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EDITORIAL

GERIATRICS: HIGHLIGHTS OF THE LAST 50 YEARS

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"History is the high point of advantage from which alone men can see the age in which they are living."
G.K. Chesterton

In my previous history of geriatrics article, the roles of George Edward Day, Nascher and Marjory Warren were highlighted (1). This review represents a personalized glimpse at the factors that have been important to me in my lifetime as a geriatrician.

My view of geriatrics has been driven by three major theories. The first was that of Fries, who stated that our desire in old age medicine should be to compress mortality rather than increase lifespan (2). Secondly was the thought focused on persons who did extraordinarily well into old age, i.e. successful aging. I saw this as a tome in support of the persons with great genes and perhaps good lifestyles (3)! The third was the viewpoint we developed at Saint Louis University where we felt that the focus of geriatrics should be on "Aging Successfully (4)." This approach assumed that the majority of persons would develop a variety of ailments as they aged and the role of the geriatrician and the older adult was to not allow these occurrences to impede their function or their quality of life. In short to make the best of their lot!

The major feature of the last 50 years was the recognition of geriatric syndromes. This was pioneered by Bernard Isaacs from Birmingham who suggested that the geriatric giants were instability, immobility, intellectual impairment and incontinence (5). In modern times the John A. Hartford Foundation have suggested that geriatrics should concentrate on the 4 Ms: What MATTERS to the patient, MOBILITY, MENTATION and MEDICATION problems (6). The World Health Organization has suggested the ICOPE approach to geriatrics (Table 1) (7). At Saint Louis University we have suggested a focus on the modern geriatric giants viz. Frailty, Sarcopenia, Anorexia of Aging and Impaired Cognition (8). To allow rapid screening by primary care health professionals for these "giants" we developed the Rapid Geriatric Assessment (Figure 1) (9).

The backbone of geriatrics has become the development of screening tests. The first of these were the functional screens, i.e., The Katz Activities of Daily Living (ADLs)(10), Lawton's Instrumental Activities of Living (IADLs)(11) and the Barthel Index (12). These were the basis of the comprehensive geriatric evaluation and management unit (GEMU) developed by Lawrence Rubenstein and his colleagues at the Sepulveda VAMC in Los Angeles (13) a meta-analysis has shown that this approach improves function and decreases mortality in older persons with disability (14). The development of Acute Care for Elderly (ACE) units represented the recognition that there was a need for a more sophisticated approach to older persons in hospital (15,16). This led to the recognition of the problems associated with polypharmacy in the elderly (17), and the development of the Beers' criteria for deprescribing (18) and the "STOPP and START" approach to medication use (19).

Table 1
ICOPE: Integrated Care for Older Persons Guidelines

Improve Musculoskeletal function, mobility and vitality
Maintain sensory capacity
Prevent severe cognitive impairment and promote psychological well-being
Manage age-associated conditions such as urinary incontinence
Prevent falls
Support caregivers

Linda Fried et al (20) developed and validated criteria to diagnose physical frailty in older persons. This approach was countered by Ken Rockwood (developing a frailty index – really a co-morbidity index (21). Both of these approaches recognize persons at risk for poor outcomes, but do not provide a clear treatment approach. The rapid FRAIL screen has been coupled with a treatment algorithm which allows it to be a useful tool for practicing physicians (22-24). In Australia the aged care minister has suggested this should be used in all older persons as a "a canary in the coal mine" approach to recognize conditions in which early treatment may reduce disability (25).

The term sarcopenia (sarx = flesh; penia = loss of) was first recognized by Irv Rosenberg (26). Richard Baumgartner validated the role of loss of muscle mass in producing poor outcomes in older persons (27). He also suggested that persons who were obese and lost muscle (sarcopenic obesity) had worse outcomes (28). The European Working Group's definition of sarcopenia suggested that it should be redefined as loss of function (grip strength or walking speed) in the presence

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Figure 1
Rapid Geriatric Assessment

Saint Louis University
Rapid Geriatric Assessment*

SAINT LOUIS UNIVERSITY. EST. 1818

*There is no copyright on these screening tools and they may be incorporated into the Electronic Health Record without permission and at no cost.

ID#:_____Sex:_____Age:_____Primary Care Provider Y / N
Ethnicity (circle): African/Am Asian Caucasian Hispanic Non-Hispanic

The Simple "FRAIL" Questionnaire Screening Tool

Fatigue: Are you fatigued?
Resistance: Cannot walk up one flight of stairs?
Aerobic: Cannot walk one block?
Illnesses: Do you have more than 5 illnesses?
Loss of weight: Have you lost more than 5% of your weight in the last 6 months?

Scoring: 3 or greater = frailty; 1 or 2 = prefrail

From Morley JE, Vellas B, Abellan van Kan G, et al. J Am Med Dir Assoc 2013;14:392-397.

Total FRAIL Score: _____

SARC-F Screen for Sarcopenia (Loss of Muscle)

Component	Question
Strength	How much difficulty do you have in lifting and carrying 10 pounds?
Scoring: None = 0 Some = 1 A lot or unable = 2	
Assistance in Walking	How much difficulty do you have walking across a room?
Scoring: 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?
Scoring: 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?
Scoring: None = 0 Some = 1 A lot or unable = 2	
Falls	How many times have you fallen in the last year?
Scoring: None = 0 1-3 Falls = 1 4 or more falls = 2	

Total score of 4 or more indicates Sarcopenia

From Malmstrom TK, Morley JE. J Frailty and Aging 2013;2:55-6.

Total SARC-F Score: _____

SNAQ (Simplified Nutritional Assessment Questionnaire)

My appetite is
a. very poor
b. poor
c. average
d. good
e. very good

Food tastes
a. very bad
b. bad
c. average
d. good
e. very good

When I eat	**Normally I eat**
a. I feel full after eating only a few mouthfuls	a. Less than one meal a day
b. I feel full after eating about a third of a meal	b. One meal a day
c. I feel full after eating over half a meal	c. Two meals a day
d. I feel full after eating most of the meal	d. Three meals a day
e. I hardly ever feel full	e. More than three meals a day

Scoring: a=1, b=2, c=3, d=4, e=5.
A score ≤14 indicates significant risk of at least 5% weight loss within 6 months.

From Wilson et al. Am J Clin Nutr 2005;82:1074-81.

Total SNAQ Score: _____

Rapid Cognitive Screen (RCS)

1. **Please remember these five objects. I will ask you what they are later.**
   [Read each object to patient using approx. 1 second intervals.]
   Apple Pen Tie House Car
2. [Give patient pencil and the blank sheet with clock face.] **This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock**
   . [2 pts/hr markers ok; 2 pts/time correct]
3. **What were the five objects I asked you to remember?** [1 pt/ea]
4. **I'm going to tell you a story. Please listen carefully because afterwards, I'm going to ask you about it.**

Jill was a very successful stockbroker. She made a lot of money on the tock market. She then met Jack, a devastatingly handsome man. She married him and had three children. They lived in Chicago. She then topped work and stayed at home to bring up her children. When they were teenagers, she went back to work. She and Jack lived happily ever after.
What state did she live in? [1 pt]

SCORING

8-10…….	**Normal**
6-7…….	**Mild Cognitive Impairment**
0-5…….	**Dementia**

From Malmstrom TK, Voss VB, Cruz-Oliver DM et al J Nutr Health Aging 2015;19:741-744.

Total RCS Score: _____

Advance Directive
Do you have an advance directive? Y/N

Revised 8/15/2016

of muscle mass (29). Recent work by William Evans has suggested muscle mass should be measured by the 3H creatine dilution ischemic (30). SARC-F = Rapid, a rapid screen for sarcopenia has been recommended for use by a number of consensus panels (31-35).

The concept that high intensity strength training is important to improve function in older persons was first clearly shown by Maria Fiatarone-Singh et al. (36). Subsequently, numerous studies have highlighted the importance of exercise in older persons (37, 38). Recently, Mikel Izquierdo and his group demonstrated that high intensity exercise in hospitalized older adults resulted in better outcomes than routine care (physical therapy) (39). Leo Rodriguez Manas together with Izquierdo have developed the "Vivifrail" program for frailty older persons (40).

The concept of an anorexia of aging was first described by Cicero in "cute major de Senectude" where he commented that aging had made him more interested in good food! In 1988 my group resurrected the importance of the anorexia of aging as a physiological occurrence of aging and how it leads to weight loss in older persons (41, 42). Bruno Vellas, with Yves Guigoz, created the Mini Nutritional Assessment (MNA) which has become the centerpiece of the modern nutritional assessment of older persons (43-45). The Simplified Nutritional Appetite questionnaire (SNAQ) has become a validated instrument for the early diagnosis of anorexia in older persons (46) and the MEALS-ON-WHEELS mnemonic a simple way to identify the reversible causes of weight loss (47).

Falls are a major event in older persons (48). In 1986 Mary Tinetti produced her gait and balance assessment, which is the "gold standard" for evaluation of gait (49). Gait speed was shown by Stephanie Studenski to be a key marker for poor outcomes in older persons (50). Jack Guralnik produces the Short Physical Performance Battery (SPPB) as an objective measure of functional performance (51). The Toulouse-Saint Louis University Mini Falls Assessment is another useful assessment to determine the causes of falls (52).

Syncope is an important and often unrecognized cause of falls (53). It is often coupled with autonomic neuropathy leading to orthostasis (54). Autonomic neuropathy in older persons and those with diabetes is very common (55).

Obviously, the exciting developments in the osteoporotic field from the DEXA and FRAX screens for the diagnosis (56) and the development of bisphosphonates and other drugs is an important component of modern geriatrics (57). Improved outcomes for persons with hip fracture is closely associated with the development of orthogeriatric units (58).

Hopefully the readers of this article realize it is a very idiosyncratic viewpoint of the recent history of geriatrics. In a future editorial, I will look at the history of brain function (depression, anxiety, delirium and dementia) in the development of geriatrics. They, together with the events outlined here, are at the forefront of the development of future age friendly health systems (59).

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