

A New Lens to Look at Aging: Clinical Pearls that I Wish I Knew when I was a Medical Student

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The year 2011 marks the beginning of a momentous transition as the first cohort of the baby boomers turns 65 years old. While many people have spoken of the economic, social, and healthcare implications of the demographic imperative for quite some time now,¹ it is finally happening right in front of our eyes. I am delighted to learn that this issue of the *UBCMJ* is devoted to aging. Indeed, it is timely for us to rethink our approach to the aging phenomenon; rather than resorting to highly theoretical constructs and complex scientific arguments, I propose that we explore the fundamental aspects of this topic through the lens of a medical student, our most junior colleague in the medical field.

As a clinical professor in Geriatric Medicine, I encounter on a regular basis many young and enthusiastic medical students who rotate through our clinical service. I am always encouraged to see how they enjoy working with the older patient. At the same time, however, it is unfortunate to see how some of them struggle with the complexity of the older patient, whether due to the coexistence of multiple health conditions, the interplay of cognitive and physical deficits, or the impact of declining social determinants of health. It is not uncommon for students to feel lost and frustrated when they are forced to modify their usual clinical approach, which works well in a younger person but does not necessarily work well in an older person.² I, too, went through this stage when I was a medical student, and I must confess that I was not really turned on when I did my student rotation in Geriatrics. It was during residency and fellowship when my career interests took roots and blossomed. I have always thought that it would have been handy to know some clinical pearls about aging as a medical student, and hence I am writing this article.

Currently there is no single accepted theory of aging. The more popular biomedical theories involve immunologic modulation, accumulation of undesirable metabolites such as free radicals and other oxidative stressors, and programmed longevity at the level of cell division including telomere shortening.³ The psychological theories are often cited to explain changes in cognition, and the social theories of aging are far too complex to

delineate in detail here.³

We should also remember that the physiological age of an older person may not be equivalent to the chronological age. Different older people follow different aging trajectories, which are in part determined by their physiologic make-up and in part by environmental factors. There are many older people who remain highly functional without significant disease and many more who age with a few chronic diseases that do not necessarily affect their activities of daily living. Historically, the patterns of aging in these two groups of older people are described as successful aging and usual aging respectively,⁴ and together they account for the majority of people over the age of 65.

In healthcare, we are more likely to encounter older people who are laden with multiple chronic diseases such as coronary artery disease, congestive heart failure, diabetes mellitus, hypertension, arthritis, and chronic obstructive pulmonary disease to name just a few. Some of these older people may also have cognitive impairment such as dementia, and some have physical disabilities in carrying out their day-to-day activities. These older people are described as frail and are heavy users of healthcare services and resources.⁵ We must remember, however, that frail, older people represent a relatively small cohort in terms of absolute numbers. The physiologic basis of frailty is complex and beyond the scope of this discussion.⁶ It is definitely one of the hottest areas of scholarly inquiry in the field.

A good practical understanding of the physiology of aging is essential to provide proper clinical care to older people. I am referring to the importance of recognizing the various aging-related physiologic changes in the body's organ systems so that we can confidently distinguish aging changes from the pathologic changes of diseases. In the clinical setting, it is common to see aging changes mixed in with pathology. The corollary is that the goals of care should target on reversing what is potentially reversible rather than aging itself, which is not reversible based on the available scientific evidence, despite the numerous commercial claims from anti-aging products.

The concept of geriatric syndromes, also known as the geriatric giants, is worth some explanation. These health conditions are commonly seen in the older patient and represent a

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collection of symptoms and signs with a unique list of differential diagnoses.⁷ They include dementia, delirium, depression, drug related issues, falls and mobility problems, incontinence (urinary, fecal, or both), dizziness, and homeostatic disturbances. There is a huge body of scholarly literature available on each of the geriatric syndromes. Several of these syndromes may present in the same patient concurrently, and the situation can be made more complex by the co-existence of other chronic diseases.⁸

Older people are heterogeneous in terms of diseases they may present. For instance, although pneumonia is a common disease, the presenting complaint in the older patient can be very different, ranging from dyspnea to atypical chest pain to dizziness to falls to delirium. This illustrates another clinical pearl, that atypical presentation of common diseases is more common than typical presentations of uncommon diseases. This should be carefully considered when formulating a clinically relevant differential diagnosis, which in turn should be tailored to the older patient one person at a time.

The prerequisite of good clinical care in the older patient involves a thorough understanding of the interactions among complex medicine, cognition, physical function, and psychosocial support. The problem list in any clinical encounter often includes multiple items in these domains. I like to summarize the essence of Geriatric Medicine as the studying of three kinds of interactions (drug-drug interactions, drug-disease interactions, and disease-disease interactions) and the solving of problems arising from these interactions. This is commonly the source of frustration for the junior clinician; however, more practice with appropriate mentorship does make things easier.

Similarly, the therapeutic plan must be individualized. On one hand, the older patient has been shown to be more likely to benefit from proven effective therapies compared to the younger adult.⁹ On the other hand, we should be careful to avoid overtreatment as polypharmacy is prevalent in older patients and can have multiple detrimental effects.¹⁰ This explains why traditional, single-streamed clinical care maps or pathways do not work well for seniors, although recently there seems to be a resurgence of standardized order sets that reflects the heterogeneity of older patients. In addition, the application of evidence-based practice in the older patient can be challenging because many clinical studies do not have adequate older subject representation and definitely not of the frail elderly. In the right clinical context, nevertheless, it is reasonable to make extrapolations and inferences from the available evidence based on younger cohorts.

Last but not least, one of the most important clinical pearls about geriatric care is the philosophy of practice in a team setting. Geriatric care is the prototype for interprofessional collaboration.¹¹ This is true for a variety of geriatric services, such as comprehensive geriatric consultation, geriatric evaluation and management unit, acute care for elders unit, geriatric rehabilitation unit etc.

It is my sincere hope that my article will spark the interest of many young and motivated colleagues in healthcare to pursue a career dedicated to the care of older people. It can be an exciting and rewarding career. If I were given the opportunity to make my career decision all over again, I would gladly make the same choice of becoming a geriatrician. 

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