Care of the Senior Athlete

Older athletes want to remain vital and competitive

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Dear Colleagues:

It is my great pleasure in each issue of Geriatric Times to highlight the Cleveland Clinic specialties that help us improve the care of our oldest patients.

Deciding where to send patients who need comprehensive geriatric care can be difficult. In the Center for Geriatric Medicine, our goal is to improve care for the oldest and frailest members of society by serving as a central resource for geriatric and gerontological clinical, educational and research activity.

We advise, educate and assist physicians, nurses, therapists, social workers, other clinical providers and caregivers across our system of eight hospitals and 16 family health centers. We coordinate programs and are contributing to the Cleveland Clinic care paths being developed for delirium and other age-related conditions.

In this issue, we highlight the efforts of Cleveland Clinic orthopaedic specialists to keep older patients as active as possible:

- **The mature athlete.** Dr. Alfred Cianflocco, who was involved in the 2013 National Senior Games held in Cleveland in July, discusses the physiologic changes associated with aging, and the care and follow-up that mature athletes require.

- **Anterior approach to total hip replacement.** Drs. Carlos Higuera-Rueda and Pratik Desai explain which older patients may benefit from anterior total hip arthroplasty, which offers a shorter hospital stay and early functional recovery.

- **Reverse shoulder surgery.** Drs. Joseph Iannotti and Eric Ricchetti review reverse shoulder surgery, which allows many frail elders to resume their upper-body activities of daily living.

We also address two other important issues affecting many elderly patients:

- **Sleep apnea.** Dr. Harneet Walia discusses how diagnosing and treating sleep apnea in older adults can avert adverse long-term health consequences.

- **Self-care in patients with dementia.** Licensed social worker Rosemary Truchanowicz describes warning signs that physicians should recognize in patients with dementia and caregivers.

These articles represent a small sample of the work we do every day to help make a real difference in the quality of our patients’ lives.

We look forward to continuing our partnership with you. Please don’t hesitate to contact me at 216.444.6801 or rapporb@ccf.org with any questions, concerns or suggestions on how we might improve future services to you and your patients.

Kind regards,

Barbara Messinger-Rapport, MD, PhD, FACP, CMD

Director, Center for Geriatric Medicine
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O
lde
rs tend to be less active as a group, but many remain or choose to become active. The increasing popularity of
the National Senior Games shows that the number competing individually and on teams is rising. These highly motivated
athletes require guidance on training, injury prevention and care, and performance.

The effects of aging on the musculoskeletal, cardiovascular, pulmonary, hematologic, neurologic and
metabolic systems can all impact the ability to exercise. Musculoskeletal changes alone decrease muscle mass,
bone mass and tensile strength in ligaments and tendons; stiffen muscles, tendons and ligaments; and weaken
articular cartilage.

Yet aging alone does not account for all these changes; a
decline in physical activity is also responsible. Many age-
related changes faced by senior athletes can be limited,
reversed or prevented, allowing them to continue to exercise.

Aging, physiologic changes and exercise
The slow, progressive decline in athletic performance
with aging accelerates after age 60. Contributing factors
include:

• Increasingly prevalent medical conditions
• Musculoskeletal conditions and injuries
• Longer recovery from training sessions
• Hormonal changes influencing exercise response
• Changes in motivation
• Lack of time for, and suboptimal, training

Risk of musculoskeletal injury
Orthopaedic injury risks increase among senior athletes
with previous joint injuries, underlying osteoarthritis, or
sensory impairment from altered proprioception, vestibular
function, vision or hearing.

Overuse injuries are more common due to a longer recov-
ery time and training errors. Age-related musculoskeletal
changes make lumbar disc disease, osteoarthritis and the
following injuries common:

• Muscle strains. These are the most common injuries
  seen with aging and tend to occur acutely, especially in
  strength and power sports. Increased muscle stiffness
  is the primary cause.

• Tendinopathy. The patellar tendon, rotator cuff and
  Achilles tendon are commonly affected sites. Age-
  related decreases in tendon flexibility and tensile
  strength, degenerative changes with repetitive loading,
  and decreases in blood supply are predisposing factors.

• Degenerative meniscal tears with osteoarthritis of the
  knee. These are often seen together. Meniscal tears can
  occur with minimal trauma in arthritic knees, contrib-
  uting to osteoarthritis progression.

Risk of temperature-related illness
Age-related physiologic changes make it harder to adapt to
temperature changes. During exercise, older athletes are
more prone to:

• Heat illness — from an increased risk of dehydration,
  decrease in sweat gland function, impaired increase in
  skin blood flow with elevated core temperatures, and
  effects of beta-blockers, diuretics or other medications.

• Cold injury — from an impaired perception of ambient
  temperature and vasoconstrictor response, autonomic
dysfunction, and a decreased capacity for thermogen-
  esis through shivering

Care of musculoskeletal injuries in older athletes
The initial management of musculoskeletal injuries —
protection, rest, ice, compression and elevation — is the
same for all ages. For both older and younger athletes,
delayed evaluation and treatment can produce injury chro-
nicity, complicated rehabilitation, delayed recovery and
unnecessary time lost from the activity.
Appropriate treatment for musculoskeletal sports-related injuries does not stress an aging body.

Studies consistently demonstrate delayed healing of musculoskeletal injuries in older adults. However, older adults can respond to active and progressive rehabilitation.

Relative rest and activity modification (avoiding total inactivity, which can lead to loss of flexibility, strength and bone mass, and cardiac deconditioning) are key.

Physical therapy — focusing on range of motion, flexibility, strength and proprioception, and alternative training methods — is essential for a safe, timely return to activity. (Fewer than 5 percent of musculoskeletal injuries require surgery at any age.)

**Medical evaluations**
Required before and after athletic participation, medical evaluations are based on age, underlying health problems and plans for activity. The major objectives are to identify:

1. **Underlying medical conditions** that may limit the ability to exercise or increase the risk of significant medical events with activity

2. **Musculoskeletal or other medical issues**, such as balance or vision problems, that could limit participation or increase injury risks

**Preventive measures**
Injury prevention may be more important for senior than for younger athletes, but prevention guidelines are similar.

Strength, flexibility and neurophysiologic capacities should be ensured prior to the activity. Activities that may aggravate an underlying condition, such as high-impact exercise in athletes with osteoarthritis of the spine or lower extremities, should be modified or avoided.

Surface conditions cannot be overlooked; soft surfaces can reduce impact on lower extremities, while uneven surfaces place senior athletes with balance problems at risk.

The basics of injury prevention apply to athletes of all ages and include:

- Proper warm-up with adequate cool-down after activity
- Avoidance of abrupt changes in frequency, duration and intensity of activity
- Allowance for adequate recovery time by alternating days of intense activity with less strenuous activity
- Adjusting for environmental conditions such as temperature and humidity

Age-related physiologic changes can impact nutritional and fluid requirements, and the ability to meet these needs. Proper nutrition and hydration are key to optimal performance for all athletes.

The bottom line: By applying many of the same training, injury management and prevention guidelines used for younger athletes to our senior athletes, we physicians can, with a few special considerations, help them continue to compete optimally and safely.

Dr. Cianflocco, of Cleveland Clinic’s Department of Orthopaedic Surgery, specializes in nonoperative orthopaedics, sports medicine, and neck and back problems. He may be reached at 216.692.7750 or at cianfla@ccf.org.
Men do not quit playing because they grow old. They grow old because they quit playing.”

Oliver Wendell Holmes wrote it. E. Michael Loovis, PhD, lives by it.

“People who understand that staying active is an important part of my life are less likely to say, ‘You’ve had a full life. Why not take some time and relax?’” says the 67-year-old health and physical education professor.

Dr. Loovis, a former high school and college athlete, physical education teacher and coach, has taught in the Department of Health and Human Performance at Cleveland State University for 35 years. He remains active with weight training, the elliptical and the treadmill, and takes yoga classes with his wife.

But his real passion is squash.

After arthroscopic knee surgery by Cleveland Clinic Sports Health surgeon James Williams, MD, several years ago, Dr. Loovis was itching to get back on the court. But osteoarthritis slowed his recovery, and jogging, running and climbing steps were painful.

When Dr. Williams recommended knee replacement, “I asked him what it would do to my squash game,” says Dr. Loovis. Learning he’d be permanently sidelined, Dr. Loovis declined surgery. However, he agreed to another suggestion from Dr. Williams: viscosupplement injections. Four years later, he still gets injections in both knees every six months and has avoided surgery.

Dr. Loovis credits his doctors for offering treatments that allow him to enjoy the game he loves. He plays squash three days a week and has no plans to slow down. “Hitting the winning shot in a match would be the perfect way to go,” he says.
Total hip arthroplasty is considered one of the most successful procedures of our modern surgical era. It improves quality of life, has an excellent success rate, relieves pain and restores mobility. We have found that using an anterior approach to total hip arthroplasty minimizes tissue damage and pain, and leads to a quicker recovery.

The majority of hip arthroplasty procedures have used a posterior approach. The direct anterior approach to hip arthroplasty, first described in 1917, was not used extensively until recently due to technical concerns and the experience required.

Minimally invasive: Minimal tissue damage

Minimally invasive surgery was introduced to orthopedics in the 1970s in the form of arthroscopy and later employed in open surgical procedures. Interest in minimally invasive approaches to total hip arthroplasty has resurfaced in recent years, with increased attention to the anterior approach.

Perhaps more important than the implied shorter incision length is reduced damage to muscle and tissues within the operative field. In theory, less muscle damage leads to less pain and a quicker recovery from surgery. This theory is corroborated in the outcomes table on page 7.

Using internervous or intermuscular planes is one way to decrease tissue damage, and the anterior approach to total hip arthroplasty follows this principle. The posterior approach can be minimally invasive in terms of a smaller incision and reduced exposure, but it does not use an internervous or intermuscular plane.

In 2011, Bergin et al compared the results of the minimally invasive anterior approach and the posterior approach to total hip arthroplasty. In particular, they evaluated the rise of muscle damage markers and inflammatory markers. Levels of serum creatine kinase (an indicator of muscle damage) were 5.5 times lower than markers of inflammation (CRP, IL-6, IL-1, TNF-alpha) in the anterior approach group compared to the posterior approach group.

Better positioning with the anterior approach

Most traditional approaches to total hip arthroplasty employ the widely used lateral decubitus position with great success. However, this position makes access to the extremities — and therefore intravenous access — more challenging for anesthesia personnel.

In addition, airway access becomes more difficult. This poses challenges for pulmonary hygiene during the procedure and for conversion from spinal to general anesthesia, if needed.

Anterior total hip arthroplasty is performed in the more traditional supine position. This allows for easier patient suctioning/pulmonary hygiene and easier intravenous access. In addition, accurately assessing leg lengths is easier in the supine position.

Experience helps avoid complications

Anterior total hip arthroplasty is not appropriate for every patient, especially at the beginning of a surgeon’s learning curve. To prevent complications, the surgeon must carefully select patients for the procedure and must have ample experience with this exposure.

The anterior approach increases the risk of injury to the lateral femoral cutaneous nerve. The incidence of meralgia paresthetica has been 17 percent in some studies. In addition, femoral exposure can prove difficult; several series have demonstrated an approximately 2 percent risk of iatrogenic femoral fractures.

Careful examination of physical characteristics is key, as a large pannus in an obese patient may predispose to wound breakdown, hematoma or infection.

To avoid compromising the lateral femoral cutaneous nerve, we prefer a modified version of the anterior approach that uses a more lateral muscle interval, between...
the tensor fascia lata and the gluteus medius. This interval may improve hip joint exposure and can be extended should complications such as femur fractures occur.

**Easier recovery with anterior approach**

Many studies have documented a faster recovery with less pain after anterior total hip replacement. A recent 2013 study retrospectively comparing the anterior and posterior approaches found that mean hospital stay (2.9 vs. 4 days) and days to patient mobilization (2.4 vs. 3.2 days) were significantly shorter with the anterior approach.

The surgical literature has repeatedly demonstrated faster recovery with the anterior approach in the early weeks after surgery. At six and 12 weeks after anterior total hip arthroplasty, patients progress faster through more gait and rehabilitation parameters than with conventional hip approaches.

In addition, the use of assistive devices (crutches, canes, walkers) is significantly less in the short term with the anterior approach.

Because the learning curve is steep for minimally invasive anterior total hip arthroplasty, it is best to refer patients to surgeons who have performed a minimum of 40 procedures or who have spent six months in a high-volume hip arthroplasty center.

For references, please contact the authors.

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**Table: Total Hip Arthroplasty Outcomes**

<table>
<thead>
<tr>
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<th>Posterior approach (lateral decubitus position)</th>
<th>Anterior approach (supine position)</th>
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<tbody>
<tr>
<td>Risk of femoral fracture during surgery</td>
<td>1%-2%</td>
<td>2%-4%</td>
</tr>
<tr>
<td>Lateral cutaneous femoral nerve symptoms</td>
<td>&lt; 1%</td>
<td>2%-20%</td>
</tr>
<tr>
<td>Risk of dislocation in the first year</td>
<td>3-4%</td>
<td>&lt; 1%</td>
</tr>
<tr>
<td>Functional outcomes</td>
<td>Lower in the first 3 months; similar at 12 months</td>
<td>Higher up to 3 months after surgery</td>
</tr>
<tr>
<td>Mean hospital stay (days)</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Discharge to home vs. rehab facility</td>
<td>84%</td>
<td>97%</td>
</tr>
</tbody>
</table>
Reverse Total Shoulder Replacement
A useful alternative for older patients
By Joseph P. Iannotti MD, PhD, and Eric T. Ricchetti, MD

Many patients with shoulder pain have arthritis or rotator cuff tears. Some patients develop both severe arthritis and large rotator cuff tears. This combined pathology results in severe pain and marked loss of function — in particular, the inability to actively raise the arm overhead (Figure 1A).

Reverse total shoulder replacement is the best option for patients failing nonoperative management of severe arthritis and a large rotator cuff tear (Figure 1B). Specifically designed to address this clinical scenario, reverse total shoulder replacement is generally performed in patients who are in their mid- to late 60s or older.

Standard approach inadequate
In standard shoulder replacement for arthritis, the convex side of the joint (on the humerus) is replaced with a new metal ball, and the concave side of the joint (on the scapula) is resurfaced with a new plastic socket. This eliminates pain and improves function but relies on a well-functioning rotator cuff for optimal results and may work poorly in the presence of a large rotator cuff tear.

A change in position
In reverse replacement, the concave and convex surfaces of the shoulder joint are placed on the opposite sides of the normal shoulder. A metal hemisphere is placed on the socket, and a metal and plastic socket is used to replace the ball (Figure 2). Despite the large rotator cuff tear, the change in position improves shoulder function by replacing the joint and removing any arthritis.

The FDA-approved reverse prosthesis, introduced in the United States in 2004, has proved to be a reliable option for patients who previously had no surgical solution. More than 90 percent of patients experience significant improvement in both shoulder pain and function, including restoration of overhead arm function. Ten years after reverse replacement, implant survival is approximately 90 percent, which is comparable to the rate at 15 years after standard replacement (longer follow-up is not available).

Patient indications expand
Use of the reverse prosthesis is increasing, and its applications have broadened to include patients requiring shoulder replacement due to significant rotator cuff dysfunction for other reasons. These include:

- Failed or revision shoulder replacement
- Treatment of complex proximal humerus fractures requiring shoulder replacement

Failure of a prior shoulder replacement is often associated with rotator cuff deficiency, either from damage to the rotator cuff itself or because bone loss led to damage or destruction of the rotator cuff’s bony attachment sites (Figure 3). Acute or chronic proximal humerus fractures
may also be associated with rotator cuff deficiency if the fracture causes severe damage to the bony attachment sites.

In both situations, surgical treatment can be difficult, and standard shoulder replacement may not reliably improve pain and function. Reverse total shoulder replacement has shown promise in more reliably improving shoulder function in these challenging clinical scenarios.

**Speeding recovery**

Patients who undergo reverse total shoulder replacement are generally hospitalized for two to three days after surgery. Physical therapy stretching exercises are started the day after surgery, and patients are encouraged to use the operative hand and elbow at waist level for activities of daily living, including eating, bathing, dressing, typing, etc.

Most patients are discharged to home with a sling and are asked to discontinue its use within the first few days of surgery. Most patients are allowed to drive a car with an automatic transmission within two to three weeks of surgery.

**Rehabilitation at home**

Shoulder- and arm-stretching exercises are done by the patient each day at home after leaving the hospital. Patients progress to strengthening exercises for the shoulder and arm as early as six weeks after surgery, and most patients complete physical therapy within six months after surgery. Limits on lifting and pushing with the operative arm are kept in place for six months after surgery.
Adherence to postoperative restrictions and the rehabilitation protocol help to decrease the likelihood of adverse events. While reverse total shoulder replacement reliably improves pain and function, and implant longevity approaches that of standard shoulder replacement, surgical complications can occur.

**Potential adverse events**

Adverse events take place in about 10 percent of patients undergoing reverse total shoulder replacement. The most common are:

- Postoperative hematoma in up to 4 percent of patients
- Infection in 1 percent of patients
- Dislocation in 3 percent of patients
- Stress fracture of part of the scapula in 2 percent of patients
- Nerve injury in less than 1 percent of patients

When these events occur, results are not as favorable. Many patients require additional surgery to correct the problem, including potential revision or removal of the implant if necessary.

As the use of reverse total shoulder replacement in clinical practice increases, further knowledge about optimal implant placement and design will lead to improved clinical function, fewer complications and longer prosthesis survival.

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Dr. Iannotti (left), Chairman of the Orthopaedic & Rheumatologic Institute, can be reached at iannottj@ccf.org or 216.445.5151; Dr. Ricchetti (right), of the institute’s Hand and Upper Extremity Center, can be reached at ricchee@ccf.org or 216.445.6915.
Sleep apnea, a common sleep disorder in the elderly, should be treated to avoid adverse consequences. Of the two types — obstructive sleep apnea (OSA) and central sleep apnea (CSA) — OSA is more prevalent, affecting approximately 15 percent of all adults and up to 60 percent of older adults. CSA, while less common, becomes more prevalent with advancing age.

In OSA, decreased upper airway muscle tone during sleep causes repetitive, complete (apnea) or partial (hypopnea) upper airway closure despite continued thoracoabdominal effort. Episodes lead to interrupted, poor-quality sleep and oxygen desaturation. Older men and women are equally susceptible; at younger ages, men are more susceptible.

In CSA, decreased airflow and ventilatory effort in the absence of upper airway collapse can lead to sleep disruption. Related either to hyperventilation or hypoventilation, CSA is more common among older men than women.

Sleep apnea severity is defined using the apnea-hypopnea index (AHI), or average number of apneas and hypopneas per hour of sleep. An AHI of 5–15 indicates mild sleep apnea, an AHI of 15–30 indicates moderate sleep apnea, and an AHI ≥ 30 indicates severe sleep apnea.

Risk factors for OSA in the elderly include:
- Increased weight
- Reduced lung function
- Impaired ventilatory control
- Increased upper airway collapsibility
- Changes in sleep architecture (e.g., reduction in slow-wave sleep, considered protective for OSA)
- Decreased hormone levels in older women, which appear to contribute to increased airway collapsibility

OSA in the elderly is also associated with use of sedating medications or alcohol, family history, ethnicity and smoking. Sedatives and narcotics can decrease the respiratory drive, worsen upper airway collapsibility during sleep and increase apnea severity.

CSA can be primary or secondary to neurological disorders such as stroke, or to heart failure (Cheyne-Stokes respiration), opioid use or high-altitude breathing.

Clinical manifestations

The main symptoms of OSA at younger ages are snoring, witnessed apneas, choking or gasping for air, excessive daytime sleepiness and disrupted sleep. In addition to these, symptoms related to OSA at older ages may include nocturia, cognitive impairment and repeated falls.

These symptoms can significantly affect daytime functioning but are usually attributed to normal aging and may not be brought to the clinician's attention.

CSA can cause excessive daytime sleepiness. Secondary CSA usually produces symptoms related to the comorbidity. For example, patients with Cheyne-Stokes respiration have signs and symptoms associated with heart failure.

OSA and its consequences

OSA severity is positively related to cardiovascular disease development and to the severity of dementia. One theory explaining the association with cognitive decline in the elderly is that OSA accelerates the brain's aging process.

Hypoxemia, sleep fragmentation, endothelial dysfunction, increased transmural pressure, sympathetic activity, inflammatory markers and oxidative stress appear to be the mechanisms involved in the cardiovascular consequences of OSA. Some of these mechanisms may stimulate the natriuretic hormones, causing nocturia.

OSA can impair attention, concentration and recall functioning and cause memory decline. Severe OSA (AHI ≥ 30 events/hour) can cause deficits in recall functioning, executive functioning, and planned and sequential thinking.
Sleep Apnea in Older Adults continued

Sleep apnea can also be associated with depression-like symptoms. Moderate-to-severe OSA and excessive daytime sleepiness are risk factors for mortality in older adults.

Sleep apnea assessment
Assessment should include a comprehensive sleep history focusing on snoring, on symptoms of excessive daytime sleepiness (such as unintentional napping while reading, watching TV, conversing or driving) and on a history of irregular sleep-wake cycle or nocturia.

Obtaining a history from bed partners or caregivers is prudent. It is also important to consider other sleep disorders, such as restless legs syndrome, insomnia, circadian rhythm disorders and abnormal sleep behaviors. The medical history should include comorbidities, medication history, and personal history of alcohol and drug usage.

If the assessment suggests OSA, an overnight lab polysomnogram or home sleep testing can help confirm the diagnosis. (Home sleep testing is reserved for patients without significant comorbidities or other sleep disorders and who are younger than 65.) If the assessment suggests CSA, an in-lab polysomnogram is recommended.

Positive airway pressure therapy
Continuous positive airway pressure (CPAP) is the treatment of choice for moderate-to-severe OSA. Bi-level positive airway pressure (BiPAP) and automatic positive airway pressure devices may help those who cannot tolerate CPAP.

In CSA, bi-level positive airway pressure with backup rate (BiPAP S/T) and adaptive servo-ventilation (ASV) devices are helpful if CPAP has failed. However, the underlying cause must be treated — for example by optimizing heart function in patients with Cheyne-Stokes respiration or by discontinuing opioids in opioid-induced CSA.

CPAP works by holding the airway open using a pneumatic splint. This improves sleep architecture, daytime sleepiness, symptoms such as snoring and gasping for air, motor speed, nonverbal learning and memory.

There is evidence that CPAP improves vascular resistance, mitigating the effects of OSA-induced hypertension, and that it may reduce nocturia by allowing normal nocturnal release of antidiuretic hormone. Sustained long-term CPAP therapy may slow cognitive decline in Alzheimer disease. However, more definitive data is needed to understand the effects of treatment on cognitive decline.

Compliance and follow-up
Because CPAP compliance is similar at younger and older ages, age alone is not a factor. However, cognitive impairment, medical comorbidities, nocturia, lack of support and impaired dexterity may affect CPAP compliance at older ages. Behavioral interventions can be helpful.

Older adults on positive airway pressure devices require regular follow-up with their sleep physician or geriatrician to monitor progress and check on compliance.

Other options for OSA
Other OSA treatment options, including oral appliances and surgery, have not been well-studied in the elderly. Oral appliances are not always the best choice because adequate dentition is required to properly position them. Conservative treatments should be emphasize in this population and include weight loss, avoiding supine sleep, abstaining from alcohol and drugs such as benzodiazepines and opioids, and treating nasal congestion.

Dr. Walia, of the Cleveland Clinic Neurological Institute’s Sleep Disorders Center, can be reached at 216.636.5860 or walliah@ccf.org.
Changes in executive functioning that affect abstract reasoning, planning and judgment may occur so slowly that they are not appreciated by caregivers. Deficits may be minimized until they are of such severity that they endanger the patient.

**SOS for seniors**

To prevent adverse incidents, we recommend assessing three areas of function in the older patient with dementia: self-care, outlook on life and support network (SOS). Doing so will allow clinicians to:

- Identify deterioration in functioning or mood and potentially dangerous situations
- Make appropriate recommendations
- Suggest interventions

**Questioning caregivers**

It’s important to carefully question older patients with dementia and their caregivers about self-care. For example:

- **Appearance and hygiene.** Does the caregiver need to prompt the patient to shave, bathe or change clothes? Is there less attention to hygiene, are the same clothes worn daily, or have standards of dress and grooming slipped?
- **Aid required.** How much assistance, and what kind, does the caregiver provide? Does the older patient with dementia resist assistance, verbally abuse the caregiver or become agitated due to confusion? If so, the medication regimen should be re-evaluated and a home safety evaluation recommended to gather data to ameliorate the situation.

For example, bathing may be an exhausting routine for a caregiver and a frightening event for the patient. This is particularly true for older females, who tend to provide more personal care to spouses than do older males.

- **Risk of accidents.** Questioning should uncover risks that could lead to falls, motor vehicle accidents, suffocation or fire/burns and poisoning. These account for most unintentional deaths among older adults.
- **Medication compliance.** Ask older patients who are still administering their own medications to bring them to the next office visit to explain what each pill is and how it is taken. An older adult with vision problems once showed that he drew up the correct amount of insulin based on “how heavy it should feel” in the syringe.

Advise caregivers that older patients with dementia may need supervision or assistance with timely refills, requesting prescriptions, arranging medications in a weekly organizer or even daily administration. Although using medication patches sounds simple, changing them daily or weekly may require direct supervision. Creams may need to be applied for the patient.

Prescribing medications that require patients with dementia to sit up for 30 minutes and avoid food or other medications right away may be inappropriate.
• **Sleep aids/alcohol misuse.** All older adults can become inattentive and nervous after the death of a spouse or close friend. Some request sleep aids or medications for anxiety. Ask whether older patients with dementia have such a prescription from another physician or use pain medications prescribed for a deceased spouse. Continued use of such medications can mask underlying depression, or cause cognitive problems or falls.

It’s also important to clarify to what extent a depressed older patient is using alcohol. Alcohol intake, particularly at night, causes sleep disruption, and the patient may not share this habit with the physician. There may be a higher risk for suicide in older adults consuming alcohol as well.

**Potential interventions**

Evaluations of the home setting by occupational, physical and/or speech therapists and a social worker should be recommended routinely during various stages of dementia because the needs of patients and caregivers change. Evaluations can help with:

- **Bathing.** An occupational therapist ordered to evaluate the home setting may suggest that caregivers use soapless washes and bathing caps, warm up the bathroom with a heater prior to asking the patient to disrobe, or distract the patient with big band music to de-escalate a situation.

- **Eating.** Speech therapists may suggest changes in the consistency of food when dementia impairs swallowing ability.

- **Accident/fall prevention.** Occupational or physical therapists may suggest home modifications for safety.

- **Driving.** It’s important to ask if an older patient with dementia is driving. Caregivers may be concerned about the patient driving but may avoid confronting the issue. There may be collusion if the caregiver spouse is not a licensed driver. Even minor accidents signal a need for a driving assessment and the need to alert caregivers to arrange other transportation.

- **Physical safety.** Any patient with dementia who cannot reliably initiate a call to 911 or utilize a lifeline button should not be left alone by a caregiver. Patients who do not exhibit safety precautions when transferring weight or negotiating stairs also need 24/7 supervision.

**Understanding caregiver constraints**

A thorough understanding of who provides care for the older patient with dementia — and the type and frequency of care they provide — is critical. Many family caregivers vastly underestimate the care that older adults with dementia need, particularly if they live apart from the patient.

One-third to one-half of patients with dementia have no identifiable caregiver. When care is provided, more than 80 percent is provided by family caregivers. Spouses account for the majority of caregivers living with older adults with dementia, followed by adult children.

Fifteen percent of unpaid caregivers for those with Alzheimer disease and other dementias live more than two hours away, and 30 percent of caregivers also provide care for other dependents. Detection of potential problems may be compromised when one or more individuals provide care for an older patient with dementia.

Overwhelmed caregivers need guidance from physicians about what to monitor and what to report so that timely intervention can be implemented.

Ms. Truchanowicz, of Cleveland Clinic’s Ob/Gyn & Women’s Health Institute, can be reached at 216.445.8701 or at truchar@ccf.org.

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In Part 2 of this series on SOS, Ms. Truchanowicz will address outlook on life and support networks. Look for it in our next issue of *Geriatric Times.*
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- Mark Luciano, MD, PhD
- Richard Naugle, PhD
- Leo Pozuelo, MD
- Babak Tousi, MD
- Brinder Vij, MD

**Brain Tumor and Neuro-Oncology**
- Gene Barnett, MD
- Glen Stevens, DO, PhD

**Physical Medicine and Rehabilitation**
- Frederick Frost, MD
- Vernon Lin, MD, PhD

**Ob/Gyn & Women's Health Institute**
- Matthew Barber, MD
- Marie Fidela Paraio, MD
- Beri Ridgeway, MD

**Orthopaedic & Rheumatologic Institute**
- Abby Abelson, MD
- Wael Barsoum, MD
- Chad Deal, MD
- Elaine Husni, MD
- Bruce Long, MD

**Sydell and Arnold Miller Family Heart & Vascular Institute**
- Karen James, MD
- Michael Maier, DPM

**Taussig Cancer Institute**
- Mellar Davis, MD
- Mona Gupta, MD
- Terence Gutscell, MD
- Abdo Haddad, MD
- Susan LeGrand, MD
- Armida Parala-Metz, MD
- Dale Shepard, MD, PhD

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*All physicians in Regional Geriatrics have joint appointments in the Center for Geriatric Medicine.*
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