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Commentary
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Revisiting Medical Management of the Geriatric Patient

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We have peak organ function at 30 years of age, then we lose organ activity at about 1% every year. Therefore, treating an 80-year-old with diminished liver, kidney and other organ function as if they were a 30-year-old would not be reasonable. The importance of geriatric medicine is that the specialty focuses on caring for the unique health needs of older adults, benefiting individuals who are managing multiple chronic conditions or experiencing significant age-related complications that threaten their quality of daily life. The care is driven by patient goals and preferences, which can vary from preserving function to improving quality of life and prolonging years of life.

By 2050, 1 in 6 individuals throughout the world will be older than 65 years of age; therefore, keeping older adults healthy and productive will be important for our society to continue to progress and flourish.

Because of the unique health needs of each older patient, protocol-driven medicine is less effective in older adults. For instance, while hypertension is typically defined as a blood pressure greater than 140/90 mm Hg, and an A1c should be less than 7% in diabetic patients, these standards may not be suitable for everyone. Consider an 85-year-old woman who lives alone or cares for her ailing spouse. Should the blood pressure be lowered or tighter glucose control be attempted, which would increase the risk for orthostatic hypotension or symptomatic hypoglycemia? Is the risk of passing out or falling greater than the long-term cardiovascular risk for the above diseases if they are “less controlled”? Each older patient’s The needs and circumstances of older patients are unique and thus demand a more personalized approach to geriatric care.



The age to start seeing a geriatrician has traditionally been set at 65 years, coinciding with the typical age of retirement in the United States. However, younger individuals with severe chronic diseases and fragility could, and should, be considered for geriatric care.

The five focus areas of geriatric care, detailed below, are major chronic illnesses, mobility, presence or absence of mental illness, medications taken, and what matters to the patient.

1 Major Chronic Illnesses

Eighty percent of older adults have at least one chronic condition, and 77% have at least two. Common chronic illnesses in older adults are:

- heart: valve disease, coronary blockage and/or congestive heart failure
- lungs: chronic obstructive pulmonary disease, asthma, scarring with restrictive lung disease
- activity-limiting arthritis
- hypertension
- type 2 diabetes
- kidney disease/dialysis
- Parkinson's disease
- cognitive dysfunction/dementia
- other endocrine diseases, such as hypothyroidism
- cancer

2 Mobility

Mobility may be the most important function in, and assessment of, any older individual, allowing for independent living. The more mobile an individual is, the less dependent they are on others for achieving the required activities of daily living (ADL). Because mobility includes decreasing risk for falls and the likely hospitalizations that follow, assessing and improving mobility is vital for maintenance of independence and quality of life. Improved mobility also reduces healthcare utilization and costs.

Assessing Mobility

There are many mobility assessment scales, but they have similar metrics. One assessment tool, the Elderly Mobility Scale (EMS), is composed of:

- going from lying down to a sitting position;
- going from a sitting position to lying down;
- going from a sitting to standing position;
- time and assistance needed to go from sitting to standing;
- the ability to stand without support;
- balance while standing and walking; and
- functional reach (ability to reach for something while standing).

Scoring is as follows:

- Lying down to sitting without help: 2 points; with one person's help: 1 point; with the help of two or more people: 0 points.
- Sitting to lying down with no help: 2 points; with one person's help: 1 point; with the help of two or more people: 0 points.
- Sitting to standing independently within three seconds: 3 points; sitting to standing independently in longer than three seconds: 2 points; needs the help of one person: 1 point; needs the help of two or more people: 0 points.
- Standing without help and able to reach without help: 3 points; can stand but needs help to reach: 2 points; can stand with support to stay standing: 1 point; they can stand only with assistance: 0 points.
- Walking with no help: 3 points; can walk with the help of a frame, such as a walker: 2 points; can walk with aid but unstable: 1 point; requires another person to walk: 0 points.
- Can walk 6 meters in less than 15 seconds: 3 points; can walk 6 meters in 16 to 30 seconds: 2 points; can walk 6 meters in more than 30 seconds: 1 point; not able to walk 6 meters: 0 points.
- Can reach 20 cm: 4 points; can reach 10 to 20 cm: 2 points; reach under 10 cm: 0 points.

What do the scores mean?

- 14 to 20 points: Good mobility, therefore, work to maintain and improve overall fitness. The patient should be able to handle most ADL, with the help of diet, weight management, yoga and hobbies.
- 10 to 13 points: Borderline independent/can do some ADL. The patient requires physiotherapy.
- Less than 10 points: The patient needs help with most or all ADL. They need significant assistance, and an assisted living environment may be needed. Home care with a frequent or constant caregiver may be required.

Risk of Falling

The risk of falling is a major component of mobility assessment. Based on CDC data, 1 in 4, or 14 million, adults older than 65 report a fall each year. Thirty-seven percent of older adults report an injury severe enough to be significantly limiting for at least a day. Of note, the number of fall deaths in older adults has increased over the years (78/100,000 older adults in the United States in 2021). Fall risk increases with weakness and balance issues, medications (e.g., sedatives, blood pressure medications, diabetes medications), vitamin deficiencies, foot and leg pain, and environmental risks (e.g., throw rugs, uneven surfaces, clutter). Considering Wisconsin had one of the highest fall rates in 2021 and Florida one of the lowest, inclement weather could increase the likelihood of falls among older adults. Healthcare workers can prevent falls by assessing individual fall risk (motility and frailty assessment, asking about environmental risk factors, medication benefit vs. risk assessment, etc.).

Assessing Frailty

Furthermore, frailty, an important component of geriatric care, is best defined as a state of increased vulnerability across multiple health domains that leads to adverse health outcomes. Frailty is assessed based on physical, cognitive and nutritional factors:

- physical: ADL, mobility, falls, self-identified exhaustion and comorbidities;
- cognitive: delirium, dementia, depression, substance abuse and medications; and
- nutritional: unintentional weight loss and laboratory studies, such as albumin.

More than 60 frailty scales or indexes have been developed and studied to determine risk for morbidity in the older adult population. The above domains are relatively consistent across different frailty scales. One example of a frailty scale is the “Frailty Phenotype,” which looks at weakness, slow movement, low energy, weight loss and falls. Others like the “Accumulating Deficits” scale include depression, cognitive decline, physical decline, nutrition and social stressors. In addition to level of frailty, patients’ goals and preferences are taken into consideration (longevity vs. functionality) when determining care.

3 Presence or Absence of Mental Illness

Common mental illnesses in older adults include depression, cognitive impairment and delirium.

Depression

Depression diagnoses include:

- mild depression
- major depression (with or without psychosis)
- persistent depressive disorder
- bipolar disorder
- depression due to a medical condition
- substance-induced depression
- adjustment disorder with depression

Depression symptoms include:

- alteration in sleep
- loss of interest/apathy
- feelings of guilt/worthlessness
- fatigue
- inability to concentrate
- loss of appetite
- psychomotor agitation or retardation (common)
- suicidal thoughts
- cognitive impairment (depression must be ruled out in a dementia workup)



As for treatment, older adults are notoriously undertreated for fear of treatment side effects. Common treatment regimens include selective serotonin reuptake inhibitors (usual first-line therapy) and serotonin–norepinephrine reuptake inhibitors. If these classes of drugs are used, following up with lab work for hyponatremia due to syndrome of inappropriate antidiuretic hormone secretion and QT prolongation is important. Although associated with more anticholinergic effects, tricyclic antidepressants can be considered, as well as other antidepressants with different modes of action. In addition to medications, psychotherapy may be the best choice for mild depression, and electroconvulsive therapy can be considered especially for patients with psychosis.

Neurocognitive Disorders

Neurocognitive disorders encompass a range of conditions characterized by a decline in cognitive function and significantly affect behavior, language, memory and judgment in older adults. These disorders are induced by:

- Alzheimer's disease
- Frontotemporal, Lewy body, vascular dementia

- trauma
- substance abuse
- inherited disease (e.g., Huntington's disease)
- Parkinson's disease
- infection (e.g., HIV)
- major illness
- unknown/unspecified/multiple etiologies

Symptoms include:

- memory impairment
- language difficulties
- difficulty with orientation
- executive function difficulties
- neuropsychiatric abnormalities (depression)

Behavior disturbances can be the first sign of dementia. The presence of neuropsychiatric symptoms leads to greater impairment and faster decline. More than 50% of dementia patients have neuropsychiatric symptoms.

Delirium

Delirium is much more common in older adults compared with younger individuals, and symptoms lasting weeks to months include rapidly developing cognitive impairment, confusion, disorientation, hallucinations, sleep/wake disturbance and depression. Delirium could be induced by medications or substance withdrawal, or secondary to medical illness. According to one study (*J Am Geriatr Soc* 2011;59:359-365), 20% to 79% of hospitalized older patients experience delirium during their stay. These patients are more likely to have prolonged hospital stays and have a higher overall mortality rate.

Common causes of delirium in hospitalized patients include:

- infection
- withdrawal
- metabolic (electrolytes, glucose, etc.)
- trauma
- brain pathology
- hypoxia
- acute vascular abnormalities (e.g., stroke)
- arrhythmias
- toxins/heavy metals

Delirium originates from the reticular activating system (RAS), a collection of neurons in the medulla, pons and thalamus important for the sleep–wake cycle and involved with directing our attention. The RAS atrophies as we

age, which may be why we become more prone to delirium as we get older. Altered levels of neurotransmitters in the RAS, especially a decrease in acetylcholine, can lead to delirium.

Treatment modalities for neurocognitive disorders require ruling out or treating physical causes (e.g., thyroid disease, sleep apnea, etc.). Pharmacologic therapy may include antipsychotics, which provide some efficacy but most are not FDA approved in this patient population because they are associated with a higher rate of mortality; antidepressants, for which there is conflicting evidence of symptom improvement; benzodiazepines, which are only for emergency agitation use; and cholinesterase inhibitors, which increase available acetylcholine.

4 Medications Taken

Polypharmacy is the use of multiple drugs to treat a disease or multiple diseases. Common diseases in older adults leading to polypharmacy are hypertension, heart failure, high cholesterol, diabetes, arthritis or other pain syndromes, and dementia. Polypharmacy is much more common in older adults, with studies showing that many older patients are on five or more prescription drugs. However, this is concerning because taking more than five medications leads to at least a 25% risk for adverse drug reactions. One common adverse drug reaction is a change in cognition mimicking dementia. A geriatrician will frequently evaluate a patient's drug list for redundancies and potential negative interactions. Over-the-counter medications such as "pain medications," "antacids" and "vitamins" are included since they also can interact with prescription drugs. To reduce the risk for adverse drug reactions, geriatricians will commonly "de-prescribe" medications as we age.

To identify potential harmful drugs and drug interactions in older adults, the American Geriatrics Society developed the Beers Criteria for medications in older adults.

The categories of drugs include:

- medications considered to be potentially inappropriate, excluding hospice care (e.g., aspirin);
- medications considered to be potentially inappropriate in patients with certain diseases, excluding hospice care (e.g., opioids);
- medications to be used with caution (e.g., sodium-glucose cotransporter-2 inhibitors);
- potentially inappropriate drug–drug interactions (e.g., angiotensin II receptor blockers and lithium); and
- medications requiring dosage readjustments based on renal function (e.g., rivaroxaban).

What questions would a geriatrician ask patients and caregivers about medications?

- Do the drug and diagnosis match?
- Is this a high-risk medication?
- Are there duplicate medications on the list?
- Are there potential drug–drug interactions with the meds on the list?
- Are there drug–disease interactions?
- Are there any over-the-counter drugs that should be removed?
- Are there any drugs that need frequent laboratory monitoring?
- Is there a problem with drug adherence?
- Is the drug truly needed?

- Can I simplify the regimen?

5️⃣ What Matters to the Patient

Aligning medical decisions and care with a patient's goals is an important part of geriatric care. The "what matters" conversation could and should occur yearly, after major life events, changes in health status and whenever the patient wants. Because older patients have a higher rate of healthcare-related complications, delay in care and dis-coordination of care, patient wishes must be coordinated with and consistent among all care teams (geriatrician, specialists, surgeons). Caregivers must be involved as cognition changes. Cultural and religious beliefs also must be considered and even emphasized.



Common "what matters" questions a geriatrician may ask:

- What is important to you today?
- What makes you happy?
- What makes life worth living?
- What do you worry about?
- What are some goals you hope to achieve in the next six months or before your next birthday?
- What would make tomorrow a really great day for you?
- What else would you like us to know about you?
- How do you learn best (listening, reading, watching videos)?

A Quick Introduction Into Palliative Care

The World Health Organization describes the field of palliative care as a form of specialized medical care that aims to optimize the quality of life and alleviate the suffering of patients with serious illnesses. Through palliative care, the focus is placed on ensuring the patient is best equipped to continue enjoying their life to the fullest

while remaining as independent as possible. Palliative care can include managing symptoms, including pain, nausea and shortness of breath, and providing support to overcome or control these symptoms. Palliative care can occur along with curative and life-extending care. Hospice care, on the other hand, is a specific form of palliative care designed for individuals with a life-limiting illness who are no longer pursuing curative treatment.

Procedures/Anesthesia in the Geriatric Population

Studies show that nearly 40% of all surgeries are done on individuals older than 65, a group that represents only 16% of the population.

Nearly 1 in 7, or 13.4%, of older adults die within a year after major surgery, defined as any procedure in an OR requiring the use of general anesthesia for a non-percutaneous non-endoscopic invasive operation (*JAMA Surg* 2022;157[12]:e225155). Of the patients in the study, more than 1 in 4 categorized as frail, and nearly 1 in 3 categorized as having dementia died during or after major surgery.

Thus, the question we should be asking is whether surgery would benefit an older patient based on health and "what matters" to the individual. Because surgical interventions requiring anesthesia often bring unnecessary stress to older adults, some physicians recommend against aggressive or hospital-level care for frail older patients, emphasizing the importance of weighing the patient's goals and potential harms (*Am Fam Physician* 2021;103[4]:219-226).

Because surgeons and anesthesiologists often struggle with looking beyond the acute problem and incorporating "what matters" into the conversation, input from geriatricians and palliative care specialists, including an assessment of frailty, should be part of preoperative evaluations. These evaluations can elucidate common perioperative complications in older adults, including neurologic, with delirium being most frequent; pulmonary, including ventilator support; and cardiac, including myocardial infarction (*Anesthesiol Clin* 2011;29[1]:83-97). All such complications prolong hospital stay and reduce the chance for discharge to home.

Furthermore, experience has demonstrated that if patients and caregivers are not given nonoperative or conservative options, many assume that none exist, or they may be doing "the wrong thing" by considering a nonsurgical care path. We must educate our anesthesia and surgical colleagues to include frailty, patient wishes and nonsurgical care options into their thoughts, discussions and perioperative plans when caring for geriatric patients.

Summary

A common saying is that a child is not a small adult. Another one should be that an older person is not just an adult with graying hair. In Greek mythology, Oedipus realized this when answering the sphinx's riddle: "What walks on four legs in the morning, two legs at noon, and three legs in the evening?" Oedipus correctly answered "man," recognizing that the riddle describes the changing stages of human life. Maybe we as physicians should realize it, too, and better incorporate these five focus areas of geriatric care into our practice of medicine.

Editor's note: The views expressed in this commentary belong to the author and do not necessarily reflect those of the publication.