Intervention May Arrest Nursing Home Decline

Also in This Issue
- Assessment Plays Vital Role in Hospital Care of Elderly p 6
- Education Key in Geriatrician Shortage p 7
- Neuroimaging Promising in Diagnosing Alzheimer’s p 11
- Driving Assessment Increases Independence p 12
- Proactive Approach Improves Pain Management p 16
Dear Colleagues:

Caring for geriatric patients with complex medical issues is a challenging, but rewarding endeavor. The unique needs of the elderly often require multidisciplinary evaluation and management, coordinated with the care and attention provided by dedicated primary care physicians.

To ensure the finest care possible for older adults, it is vital to continue to pursue basic and translational research, enroll older adults in clinical trials to test interventions that might improve the quality of their lives, and share new findings and best practices with colleagues and caregivers everywhere.

Our goal of this edition of Geriatric Times is to reach out to physicians, nurses, therapists, other clinical health personnel, and caregivers to share our knowledge and show how we can improve care for the oldest and most frail of our patients.

Topics covered here include educating future geriatricians, streamlining the transition of patients from one system of care to another, addressing pain and fatigue in the elderly, improving outcomes for myelodysplastic syndromes and using brain imaging to detect early evidence of Alzheimer’s disease to improve treatment of this insidious disease.

These articles represent a small sample of the multidisciplinary approach used here to help make a real difference in the quality of our patients’ lives. We hope you find this publication informative and worthy of your review. To receive more information or to refer a patient here, please call 216.444.5665 or visit clevelandclinic.org/geriatrics.

Kind regards,

Barbara Messinger-Rapport, MD, PhD
Interim Chair, Geriatric Medicine
Cleveland Clinic Medicine Institute

Introducing
The Future of Healthcare

Innovative new buildings improve patient access, experience.

This fall, Cleveland Clinic is introducing the future of healthcare with the opening of the Sydell and Arnold Miller Family Pavilion and the Glickman Tower.

These buildings, which represent the largest construction and philanthropy project in Cleveland Clinic history, embody the pioneering spirit and commitment to quality that define Cleveland Clinic. These structures are a tangible expression of institutes, our new model of care that organizes patient services by organ and disease.

At 1 million square feet, the Miller Family Pavilion is the country’s largest single-use facility for heart and vascular care. The 12-story Glickman Tower, new home to the Glickman Urological & Kidney Institute, is the tallest building on Cleveland Clinic’s main campus. Both will help us improve patient experience by increasing our capacity and by consolidating services, so patients can stay in one location for their care.

With 278 private patient rooms, more than 90 ICU beds and a combined total of nearly 200 exam rooms and more than 90 procedure rooms, patients will have faster access to Cleveland Clinic cardiac and urological services.

For details, including a virtual tour, please visit meetthebuildings.com.

Medical Editor
Barbara Messinger-Rapport, MD, PhD

Managing Editor
Marjie Heines

Art Director
Anne Drago

Photographers
Tom Merce, Don Gerda, Steve Travarca, Jerry Rabinowitz

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Patients come to GAP with any number of issues, including falls, mood or memory disorders, polypharmacy or medication side effects, weight loss, fatigue, hearing and/or visual impairment, and other health problems,” says GAP director Theodore Suh, MD, PhD. “Family members may be struggling with uncertainty about their loved one’s ability to live independently.”

Comprehensive Approach
GAP provides a comprehensive approach to the patient’s issues, in the context of their social and family needs. An interdisciplinary team that includes the geriatrician, a social worker and a registered nurse evaluates each new patient. They conduct a thorough physical, emotional and psychological assessment, including a lengthy interview with the patient and family; a review of medical history and medications; and an analysis of the patient’s entire health condition. Only when these factors are considered does the GAP team offer suggestions and referrals for ongoing care.

Core team members include a physician, a geriatric nurse specialist, and a social worker. Other team members include a nutritionist, physical and occupational therapists, a speech therapist, an audiologist and a pharmacist, who may be consulted as needed.

GAP recommendations focus on health, safety, functional status, and self-care ability, weighing both the patient’s and family members’ needs and perspectives. The GAP team offers help with difficult decisions regarding living environment and home safety, including referrals to all appropriate services.

Vast Resources
“We consult regularly with each patient’s primary care physician, and others involved in treatment and care,” says Dr. Suh. “And GAP patients definitely benefit from the extensive resources available here at Euclid Hospital, including the Neuro Day Hospital Program, the Driving Assessment Program and the Parkinson’s Disease Comprehensive Care Program. These specialized programs aren’t accessible in other outpatient settings.”

Dr. Suh and his team have developed a vast network of outside resources through the Ohio Department on Aging, the Alzheimer’s Association, area senior centers, and local nursing home/assisted living facilities. An on-site resource library is available to patients and their caregivers, as well.

A model for geriatric care throughout Northeast Ohio, the Euclid Hospital Department of Geriatric Medicine hosts a day long CME program every year. Last year’s conference “Geriatrics: Your Future is Now” drew more than 500 attendees.

Dr. Suh is Director of the Geriatric Assessment Program at Euclid Hospital and Director of the Aging Theme for the Cleveland Clinic Lerner College of Medicine. His special interests include geriatric assessment, medical student education, falls/gait assessment, geriatric oncology and sleep disorders in older adults. Dr. Suh may be reached at 216.444.0319.

Geriatrics CME Scheduled
Euclid Hospital will host its 8th annual Geriatrics CME Conference at Landerhaven on Friday, Oct. 3, 2008. The conference will provide participants with current developments in caring for older adults that can be applied to promoting improvements in healthcare and contributing to their quality of life. The full-day course will include a keynote address by New York Times best-selling author Michael Roizen, MD, chair of Cleveland Clinic’s Wellness Institute and Chief Wellness Officer.

For more information or to register for the course, please call Ann Coughlin, Wellness Coordinator at Euclid Hospital, at 216.692.8969.
As residents age, however, underlying medical conditions may progress. They may be on several medications with adverse interactions. And as medical conditions progress and further limit the elderly, they may withdraw from activities that engaged them in the past. When age, multiple medical conditions, and polypharmacy coincide, there is an increased risk for functional decline, cognitive impairment, social isolation, loss of spirituality and depression. Meeting the needs of residents who enter this phase is difficult, since standard nursing and medical care is disease oriented.

With the support of a $50,000 grant from the St. Luke’s Foundation, Cleveland Clinic geriatricians, Hospice & Palliative Care Partners of Ohio and Fairfax Place, a 100-bed inner-city nursing home, spent 12 months researching and designing a unique program called CHOICE to meet the needs of this unique patient population. The program is designed after “bridge programs” that are emerging in the community. These “bridge programs” help shift care from a curative, disease management approach to an emphasis on symptom control, comfort and support.

“In designing the program, our first task was to identify needs that are not being met by standard medical care. These included physical needs like pain and shortness of breath; and non-physical needs such as loneliness, spirituality, depression, individual choice, and information about diagnosis and prognosis. Specifically, we were interested in those people who have symptoms that appear to be leading to a decline,” says Dr. Messinger-Rapport.

The team established criteria for catching residents at the beginning of a decline. Factors include more than two falls in a six-week period; one hospitalization; more than one emergency room visit in a 30-day period; weight loss of more than 5 percent; or a pressure ulcer than doesn’t improve over six weeks. Softer criteria include a change in socialization, mood or spirituality; or progression of a disease such as dementia or a movement disorder.

Residents identified to participate in the program were screened by a social worker who helped them fill out a simple, but relevant values statement involving communication, pain, feeding and comfort issues. Family members were asked to respond to the questions, as well as the resident’s comments.

“There is a public misconception that nursing home residents are inactive and unengaged,” says Barbara Messinger-Rapport, interim chair of Geriatric Medicine. “In fact, many age in place, remaining engaged socially and physically within their ability.”

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The pink line indicates the episodic and progressive loss of function when an older person incurs serial events – a fall, an episode of heart failure, another fall, a urinary infection, etc. The blue line indicates a limit to the functional decline. This improvement is a result of interventions made by the CHoICE program.

“The value statement helped us initiate interventions such as medication changes, therapy, counseling and environmental changes to improve quality of life,” says Dr. Messinger-Rapport.

The team developed the CHOICE Program, a best practice that can be replicated in other facilities and adapted to fit other residential environments, including assisted living complexes.

“CHOICE has potential to improve end-of-life care for currently overlooked populations, particularly minority elders,” says Dr. Messinger-Rapport. “We are eager to help other facilities implement the program.”

Those interested in learning more about the CHOICE Program may call Dr. Messinger-Rapport at 216.444.6801.

An 88-year-old woman with severe heart failure developed delirium, leading to a change in function. After being hospitalized for a fall, she became increasingly confused, wandering into other residents’ rooms. The CHOICE team evaluated her medications and determined that her regimen of 12 to 15 drugs was not producing desirable results. With a change in medication to six essential meds, she became coherent, sociable, and again enjoyed activities and family visits. She was able to reorient herself when the staff placed pictures of her on her door, closet and cabinets.

An 86-year-old resident suffered from residual pain for several years following a stroke. Morphine, gabapentin, anti-depressants and spinal injections had not relieved the pain. The CHOICE team recommended methadone, a drug not traditionally prescribed outside of hospice, with favorable results. Additionally, the team noticed that while the patient enjoyed music, she had become so hard of hearing that she could no longer listen to it. After a complete hearing evaluation, she was given a tape player with headphones, and a device was installed on her telephone so that she could use it again to communicate more easily with family members who were too ill to visit. With this comprehensive approach, the patient’s quality of life improved dramatically.
Geriatric Assessment Improves Hospital Care

Brian Harte, MD, Hospital Medicine, Cleveland Clinic Medicine Institute

A new Geriatric Assessment Program is helping Cleveland Clinic hospitalists better manage the unique needs of elderly patients and their family members during hospital stays. Brian Harte, MD, Chairman of Hospital Medicine, says geriatricians serve the same role as other specialists, bringing their expertise to bear in challenging situations.

“Medical school textbooks are written to identify illnesses in their most common presentations, and older people often don’t have common presentations,” says Dr. Harte. He also cites managing drug interactions in elderly patients, who tend to be taking more medications than younger patients; and addressing medical issues like delirium, which can complicate the hospital course, increasing the risk for falls and injury. Geriatricians have extensive knowledge and experience in these and other issues unique to this population, he says.

Dr. Harte often requests geriatric consults in discharge planning with patients for whom the goals of care are unclear or still evolving. Geriatricians work closely with case managers in determining the disposition for individual patients that would optimize medical care, function and safety. When there are differences between family expectations and medical realities, geriatricians can help the family with transitions of care, advocacy and utilization of community resources.

Patients come to the hospital with differing ideas regarding what can, and cannot be done, as well as different social and cultural backgrounds, says Dr. Harte. “Sometimes these differences come to a head with older patients, because you’re dealing with difficult chronic illnesses, progressive frailty, or even end-of-life issues. Families may look at their frail 87-year-old grandmother and picture a much younger version serving 40 at Thanksgiving. It can be a challenge to mediate family dynamics while addressing the medical problems, and trying to come up with a plan that not only makes sense for today, but makes sense for the future. Our geriatricians provide an excellent resource for patients and their families in sorting through their options.”

Brian Harte, MD, is Chairman of Hospital Medicine in Cleveland Clinic’s Medicine Institute. To reach Dr. Harte, call 216.444.0933, or email harteb@ccf.org

Defining Geriatric Assessment

By Barbara Messinger-Rapport, MD, PhD

Inpatient geriatric assessment has been shown to improve health-related quality of life and reduce functional decline in older adults. At Cleveland Clinic, experienced geriatricians consult on older patients (age > 65 years) concerning any aspect of acute care medicine.

Our special interest is in those patients, usually 75 years and over, with multiple interacting problems that threaten independent function. These patients often have preexisting functional problems affecting cognition, mood, hearing, vision and nutrition, and may have pre-existing polypharmacy. Admission to the hospital introduces an unfamiliar environment, sensory deficits if they do not have their hearing aids or glasses, malnutrition if they are asked to fast for tests, and potential adverse drug effects when multiple medications are started simultaneously. The result often is confusion, or delirium, which can last for days, weeks or even months.

Hospitalized older adults who are admitted with cognitive impairment or who develop delirium during the hospitalization are more prone to falls, injuries, pressure ulcers, and are more likely to be restrained. These complications contribute to mortality, decreased functional status, limited rehabilitation, prolonged length of stay, increased institutionalization and higher health care costs.

Geriatric consultation can help with proactive intervention to reduce complications of hospital stay in vulnerable elders, and can be particularly useful when anticipated or actual length of stay is long. The scope of the consultation service includes:

• Diagnosis and care of the three “D’s”: dementia, delirium and depression in the hospitalized older adult
• Evaluation of the impact of polypharmacy on delirium
• Comprehensive assessment of functional status and recommendations for appropriate level of care
• Discharge planning to optimize use of community and outpatient services, including follow-up with the Geriatrics Clinic if appropriate and desired.
A recent report from the Institute of Medicine (IOM) says that the healthcare system is “woefully unprepared” to meet the needs of 78 million baby boomers who will become eligible for Medicare in 2011. The shortage of healthcare providers is particularly dire in geriatrics, a field that traditionally has attracted fewer specialists.

Cleveland Clinic geriatrician Babak Tousi, MD, is engaging medical students in the Cleveland Clinic Lerner College of Medicine and in Case Western Reserve University School of Medicine, sharing his enthusiasm for the field.

His professional zeal was shaped by his Cleveland Clinic training, which included fellowships in Geriatric Medicine and in the Movement Disorders Clinic in the Neurological Institute.

Patient-Centered Medicine

“I had my first true experience with an interdisciplinary team that took a holistic approach to human health,” says Dr. Tousi. “I learned the concept of ‘patient-centered’ rather than ‘problem-focused’ medicine.”

Rotations included geriatric assessments and consults in several departments on Cleveland Clinic’s main campus, as well as acute hospital care (ACE) units, and hospice and home care programs in community hospitals and long-term care facilities.

He developed a passion for helping patients maintain their health and quality of life despite dealing with the chronic medical conditions, cognitive issues and frailty that can accompany aging.

Upon graduation, Dr. Tousi accepted a position at Cleveland Clinic, providing care in Lutheran and Lakewood hospitals and serving as a nursing home medical director, for which he earned the 2007 Distinguished Medical Director Award.

But Dr. Tousi is most proud of his involvement in the Senior Assessment Program in the regional hospitals, which involves social workers, geriatric nurses, neuropsychologists, geropsychiatrists and occupational therapists for life skills assessment and driving evaluation and therapy.

“We work very closely with the Office on Aging, the Alzheimer’s Association and Adult Protective Services in meeting the needs of the community,” he says. “In geriatrics, care planning sometimes becomes more important than diagnosis or treatment. It’s not unusual for me to be called by adult children as far away as California when making care plans during a teleconference. We have established relationships with long-term care facilities, including assisted living and nursing homes, to improve continuity of care.”

Advancing the Field

Dr. Tousi also appreciates his ties to an academic medical center of the caliber of Cleveland Clinic. He plans to continue to research and publish on challenges and changes in geriatric medicine. And he embraced the chance to serve on the medical school faculty and share his experience. In fact, he was so energized by the medical students – who he says ask compelling questions – that he has increased his participation to twice a week.

“I hope these students will take a second look at careers in geriatric medicine,” he says. “The need is so great.”
Pushing for Real Alzheimer’s Answers: A Symptom-Management Approach is Not Enough

Bruce Lamb, PhD, Sanjay Pimplikar, PhD, and Riqiang Yan, PhD, Lerner Research Institute

More than 5 million Americans currently have Alzheimer’s disease, and that number is expected to rise to nearly 8 million by 2025. Crucial to the discovery of new treatments for this agonizing disease is expanded knowledge of which brain changes cause Alzheimer’s.

Currently approved pharmaceutical treatments provide patients with some short-term symptomatic relief through the regulation of acetylcholine and glutamine, but they do not halt disease progression or reverse the devastation it already has caused. The work we are doing in our Cleveland Clinic laboratories is seeking to unearth new ways to actually treat affected patients, not just alleviate symptoms.

Molecular basis of Alzheimer’s
Bruce Lamb, PhD, uses transgenic mice to study the molecular basis of Alzheimer’s disease. He is working to characterize mice that contain mutations that cause Alzheimer’s disease in humans in terms of numerous molecular biological, biochemical, behavioral and neuropathological criteria to help determine the effect of these Alzheimer’s disease gene mutations on in vivo biological function/dysfunction.

NSAIDS’ affect on disease onset
Dr. Lamb also is investigating the value of nonsteroidal anti-inflammatory drugs (NSAIDS) in providing early protection from Alzheimer’s disease. He has demonstrated that when young Alzheimer’s disease mice start on a regimen of high-dose NSAIDs mixed into their food, they seem less vulnerable to acquire symptoms of the disease. Waiting until Alzheimer’s phenotypes begin to develop is too late, the evidence indicates. The mechanism of action that provides this protection is still unknown, but retrospective human studies of patients who took NSAIDS regularly throughout their lives, such as arthritis patients, seem to parallel the mice findings.

APP function in Alzheimer’s
Sanjay Pimplikar, PhD, focuses on amyloid precursor protein (APP), a neuronally enriched membrane protein that is intimately associated with Alzheimer’s disease. His team is interested in understanding the function of APP and how its dysfunction may play a role in initiating Alzheimer’s disease. They are using multiple experimental systems, including tissue culture cells, zebrafish models and mouse models to elucidate APP function.
BACE1 activity and production of Aβ

Riqiang Yan, PhD, is studying Amyloid beta (Aβ), the major component of the senile plaques widely believed to be the culprit of Alzheimer pathogenesis. Aβ is excised from APP through sequential cleavages by beta-secretase and gamma-secretase; excessive accumulation of Aβ increases the likelihood of AD onset.

The beta-secretase is also known as β-amyloid cleaving enzyme (BACE1), which Dr. Yan’s group was one of the first to identify. Studies have demonstrated that inhibition or reduction of BACE1 activity levels in vivo dramatically reduces production of Aβ. While pharmaceutical companies actively are exploring BACE1 inhibitors for Alzheimer’s disease therapy, Cleveland Clinic projects focus more on the investigations of biological functions of BACE1, as well as understanding modulations of BACE1 by various factors.

All three Cleveland Clinic research teams remain committed to seeking ways to arrest the early biological changes that pave the way for AD development, instead of just treating the disease after diagnosis. Being able to delay disease onset by even a few years would allow many members of the primarily elderly population affected by Alzheimer’s to avoid the devastation of this disease entirely.

Bruce Lamb, PhD, and Sanjay Pimplikar, PhD, are researchers in the Department of Neurosciences at Cleveland Clinic’s Lerner Research Institute. Riqiang Yan, PhD, is Director of Basic Alzheimer’s Research in the Department of Neurosciences at Cleveland Clinic’s Lerner Research Institute.

APP processing and function

β-amyloid precursor protein (APP) is a transmembrane protein. APP can be cleaved by β-secretase to yield a soluble APP-β fragment and a C-terminal fragment of 99 amino acids (CTF99). CTF99 is further cleaved by γ-secretase to produce β-amyloid peptides (Aβ) and APP intracellular C-terminal domains (AICD). Aβ form Aβ aggregates that are the major component of β-amyloid plaques in the brain of Alzheimer’s disease patients and cause pathophysiological changes. AICD is thought to be translocated into nuclei and modulate gene transcription, and its role in AD pathogenesis is under investigation.
Ever Expanding Role for Aging Brain Clinic

Ronan Factora, MD, Cleveland Clinic Geriatric Medicine

The Cleveland Clinic’s Aging Brain Clinic has emerged as a critical resource for geriatric patients with cognitive impairment. Established in 2004 as a referral center for patients with symptoms consistent with normal pressure hydrocephalus (NPH) who may be candidates for surgery, the clinic’s role has expanded as the symptoms of NPH in the geriatric population are more commonly recognized.

NPH is relatively rare in the general population—affecting approximately seven per 1,000 people. But the symptoms associated with it are very common in the geriatric age group.

“Many primary care patients present with alterations in gait, cognitive impairment and urinary incontinence,” says Cleveland Clinic geriatrician Ronan Factora, MD. “The overlap of other medical problems, medication side effects and the long differential diagnosis for NPH, including Alzheimer’s disease, Parkinson’s disease, stroke, other cerebrovascular disease including vascular parkinsonism, lumbar canal stenosis, arthritis and depression, requires a very thorough assessment of the patient. The Aging Brain Clinic is designed to provide an assessment to differentiate between these conditions and offer guidance to patients and their physicians regarding management.”

The Aging Brain Clinic uses a comprehensive approach to each patient. Referred patients spend at least a half hour with the clinic’s nurse, who conducts a complete cognitive and daily activities assessment. The patient is then seen by either Dr. Factora, or Barbara Messinger-Rapport, MD, PhD, for an hour that includes completing a history and physical exam. This includes assessing gait, reviewing the CT scan or MRI, evaluating medications and lab work, and assessing other medical and social issues. A social worker is available for evaluating safety problems and referring patients and families to community resources.

If the patient has findings that may be consistent with NPH, he/she is scheduled for further assessment by neurosurgeon Mark Luciano, MD, PhD. If the patient is a candidate for surgery, and all other medical and polypharmacy issues are optimized, a drain trial is completed to assess the effectiveness of surgery before the shunt is placed. The drain trial is a 36-hour continuous removal of cerebrospinal fluid with evaluation of symptoms before and after the procedure. Dr. Luciano says shunts can give a lifetime of relief in carefully selected patients.

While 10 percent of Aging Brain Clinic patients receive an extensive work-up for NPH after the initial evaluation, the other 90 percent are found to have cognitive impairment, gait disturbances or urinary incontinence for other reasons. Referrals may be offered to Neurology, Urology, Physical Medicine and other services. Final recommendations are provided to patients and their physicians regarding management issues, and some patients are seen back periodically to assess their response to the interventions. Patients and referring physicians have appreciated the interdisciplinary approach and smooth referral and communication process.
The early signs of Alzheimer’s can be difficult to recognize, and current testing for this disease relies heavily on psychological testing. Psychological testing may not demonstrate abnormalities until the disease has reached the mild to moderate stage. Testing also may not be able to differentiate Alzheimer’s disease from other causes of dementia.

Early and accurate identification of Alzheimer’s disease are important goals, and medical imaging may help. Researchers are developing imaging techniques using compounds that act as markers in the brain that “light up” on a diagnostic test called a positron emission tomography (PET) scan. “It allows scientists to see the abnormal amyloid plaques in the brain, which would allow a specific diagnosis of Alzheimer’s – something we still can’t do,” explains Cleveland Clinic neurologist Richard Lederman, MD.

Other research using MRI technology may be able to pinpoint areas of the brain that show early signs of atrophy, or cell death. A team of investigators led by Stephen Rao, PhD, Director of Cleveland Clinic’s new Shey Center for Cognitive Neuroimaging, is studying changes in brain activation of healthy older individuals (ages 65-85) who are genetically at risk for developing Alzheimer’s disease; and individuals who have mild cognitive impairment, a condition that often precedes the diagnosis of Alzheimer’s. One goal of the study is to develop an imaging biomarker that can detect the earliest brain changes associated with Alzheimer’s disease. The team is using a specific type of MRI, called functional MRI (fMRI), to reveal brain changes in at-risk patients who do not yet exhibit clinical symptoms.

As the patient performs a task such as remembering, the fMRI produces a brain map, which appears to be sensitive enough to detect preclinical stages of Alzheimer’s. Though this is less specific than showing the amyloid plaques, scans like these are still an earlier marker for Alzheimer’s than behavioral or clinical signs.

“Most of the current focus is on treating the disease after a diagnosis is made, which as things stand is probably too late,” says Dr. Rao. “It’s possible that, used much earlier, current Alzheimer’s drugs and those in the pipeline could arrest the early biological changes that set the stage for the disease and delay its onset.” Because the disease most often strikes the elderly, delaying the disease by even five years, Dr. Rao points out, could slash prevalence by half. And a 10-year delay could “virtually wipe out” the disease.

Stephen Rao, PhD, Director of Cleveland Clinic’s Shey Center for Cognitive Neuroimaging in the Neurological Institute, can be reached at raos@ccf.org.
Driving Assessment Opens Doors to Independence

The loss of the ability to drive is a major obstacle to independent living for older adults. The Cleveland Clinic’s driving assessment and rehabilitation programs on the main campus, and at Euclid and Lakewood hospitals, emphasize maintaining mobility and independence, offering some older drivers options that do not require “giving up the keys.” Health interventions that optimize treatments for cardiac, visual, arthritic and other medical conditions can help maintain a person’s ability to drive safely.

“Although the prevalence of driving difficulties increases with age, ‘at risk’ and ‘older’ are not synonymous,” says Patrick Baker, MHS, OTR/L, CLVT, CDRS, who directs the Adult Driver Evaluation and Rehabilitation Program at Cleveland Clinic’s main campus and Lakewood Hospital. “This is a critical distinction in our aging population.”

Effect of Aging on Driving Ability
Driving is an important Instrumental Activity of Daily Living (IADL) in this country, primarily because of the lack of alternative transportation and the symbolic nature of driving as a display of independence, financial means and personality. But social, biological and medical changes that occur as a consequence of aging may influence driving patterns, skills, and ultimately roadway safety. Much of the research on aging and driving has focused on sensory and motor changes, including vision, hearing, mobility and reaction time. Stroke, orthopaedic conditions, neurological impairment, dementia and other issues related to the aging process can affect driving skill.

Fortunately, older drivers tend to reduce their exposure by driving less and by avoiding driving in situations that are generally believed to be more difficult, such as night driving, or driving in heavy traffic or inclement weather. In particular, adults with visual impairments are noted to self regulate.

Medically compromised drivers make up a substantial subset of drivers who crash, especially when the crash involves an older driver. Identifying those older adults whose abilities have been compromised to an unsafe level, rather than targeting the entire older population, is appropriate and more likely to be effective for reducing crashes.

Assessment and Counseling Critical in Impaired Older Drivers
When driving difficulties are suspected in an older person, a thorough but targeted history and examination may help uncover the cause and degree of impairment. Geriatricians and Driver Rehabilitative Specialists such as Mr. Baker work together with many patients to identify risks and optimize driving ability.

The Cleveland Clinic’s driving assessment programs start with a complete history that includes changes in habits or personality, chronic medical conditions and medication use, alcohol use, prior history of accidents and/or DWI or DUI, and functional limitations. The physical examination includes testing vision, hearing, range of motion and strength, neurological integrity, cognition and pain. Adjunct studies may include a metabolic workup for dementia and targeted imaging studies.

“Our program also provides a 45- to 60-minute on-the-road assessment of driving skills, using a vehicle adapted for driving evaluation,” says Mr. Baker. “When appropriate, clients can access the programs services for follow-up training or simply to practice good driving skills that may have eroded over time.”

When driving is no longer safe, Cleveland Clinic geriatricians are available to help the client and his or her family through this difficult, but important change in lifestyle. ■

To refer a patient to a Cleveland Clinic driver assessment program, call 216.445.8000 for main campus; 216.692.8780 for Euclid; 215.521.2228 for Lakewood.
Once considered rare, the incidence of myelodysplastic syndrome (MDS) is rising, with an estimated 12,000 to 15,000 new cases diagnosed annually in the United States. The increased incidence follows the increase in life expectancy of adults 65 years and over, since the risk of MDS grows with advancing age.

“Among 70-year-olds, its prevalence is roughly comparable to that of prostate cancer in elderly men,” says Jaroslaw Maciejewski, MD, PhD, Head of Experimental Hematology and Hematopoiesis at Cleveland Clinic Taussig Cancer Institute. “When seen in that perspective, MDS is truly an important disease with significant socioeconomic implications.”

Understanding pathophysiology and therapeutic options

MDS has garnered a great deal of attention in the last few years due to both an improved understanding of its biological mechanisms and the recent U.S. Food and Drug Administration approval of three drug therapies. However, there is still much more ground that needs to be covered.

Late last year, the Taussig Cancer Institute hosted its first Myelodysplastic Syndrome Summit to provide a forum for clinical hematologists, medical oncologists and researchers to discuss the latest in MDS treatment options and the development of new therapeutics.

Co-directed by Dr. Maciejewski and Mikkael Sekeres, MD, MS, both of Cleveland Clinic’s Department of Hematologic Oncology and Blood Disorders, the two-day summit featured national and international guest faculty and drew 85 attendees.

Among the conference’s conclusions was a recognition of the growing role of chromosomal abnormalities and the need to identify new molecular targets that would allow targeted therapies.

Advancing care through innovative treatments

At Cleveland Clinic, eight clinical trials are under way for patients with various subtypes of MDS that combine approved drugs with novel therapeutics.

Dr. Sekeres says the goal is to determine which combination of therapies is most likely to achieve a favorable outcome for each patient.

In addition, Taussig Cancer Institute recently became the lead center in the National Institutes of Health’s Bone Marrow Failure Disease Consortium (BMFDC), part of the Nationwide Rare Diseases Clinical Research Network (RDCRN) to address orphan diseases and neglected conditions.

Through the BMFDC, a number of clinical trials are available to patients at Cleveland Clinic and its partnering institutions. More information about the BMFDC is available by visiting rarediseasesnetwork.org/bmfdc.

Dr. Maciejewski, Head of Experimental Hematology and Hematopoiesis at Taussig Cancer Institute, specializes in bone marrow failure syndromes and refractory anemias. Physicians may reach him at 216.445.5962 or 800.553.5056, or at maciejj@ccf.org. Dr. Sekeres is a hematologist/oncologist at Taussig Cancer Institute who specializes in MDS, leukemia and bone marrow failure syndromes. He can be reached at 216.445.9353 or 800.553.5056 or at sekerem@ccf.org.
Fatigue is a common and often a frustrating complaint among geriatric patients, especially when the cause is not clear. Almost all older adults will complain of fatigue at some point, and many will be disabled by this symptom. In acute illnesses that require hospitalization, fatigue is the universal manifestation upon recovery. At times it affects function and rehabilitation.

Fatigue can present as lack of endurance, lightheadedness, daytime somnolence and inability to initiate and complete tasks. Fatigue becomes relevant when accompanied by actual physical weakness that leads to decline in the ability to perform daily activities.

**Complete work-up required**

The management of fatigue depends on the cause, which may be challenging to diagnose. When a person complains of fatigue, it is vital to determine the extent of the fatigue, as well as its consequences and other associated symptoms such as shortness of breath, chest tightness, dizziness, weight loss, loss of balance and falls.

When fatigue is accompanied by shortness of breath, pulmonary and/or cardiovascular disease may be present. Emphysema, asthma, bronchitis and lung fibrosis commonly present with fatigue, as do cardiovascular illnesses such as congestive heart failure, valvular heart disease, ischemic heart disease, arrhythmias and pulmonary hypertension. In addition, orthostatic hypotension is often accompanied by symptoms of lightheadedness, feeling of unsteadiness and fatigue. Renal failure, liver insufficiency, uncontrolled diabetes, and thyroid, pituitary and adrenal failure also present with fatigue. Depression, anxiety, nocturia, and pain due to musculoskeletal disorders including arthritis, commonly interrupt sleep and cause fatigue. Patients who complain of daytime fatigue from the time of awakening, and those who admit to snoring or restlessness at night, may have a sleep disorder associated with either obstructive sleep apnea or restless leg syndrome.

Most persons complaining of fatigue have normal findings during the physical exam. However, the examination of an older person with fatigue should include testing for orthostatic hypotension; heart murmur; signs of lung, heart, liver or kidney failure; and depression.

A drop in blood pressure may occur several minutes after standing from either lying or sitting (orthostasis). Dry skin, particularly in the axilla, is seen in dehydrated persons, especially those with kidney failure. Red palms, unusual veins in the belly and an enlarged liver are manifestations of liver disease. Fluid in the lungs or abnormal lung sounds as seen in asthma, emphysema and heart failure may be clues to shortness of breath and fatigue.

Laboratory and specific testing may provide additional information as to the cause of fatigue. Complete blood count could reveal anemia or low blood count. Metabolic chemistry may show low testosterone, liver, kidney or thyroid disorder. A chest X-ray and pulmonary

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**Dr. Ciocon is Chairman of the Department of Geriatrics and Associate Chief of Staff at Cleveland Clinic Florida. His honors include receipt of the Outstanding Geriatric Medicine Clinical Researcher, awarded by the Florida Geriatrics Society three years in a row. He is a volunteer physician for the NANAY Center (National Alliance to Nurture the Aged and the Youth) in North Miami, Florida, and has worked with Jammin Kids, a violin group that performs in area nursing homes. He can be reached at 954.659.5353, or by email at cioconj@ccf.org.**
function test may clinch the diagnosis of emphysema or pulmonary disorder in a person with fatigue and breathing problems. An echocardiogram may demonstrate a low ejection fraction in a person with cardiovascular disease presenting with shortness of breath, decrease in endurance and fatigue.

**Overnight studies helpful**

If obstructive sleep apnea is suspected, an overnight sleep study will demonstrate the diagnosis and determine the severity.

Obstructive sleep apnea causes superficial sleep and insufficient rest, since periods of shallow breathing lead to temporary episodes of no breathing. Nocturia is commonly associated with sleep apnea. A polysomnogram performed at a sleep laboratory will confirm a diagnosis of sleep apnea. During this sleep study, blood pressure, pulse, heart rhythm (using electrocardiogram), oxygen saturation level, and brain activities (using electroencephalogram) are measured objectively to demonstrate the effect on breathing difficulty during sleep. Furthermore, a video camera documents shallow or absence of breathing, as well as periodic leg movements and restlessness.

Management of elderly patients requires optimal treatment of any medical condition leading to fatigue and/or lack of energy. For example, use of an appropriate inhaler may improve breathing and level of energy. Use of specific heart medications also may improve cardiac status and reduce or eliminate fatigue, as can correcting anemia, low thyroid and low testosterone levels. Use of continuous positive airway pressure and improving quality of sleep in sleep apnea condition will also increase level of energy.


Proactive Approach Helps Elderly Patients Manage Pain

Teresa Dews, MD, FIPP, Cleveland Clinic Anesthesiology Institute

Chronic pain is a common problem in older adults, and may be associated with significant physical disability and psychosocial problems. The prevalence of chronic pain problems among community-dwelling older adults ranges from 58–70 percent. The most common painful conditions among older adults are musculoskeletal conditions such as osteoarthritis, low back pain and previous fracture sites. Other causes include post-herpetic neuralgia and cancer. Chronic pain often results in depressive and anxious symptoms, poor sleep, less mobility and more social isolation. Despite its high prevalence, pain in the elderly often is inadequately assessed and treated. Given the projected growth of the older population in the U.S., there is an urgent need for interventions that are effective in decreasing pain, suffering, and pain-related disability in elders.

Managing pain in the elderly is difficult because the pharmacology of aging leads to an increase in adverse effects of medications. Older adults also are more likely than younger adults to be on several medications, leading to more opportunities for adverse drug interactions when pain medications are added.

Older adults on four or more medications are more likely to experience falls and confusion.

A multidisciplinary approach is preferred to managing pain in older adults, and early intervention is a priority. For example, in patients with shingles, nerve blocks are most effective when used in combination with anti-viral medications during the initial outbreak. An integrative approach to pain may include traditional analgesics, nerve blocks, epidural injections, spinal cord stimulation, physical therapy, counseling, and/or complementary medicine such as acupuncture.

Cleveland Clinic has pain management specialists on the main campus, and in several regional hospitals and family health centers. The team includes anesthesiologists, rehabilitation medicine specialists, nurses, physical therapists, psychologists, social workers, and alternative medicine specialists such as acupuncturists and massotherapists.

Dr. Dews is an anesthesiologist in Cleveland Clinic’s Anesthesiology Institute, and is the Medical Director of the Pain Management Program at Hillcrest Hospital.