress and reinforces the goal of functional restoration. Relaxation training includes coping approaches, muscle reeducation, meditation and distraction, guided imagery, auto suggestion (especially to be used with physical activity), and tape supplements, which enhance *live* therapy. Stress management is incorporated into the behavioral sessions as well.

In addition, weekly family groups explore the goals of the patient with the spouse and/or other family members. How to respond to pain without fear is discussed. The roles of the various family members are defined, both as to distribution and as to responsibility. Experiences and frustrations are shared. These sessions facilitate the return home, hopefully to an environment which will now foster wellness, not disability.

Biofeedback may be a pain-control method, but we use it as a muscle tension/relaxation technique. Electromyographic biofeedback is used to regulate muscle tension, especially when an activity may have provoked pain. Reduction of muscle tension correlates well with reduction of pain.

The team regulates detoxification from drugs. This process is carried out rapidly while pursuing intense activation. Endorphin release will help ameliorate withdrawal, and symptoms are generally minimal. Most importantly, we do not teach people how to live or cope with their pain. We look for relief of pain. We attempt to reverse the somatic changes, and with behavioral modification, bring these patients back to equilibrium with their previous lifestyles.

### Assessing the Methodology

The study's purpose was to assess the overall benefits obtained by elderly patients in a four-week interprofessional program as measured by the Oswestry Disability Questionnaire (ODQ). The ODQ is a valid measure of disability and sensitivity to therapeutic changes. It is a widely used instrument and provides information on 10 areas of physical functioning. The ODQ is a self-report, paper-and-pencil test that can be completed in five minutes. Items are scored on a 0-5 scale, with higher values indicating greater disability.

The questionnaire was administered to all subjects upon admission and discharge. The subject population was 352 patients age 65 or older who had a variety of chronic pain syndromes and had failed other treatment interventions. They were then admitted to the Rosomoff Comprehensive Rehabilitation Center for evaluation and treatment. The average age of the sample was 74.5 years. There were 224 females and 128 males. Statistical analysis used a t-test for paired sample of means.

### Results

The mean admission score on the ODQ was 44.73 (SD = 16.5), and the discharge mean was 33.02 (SD = 15.5). The analysis revealed a significant difference between the total admission and discharge scores ( $t = 28.8$ ;  $p$

$< .001$ ). Additionally, there were significant differences from admission to discharge on all 10 individual measures of functioning on the ODQ.

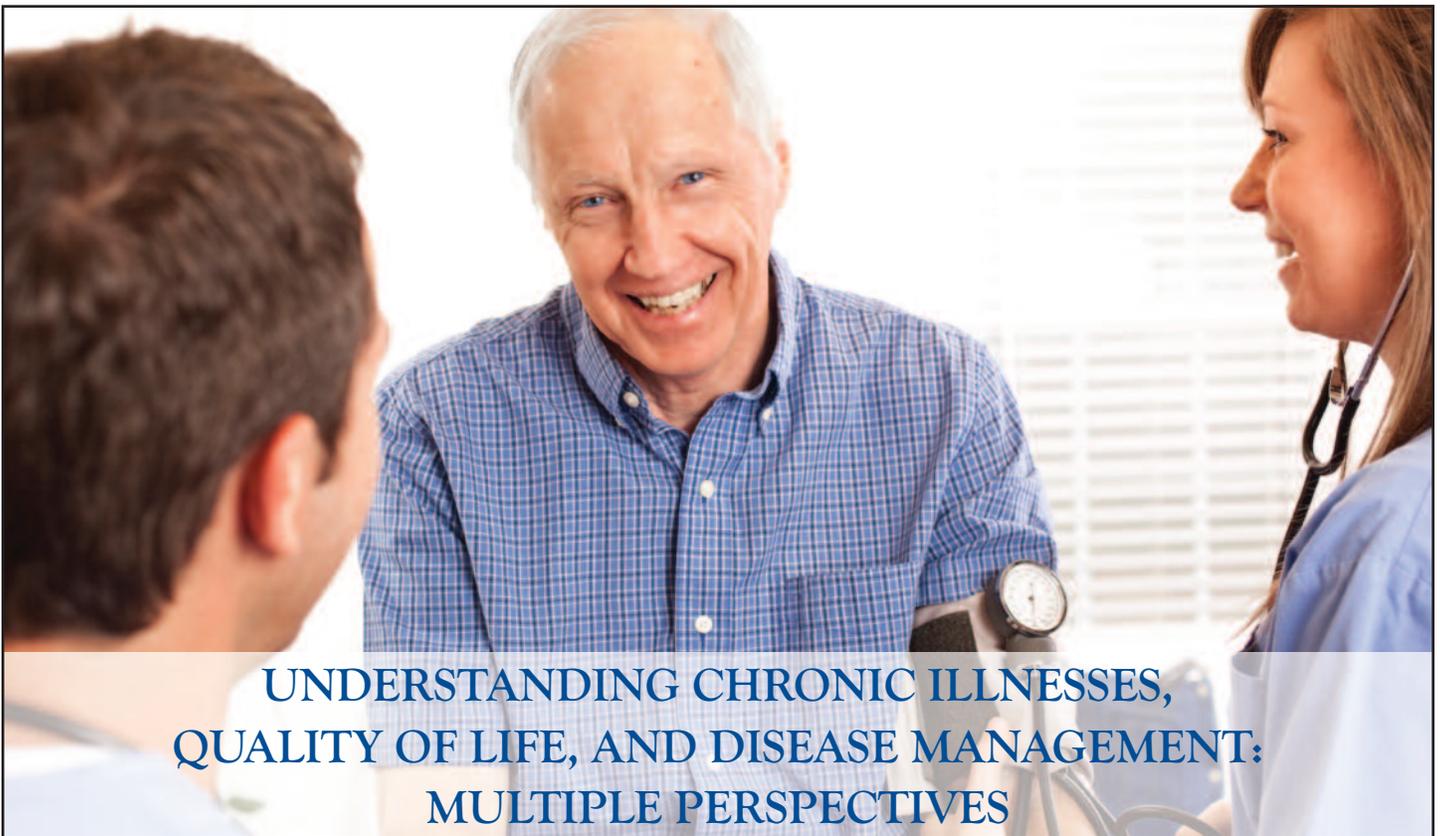
The results indicated that an interprofessional, multimodality approach can produce statistically significant improvement in functioning for elderly chronic pain patients. Substantial progress was made in all 10 areas measured by the ODQ, such as walking, standing, sitting, personal care, sleeping, and pain relief.

### Restoring Full Function

The primary objective of our program is restoring full function. Other objectives include relief or decrease in pain with the abolition of pain medication, elimination of assistive devices, return to productive lifestyle without limitations, independence from the health care system, prevention of reinjury, and optimum wellness. It is possible to return 96 percent of these patients to full function and work. They may have some residual pain, which should eventually subside.

*(Miami Jewish Health Systems/Stein Gerontological Institute is a community partner of NSU's GREAT GEC and the Office of Education, Planning, and Research)*





## UNDERSTANDING CHRONIC ILLNESSES, QUALITY OF LIFE, AND DISEASE MANAGEMENT: MULTIPLE PERSPECTIVES

*By Sweta Tewary, Ph.D., M.S.W., Assistant Professor of Geriatrics and GREAT GEC Evidence-Based Project Coordinator*

According to the Centers for Disease Control and Prevention, chronic diseases cause 7 out of 10 deaths in the United States, while about 70 percent of health care costs are attributed to disease management of chronic illnesses. The World Health Organization categorizes chronic illnesses into four different types: non-communicable diseases, such as cardiovascular ailments, cancer, and diabetes; persistent communicable diseases, such as HIV/AIDS; mental disorders, such as schizophrenia or depression; and ongoing impairment in structure, such as joint disorders, amputations, and blindness. Some illnesses can be life threatening, such as cancer, whereas others are disabling.

Many qualitative studies suggest a patient's perspective of understanding chronic disease. One interesting study indicates that chronic illness may be expressed as visible or invisible. For instance, an individual living with Crohn's disease may not project any visual symptoms but at the same time suffer tremendously from severe flare-ups. In contrast, a person living with a visible disease such as leukoderma or psoriasis can suffer social rejection in the workplace or at family gatherings. Qualitative studies also indicate that the trajectory of various chronic illnesses follow no single path. The course of chronic illness for each person may include different perceived meanings, ethical and moral decisions, questioning identity, and reformulation.

### **Biopsychosocial Impact of Rheumatoid Arthritis**

Rheumatoid Arthritis (RA) is systemic, inflammatory, and chronic in nature. Living with RA can impact quality of life for patients as well as their support systems. The biological manifestation of RA includes degenerative joints, severe pain, inflammation, and physical disability. Pain, disability, and severity of disease may limit patients to participate in daily activities such as ironing, buttoning clothes, watering plants, cooking, or even cleaning the house. Increased pain and disability may also limit work respon-

sibilities related to employment, which may have financial implications that affect household income. In addition, RA is often associated with depression and anxiety among patients. Many studies report that some patients are secretive about their disease. Lack of self-confidence is common and is associated with feelings of frustration.

### **Managing Rheumatoid Arthritis**

Managed care organizations define disease management as "analysis of a particular disease process, which may include its prevention, treatment, and follow up in multiple settings." In terms of medical management of RA, there is no one set of procedures to treat pain, stiffness, and inflammation. The goals are to prevent joint damage, minimize loss of function, and decrease pain. The most common treatments are a combination of medication, physical therapy, and exercise. In terms of medications, different medicines are given based on the severity of arthritis. However, medication management can sometimes be challenging depending upon the patient's severity of illness, financial limitations, and limited understanding of the disease process. Additionally, the newer biologic disease modifying medications are expensive and use a high-cost sharing formula.

As health care practitioners, educators, and clinicians, we should understand existing guidelines for chronic illness and disease management and their impact on the quality of life. Even though conceptualization of chronic illness may vary across health care organizations and patients, there are themes and patterns that are consistent in most illnesses. Some chronic diseases can be unpredictable and occur at any age, while most can impede the bio-psycho-social functioning of individuals at various levels. It is therefore important that we do not ignore the perceptions, definitions, as well as cultural interpretations associated with chronic illnesses and their management.



## HIGHER EDUCATION LEADS TO LIVING LONGER

By Talia Clay, NSU Master's Student

The Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) released a report indicating that men and women with bachelor's degrees or higher are likely to live about nine years longer than those who haven't finished high school.

The reason, as explained by Amy Bernstein, a health services researcher for the NCHS, is that people with higher degrees tend to have healthier habits, avoid unhealthy habits, and have better access to health care. For example, the CDC reports that 31 percent of adults between the ages of 25 and 64 without a high school diploma were smokers compared to 24 percent who had some college education, and only 9 percent of college graduates in the same age group.

The education level of the head of household in a child's family affects the child's health. For instance, obesity is prevalent among 24 percent of boys and 22 percent of girls in families where the head of household hasn't finished high school compared to only 11 percent of girls and 7 percent of boys in families where the head of household graduated college, according to the report.

Ultimately, the CDC's report suggests that because people with higher degrees typically have more earning power, they have increased access to health care, healthy food, and places to exercise. Consequently, they are able to live healthier lives.

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## GEC IN THE NEWS

**Naushira Pandya, M.D., CMD**, professor and chair of the Department of Geriatrics, attended the World Congress on Diabetes in Beijing, China, in July 2012, where she discussed "Managing Diabetes Across the Care Continuum" and chaired the "Geriatrics vs. Pediatrics" session. In addition, she presented a lecture on "Practical Aspects of Managing Diabetes in LTC" at the American Society of Consultant Pharmacists' annual meeting in Anaheim, California, last May and was quoted in the June 2012 edition of *Caring for the Ages* in an article entitled "Diabetes Managed More Tightly in Demented Patients."

**Cecilia Rokusek, Ed.D., R.D.**, professor of family medicine and public health and assistant dean of the Office of Education, Planning, and Research, was quoted in an article about emergency room services specially designed for seniors in the July 16 issue of the *South Florida Sun Sentinel*. In addition, she was appointed to serve on the Health Aging and Longevity Consortium of South Florida, which was established by organizations that work with elderly populations to provide an environment for discussion and innovation for healthy aging and longevity.

**Max Ito, Ph.D., OTR/L**, associate professor in the College of Health Care Sciences, **Diane Whitehead, Ed.D., R.N., ANEF**, associate dean in the College of Nursing, and **Rachelle Dorne, Ed.D., OTR/L**, associate professor in the College of Health Care Sciences, were awarded a faculty development grant through the College of Health Care Sciences and the College of Nursing. The grant is allowing the trio to conduct interprofessional research about home health care providers who work with adults afflicted with hoarding disorder through its project entitled "South Florida Home Health Professionals Hoarding Encounter Study." The aforementioned faculty members are in the IRB submission stage and plan to hire a research assistant in nursing and occupational therapy to offer students an interprofessional experience.

Several presentations were made by GREAT GEC representatives at the Florida Medical Directors Association 21<sup>st</sup> Annual Conference, which was held in Orlando last October:

**Elizabeth Hames, D.O.**, an instructor in the Department of Geriatrics, **Naushira Pandya, M.D., CMD**, professor and chair of the Department of Geriatrics, and **Cheryl Atherley-Todd, M.D.**, assistant professor of family medicine, presented a session entitled "Evaluation of Diabetes Management in 29 Long-Term Care and Rehabilitation Patients: A Quality Improvement Project."

**Dr. Elizabeth Hames, OMS-III Angelina Somoracki, and Kenya Rivas, M.D.**, assistant professor of geriatrics, earned first-place honors in the case-study category for their research project entitled "Tinnitus in an 82-Year-Old Male: A Case of Neurosyphilis."

**Naushira Pandya, M.D., CMD**, professor and chair of the Department of Geriatrics, **Sweta Tewary, Ph.D., M.S.W.**, assistant professor of geriatrics and evidence-based practice project coordinator, and **Nicole Cook, Ph.D., M.P.A.**, assistant professor of public health, won an award for their coauthored poster entitled "Assessing the Morbidity of Foot Problems Among Nursing Home Patients with Diabetes."

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# THE ROLE OF NUTRITION IN HEALTHY AGING

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By Kamara C. Salmon, NSU Public Health Student

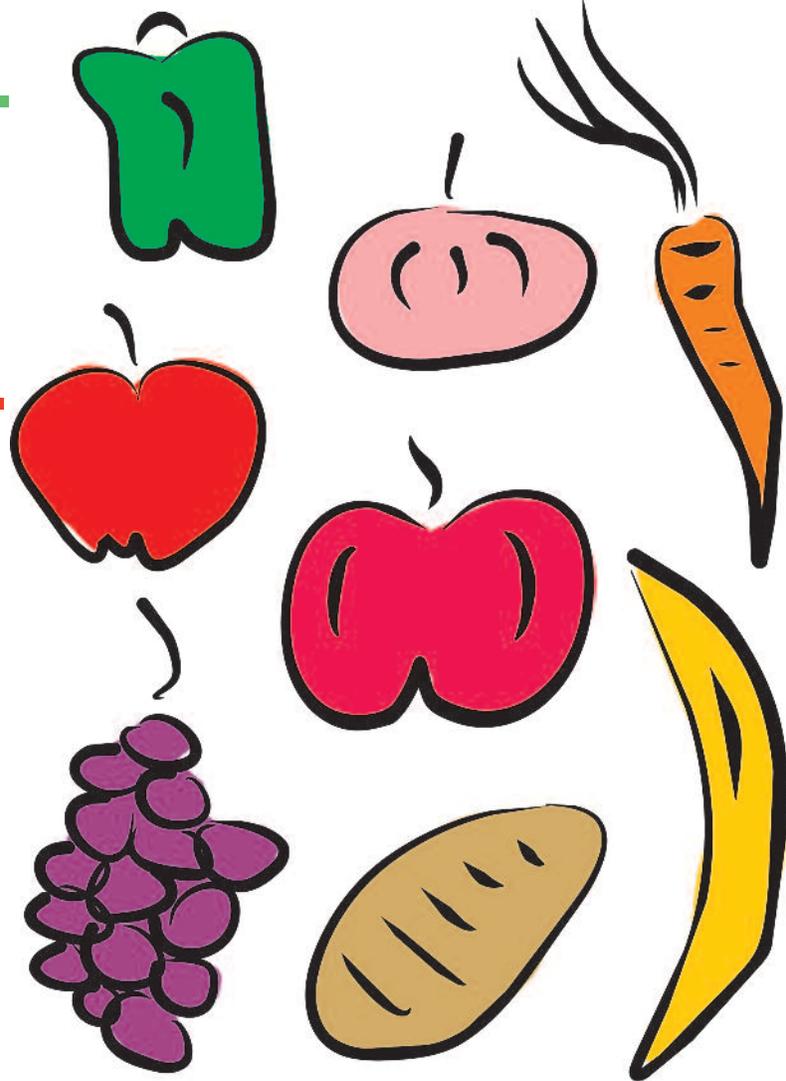
The changes associated with the aging process are inevitable, and though many individuals dread the visible external changes, the internal changes are often ignored. From birth to death, the body undergoes a series of biological changes that affect various functionalities. These biological changes occur as a result of a lifelong accumulation of molecular damage both in the cells and the organs that constitute the human body, eventually disrupting the ability of cells to make the energy they need to function.<sup>1</sup>

The mechanism behind the aging process is directly related to genetics. Genes not only determine one's life span, but are also involved in a number of processes that include reproduction, growth and development, and regulating the rate at which the body repairs and maintains itself. Aging slows down this repair process. Nutrients, in conjunction with these genes, can influence the repair process and, combined with lifestyle and the environment, shape the rate at which damage to cells is accumulated.<sup>2</sup> Based on available evidence, we understand that poor nutrition is a risk factor for many age-associated chronic conditions.

Cardiovascular disease (CVD) is the number one cause of death in the United States among both men and women, and many of the risks factors associated with CVD are directly linked to nutrition. This includes relation between the amount of high-density lipoprotein (HDL) or *good* cholesterol and low-density lipoprotein (LDL) or *bad* cholesterol and the occurrence of obesity. The prevalence of CVD rises drastically with age, and the outcome is often more fatal among older populations.<sup>2</sup>

It is recommended that the diets of individuals at risk of developing CVD include plenty of fruits, vegetables, and whole grains in order to maintain a high level of HDL in order to decrease the effects of the changes that occur to the cardiovascular system due to age.<sup>3</sup> It has been recognized universally that diets that are high in total fat, saturates, and salt and low in complex carbohydrates and fruits and vegetables increase LDL and the risk of CVD.<sup>1</sup>

The risks factors associated with numerous age-related diseases are intricately intertwined and can lead to other chronic diseases. One example is cerebrovascular disease, commonly known as stroke. It is the fourth-leading cause of death in the United States, the third-leading cause of death worldwide, the first cause of acquired disability, the second cause of dementia, and the fourth cause of disease burden. Two of the major risks factors for stroke are hypertension and age, which are also risk factors for CVD.<sup>4</sup>



The consumption of more whole grains, vegetables, and fruits, watching sodium and sugar intake, and consuming foods that are low in saturated fats and cholesterol can lower the risks of having a stroke. The occurrence of a stroke can also greatly affect nutrition as well as the ability to perform activities associated with nutritional health, such as grocery shopping and preparing meals. Under nutrition is a risk factor for other chronic diseases.<sup>5</sup>

Another condition related to poor nutrition is osteoporosis or the thinning of bone tissue and a loss of bone density over a period of time. This results in bone fragility and increases the risks of fractures. While many factors influence the risk of developing age-related bone loss, including hormones and weight-bearing exercise, nutrition is also a very strong factor.<sup>1</sup> It is recommended that older adults consume sufficient calcium in order to meet the daily recommended 800 mg/day level and reduce the risk of developing osteoporosis.<sup>6</sup> In addition, an adequate intake of vitamin D is also important for the optimization of bone health and aids in the prevention of osteoporotic fractures. Vitamin K has also been recognized as a key nutrient for bone health, and its deficiency is associated with low bone mass and an increase in the risk of fractures.<sup>1</sup>

With age, changes also occur in the oral cavity that can ultimately affect an individual's overall health. As individuals age, the mouth begins to feel dry and the gums recede from the teeth. There is less

*Continued on the next page...*

saliva to wash away bacteria, and as a result, the teeth and gums become more vulnerable to decay and infection. Teeth and gums may also darken and become brittle.<sup>3</sup> Nutrition has a significant effect on the development of dental caries, also known as tooth decay, which can result in the loss of teeth and a reduction in the ability to consume a varied diet. It can also affect the confidence to socialize with others.<sup>2</sup>

While the cause of dental caries and other dental diseases are multifactorial, overwhelming evidence suggests that the consumption of sugars found in foods and beverages are the main dietary cause of caries in both children and adults.<sup>7</sup> Dental erosion is also common among the elderly population. It is the progressive and irreversible reduction in the size of teeth and is associated with the regular consumption of acidic foods and beverages. These dental diseases can result in under nutrition, which can impair the immune system and intensify the severity of oral infections. Consuming more foods that are rich in iron, vitamin B<sub>12</sub>, and folate can help to protect the health of the oral cavity as they help to protect against gingivitis and periodontal disease.<sup>2</sup>

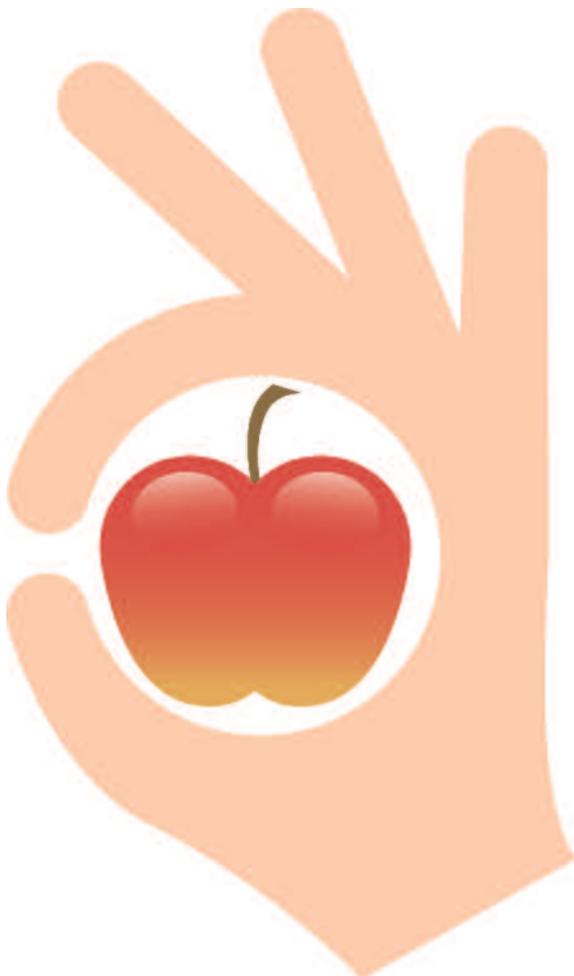
The importance of nutrition goes beyond the prevention of diseases, but it plays an important role in ensuring that as individuals age they are able to live healthy and independent lives. Everyone ages, but understanding the changes that occur as a result of the aging process, as well as how to deal with these changes nutritionally, can greatly reduce the risk of developing various chronic diseases. Proper nutritional practices should be employed in everyone's lifestyle during all stages, and diet modification becomes extremely important when some individuals have a family history of various chronic diseases.



It is the responsibility of each individual to make the right decision regarding nutrition. Proper nutritional planning and adhering to the recommendations of one's physicians can lower the risks of developing various age-related diseases and enable more individuals to live healthy and independent lives. While this article focused on the role of nutrition in healthy aging, the importance of incorporating physical activity as a part of one's lifestyle cannot be ignored. Eating healthy and staying active is the key to being healthy and staying healthy.

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# Sixth Annual Interprofessional Geriatrics Training Institute: INTERPROFESSIONAL AGING ISSUES IN A GLOBAL SOCIETY

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## GREAT GEC COORDINATES HOARDING FOR SERVICE PROVIDERS IN SOUTHEAST FLORIDA WORKSHOP



A workshop entitled "Hoarding for Service Providers in Southeast Florida" will be held on March 1, 2013, from 1:00-5:00 p.m. in the Chancellor's Dining Room at NSU's Health Professions Division. The target audience includes first responders, health care providers, social services, housing administrators, mental health providers, psychologists, social workers, nurses, and professional organizers.

The workshop, which will focus on issues pertinent to the older adult community, will cover topics that include

- an overview of hoarding disorder
- the purpose of taskforces
- the interprofessional team approach
- assessment
- intervention
- safety
- ethics
- law enforcement
- legal aspects of hoarding

Both CE and CME credits will be provided once the approval process is completed.

**For additional workshop information, please contact  
Dr. Jedidiah Siev at (954) 262-5804.**



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