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Editorial

Rapid Geriatric Assessment: A Tool for Primary Care Physicians

John E. Morley MB, BCh^{a,*}, Milta O. Little DO, CMD^b, Marla Berg-Weger PhD^b^aDivisions of Geriatric Medicine and Endocrinology, Saint Louis University School of Medicine, St. Louis, MO^bDivision of Geriatric Medicine, Saint Louis University School of Medicine, St. Louis, MO

In 2015 8.5% (7.2 million) of the world's population was over 65 years of age (www.census.gov+library+demo). By 2050, this percentage will double. At present, the world's oldest country, Japan, has 26.6% of its population over 65 years of age and the United States 14.9%. By 2050, older adults in Japan will comprise 39% of the population and in the United States, 21% of the population will be 65 years or older. Currently, worldwide the dependency ratio in the world for older people to working age (20 to 64) younger people is 15 per 100, and it is expected to rise to 33 by 2050. By 2050, the life expectancy in Japan and Singapore will have risen from 84.7 to 91.6 years. Worldwide, the oldest old—people 80 years and older—will triple by 2050. These statistics need to be considered with the recognition that over the age of 70 years, older persons undergo a rapid decline in physical and mental function. Overall, this “aging tsunami” will place an increasing burden on the health and social care systems throughout the world.

Steps to prevent deterioration in health are more effective and cheaper than trying to cure functional deterioration after it occurs. The profession recognizes that a focus on geriatric syndromes often produces better outcomes for the individual rather than trying to address each of the components of the “multimorbidity of aging” separately. Geriatricians are the “superspecialists” who, around the world, have been tasked with focusing on geriatrics syndromes.¹ In general, primary care clinicians have been trained to focus on each disease separately and to ignore the development of geriatric syndromes, often with disastrous consequences. Unfortunately, the number of geriatricians around the world is very small, and their numbers are either stagnating or growing very slowly. With the “aging tsunami” upon us, this requires a rapid re-education of healthcare providers to enable them to focus on the management of geriatric syndromes.

The core of geriatric care has been the geriatric assessment, an inter-professional assessment of the older individual that can take 90 minutes or more to complete. Key elements are the assessment of medical status, functional capabilities, cognitive status, and psychosocial structure and support. The geriatric assessment has been proven to reduce disability, hospitalization, and institutionalization and improve quality of life.^{2,3} On

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* Address correspondence to John E. Morley MB, BCh, Division of Geriatric Medicine, Saint Louis University School of Medicine, 1402 S. Grand Blvd, M238, St. Louis, MO 63104.

E-mail address: morley@slu.edu (J.E. Morley).

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the whole, it has tended to focus on persons with early signs of disability as there have been insufficient geriatricians to focus on predisability—“frailty.” Recent research has suggested that a focus on frailty and the common syndromes causing it, and a similar focus on early cognitive impairment (cognitive frailty) has the potential to markedly reduce future morbidity.^{4,5}

Originally, the instruments used to screen for these geriatric syndromes were cumbersome and took much longer to do than the time available for an average primary care visit.^{6,7} To overcome this, a number of shorter screening tests have been developed for health professionals to use in older persons. These include the Kihon index in Japan,⁸ the EasyCare screen in England and Holland,⁹ the Gerontopole screen in Toulouse,¹⁰ and the Medicare Annual Wellness visit in the United States.¹¹ Recently, Saint Louis University has developed the Rapid Geriatric Assessment (RGA) screen.¹² The RGA is based on very brief questionnaires that have each been validated in 3 or more continents. The RGA screens for frailty, sarcopenia, anorexia of aging, and cognitive impairment. In addition, there is a single question concerning completion of an advance directive. The RGA takes from 5 to 10 minutes to administer, and we have shown that it can be done by a variety of healthcare professionals. In Missouri, it has been successfully used in over 3500 persons either as a case finding or screening tool. A computerized algorithm used to guide the management of these syndromes is under development and is being tested. This editorial will examine the validity for each of the components of the RGA.

RGA

Frailty

Persons who are frail are at heightened risk of developing disability when they are exposed to illness or psychological stressors.¹³ Three types of frailty are recognized: The physical frailty phenotype of Fried,¹⁴ multimorbidity,¹⁵ and psychosocial frailty.¹⁶ Frailty is most useful when it is limited to persons who do not have any deficits in the Katz basic activities of daily living (cannot walk or transfer, toilet, wash, dress, or feed themselves).

The RGA uses the FRAIL scale to identify frailty:

F = Are you fatigued?

R = Resistance: Are you unable to climb a flight of stairs?

A = Aerobic: Are you unable to walk a block?

I = Do you have more than 5 illnesses?

L = Have you lost more than 5% weight in 6 months?

1 or 2 positive answers = prefrail; 3+ positive answers = frail.

Table 1
SARC-F Screen for Sarcopenia

Component	Question	Scoring*
Strength	How much difficulty do you have in lifting and carrying 10 pounds?	None = 0 Some = 1 A lot or unable = 2
Assistance in walking	How much difficulty do you have walking across a room?	None = 0 Some = 1 A lot, use aids, or unable = 2
Rise from a chair	How much difficulty do you have transferring from a chair or bed?	None = 0 Some = 1 A lot or unable Without help = 2
Climb stairs	How much difficulty do you have climbing a flight of ten stairs?	None = 0 Some = 1 A lot or unable = 2
Falls	How many times have you fallen in the last year?	None = 0 1-3 falls = 1 4 or more falls = 2

*SARC-F scale scores range from 0–10 (ie, 0–2 points for each item; 0 = best to 10 = worst) and represent no sarcopenia (0–3) and sarcopenia (4–10).

The validity of this scale has been shown in Australia,^{17–19} the United States,^{20–22} Hong Kong,^{23,24} Europe,^{25,26} Mexico,^{27,28} China,²⁹ Turkey,³⁰ and Korea.³¹ It is highly predictive of developing disability, falls, hospitalization, institutionalization, and death.

Management of persons who are FRAIL positive can be determined by the answer to the 5 questions. If the person is fatigued, then sleep apnea, depression, hypothyroidism, B₁₂ deficiency, anemia, and hypotension (both basal and orthostatic and postprandial) should be considered. A thorough medication review to identify a pharmacologic cause of fatigue should also be performed. Positive responses to the resistance and aerobic questions suggest sarcopenia and can be treated as outlined in the next section on sarcopenia. The disastrous impact of polypharmacy is likely in persons with more than 5 illnesses.^{32–34} In particular, anticholinergic burden, drug-drug interactions, drugs altering muscle power, drug-induced hyponatremia, overtreatment of blood pressure, and dehydration should be considered. In persons who have lost over 5% of their weight, the healthcare provider should look for reversible causes of weight loss as outlined in the third section. Consideration of using protein enriched foods or a caloric supplement is also sensible.

A number of studies have successfully used multifactorial approaches (exercise, nutrition, and cognitive support) to successfully reduce frailty burden.^{35–38} At present, there is sufficient data to support an aggressive approach to trying to reverse frailty and limit future disability.

Sarcopenia

Sarcopenia is a low level of muscle function in the presence of loss of muscle mass.³⁹ Similarly to frailty, sarcopenia in the absence of functional limitations is considered a predisabled state and is best assessed and treated in those who are functionally independent. Although there is certainly overlap between frailty and sarcopenia, studies have determined that these are 2 separate clinical entities, both which can lead to poor functional outcomes. Between 60% and 70% of frail persons are sarcopenic and, similarly, 30% of persons with sarcopenia are not frail. For this reason, it is important to look for both frailty and sarcopenia when assessing an older adult. Like frailty, sarcopenia is a causative factor in disability, hospitalization, falls, and death.⁴⁰ The SARC-F Screen for Sarcopenia is presented in Table 1.

Management of sarcopenia consists of resistance and aerobic exercise which, ideally, should be continued for a year or more.^{41–45} Adjunctive therapy for sarcopenia should consist of a high protein intake of 1.0 to 1.2 g/kg/day.^{46,47} This can be reached by giving a

protein supplement enriched in leucine or hydroxymethyl butyrate (a metabolite of leucine).^{48,49} Both leucine and hydroxymethyl butyrate increase protein synthesis by activating the mTOR (the mammalian mechanistic target of rapamycin) pathway within cells.⁵⁰

Individuals with sarcopenia who are falling should be referred to a physical therapist for a full gait and balance assessment. This can be done with the Tinetti gait and balance assessment,⁵¹ the Short Physical Performance Battery,⁵² the Berg balance test⁵³ or the Toulouse-St. Louis Falls assessment.⁵⁴ In persons who are falling, the focus should be on balance as well as resistance exercises. Approximately one-third of persons who fall have unrecognized syncope; thus, special attention should be paid to the possibility that they have postural hypotension⁵⁵ or postprandial hypotension.⁵⁶ In recurrent fallers, it may be prudent to insert a loop recorder to detect arrhythmias.⁵⁷

Motoric cognitive risk syndrome occurs in persons with Mild Cognitive Impairment who have a slow walking speed and memory

Table 2
Simplified Nutritional Appetite Questionnaire

- My appetite is
 - very poor
 - poor
 - average
 - good
 - very good
- When I eat
 - I feel full after eating only a few mouthfuls
 - I feel full after eating about a third of a meal
 - I feel full after eating over half a meal
 - I feel full after eating most of the meal
 - I hardly ever feel full
- Food tastes
 - very bad
 - bad
 - average
 - good
 - very good
- Normally I eat
 - less than 1 meal a day
 - 1 meal a day
 - 2 meals a day
 - 3 meals a day
 - more than 3 meals a day

Instructions: Complete the questionnaire by circling the correct answers and then tally the results based on the following numerical scale: A = 1, B = 2, C = 3, D = 4, E = 5.

Scoring: If the mini-Simplified Nutrition Assessment Questionnaire is less than 15, there is a significant risk of weight loss.

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