

Geriatric Syndromes

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Geriatric syndromes, refer to “multifactorial health conditions that occur when the accumulated effects of impairments in multiple systems render [an older] person vulnerable to situational changes. A geriatric syndrome usually involves multiple factors and multiple organ systems, and reporting of unique features of common health problems in older people.¹

5 common geriatric syndromes are : incontinence, falls, pressure ulcers, delirium and functional decline. They share Four major risk factors :age,cognitive impairment, functional impairment, impaired mobility.² Frailty is the common end product of these geriatric syndromes. Frailty is defined as impairment in mobility, balance, muscle strength, cognition, nutrition, endurance, and physical activity. It is characterized by multisystem dysregulations, leading to a loss of dynamic homeostasis, decreased physiologic reserve, and increased vulnerability for subsequent morbidity and mortality.³

Urinary incontinence(UI) is involuntary loss of urine that is objectively demonstrable and leads to a social or hygienic problem. It may be transient, or established. Factors like immobility, diabetes, stroke, impaired cognition contribute to the incontinence. Beside this, there may be estrogen depletion, weakening of pelvic muscles or medication, which increases the risk of urinary incontinence.⁴ UI causes sleep disorders, skin problems, limitations in physical activity, social isolation, and psychological problems.⁵ It also causes increased incidence of falls and fractures⁶

A fall is an unintentional event that results in the person coming to rest on the ground or another lower level. They are a main cause of morbidity and disability in the elderly. The most important predictors of falls are previous falls, decreased strength, gait/balance impairments, and use of psychoactive

medications. Falls have devastating sequelae, leading to physical, social, psychological and functional impairment.⁷

Delirium is an acute, fluctuating syndrome of altered attention, awareness, and cognition precipitated by an underlying condition or event in vulnerable persons. It has commonly been referred to by other names, including altered mental status, acute confusional state, sundowning, encephalopathy, and acute organic brain syndrome. Delirium shares risk factors with other geriatric syndromes, such as dementia, depression, malnutrition, pressure ulcers, elder abuse, urinary incontinence, chronic pain, and falls. Delirium and dementia commonly coexist, with dementia being a leading risk factor for delirium, i.e., increasing delirium risk by 2–5 fold on hospital admission. Accumulating evidence, lends strong support for the impact of delirium itself contributing to and/or being a mediator of permanent cognitive impairment. Psychoactive treatments may prolong the duration of delirium, prolong associated cognitive impairments, and worsen clinical outcomes. Thus, consideration of other approaches for treatment is critical, including nonpharmacologic strategies, cognitive rehabilitation, drug reduction or drug-sparing approaches.⁸

Pressure ulcers, also called decubitus ulcers, bedsores, or pressure sores, range in severity from reddening of the skin to severe, deep craters with exposed muscle or bone. They are areas of necrosis caused by compression between bony prominences and external surfaces. The most common sites for pressure ulcers are the sacrum, heels, ischial tuberosities, greater trochanters, and lateral malleoli.⁸ Risk factors for the development of pressure ulcers are either intrinsic or extrinsic. Limited mobility and poor nutrition are the strongest intrinsic predictors of pressure ulcer formation. Incontinence, increased age, diabetes mellitus, stroke, white race, skin abnormalities, and male sex are others. Extrinsic factors include pressure, friction, shear stress, and moisture; of these, the most

important is pressure. The importance of quality nursing care in the prevention of pressure ulcers cannot be stressed enough. The incidence of pressure ulcers in a long-term care facility is often a direct measure of the quality of nursing care provided, particularly in the meticulous attention paid to careful positioning and frequent turning of the bedridden patient.⁹

Functional decline can be defined as a new loss of independence in self-care activities or as deterioration in self-care skills, measured on an activities of daily living (ADL) scale (e.g. bathing, dressing, transferring from bed to chair, using the toilet) and/or on an instrumental activities of daily living (IADL) scale (e.g. shopping, housekeeping, preparing meals). Hospitalization poses a risk for altered functional status for older adults due to acute illness, decreased mobility, the negative effects of bed rest such as pressure ulcers, pain, dehydration and/or malnutrition, medication side effects, and associated hospital treatment measures such as invasive lines and catheters that limit mobility.¹⁰

Geriatric syndromes represent common, serious conditions for older persons, holding substantial implications for functioning and quality of life. Because these syndromes cross organ systems and transcend discipline-based boundaries, they challenge traditional ways of planning and delivering clinical care. Environmental and social supports form a cornerstone of the management of these syndromes. Understanding basic mechanisms involved in geriatric syndromes will be critical to advancing research and developing targeted therapeutic options, as well as educating the patient and caregiver.

Key Learning Points

1. As people are living longer, the prevention of disability forms the basis of healthy ageing.
2. The diagnostic workup and management of geriatric syndromes include assessment of several domains, including physical, mental, social, economic, functional and environmental; and crosses discipline based boundaries.
3. Environmental and social support, and

caregiver cooperation and well being also form an important part of the elderly welfare.

References

1. Chih HW, Ching IC and Ching YC. Overview of studies related to geriatric syndrome in Taiwan. *Journal of Clinical Gerontology & Geriatrics*.2012;3: 14-20. DOI: 10.1016/j.jcgg.2011.05.002
2. Inouye SK, Studenski S, Tinetti ME, and Kuchel GA. Geriatric Syndromes: Clinical, Research, and Policy Implications of a Core Geriatric Concept. *J Am Geriatr Soc*. 2007 May; 55(5): 780–791. DOI: 10.1111/j.1532-5415.2007.01156.x
3. Chen X, Mao G and Leng SX. Frailty syndrome: an overview. *Clinical Interventions in Aging*. 2014;9 433–441
4. Bhagwath G . Urinary Incontinence in the Elderly : Pathogenesis and Management. *Journal, Indian Academy of Clinical Medicine*. October-December 2001; Vol. 2(4): 270-275
5. Carlos VB. Geriatric Urinary Incontinence - Special Concerns on the Frail Elderly, Urinary Incontinence, Mr. Ammar Alhasso (Ed.), 2012. ISBN: 978-953-51-0484-1, In Tech, Available from: [http:// www. intechopen.com/books/urinary-incontinence/geriatricurinary-incontinence-special-concerns-on-the-frail-elderly](http://www.intechopen.com/books/urinary-incontinence/geriatricurinary-incontinence-special-concerns-on-the-frail-elderly)
6. Foley AL, Loharuka S, Barretta JA, Mathews R, Williams K, McGrowthers CW, et al. Association between the Geriatric Giants of urinary incontinence and falls in older people using data from the Leicestershire MRC Incontinence Study. *Age and Ageing* 2012; 41: 35–40
7. Lee A, Lee KW, Khang P. Preventing Falls in the Geriatric Population. *Perm J* 2013 Fall;17(4):37-39.
8. Inouye SK, Westendorp RGJ, Saczynski JS. Delirium in elderly people. *Lancet*. 2014 March 8; 383(9920): 911–922.
9. Livesley NJ, Chow AW. Infected Pressure Ulcers in Elderly Individuals. *Aging and Infectious Diseases*. CID 2002;35 (1 December):1390-1396.
10. deVos AJBM, Asmus- Szepesi KJE, Bakker TJEM, de Vreede PL. Integrated approach to prevent functional decline in hospitalized elderly: the Prevention and Reactivation Care Program (PRECaP). *BMC Geriatrics* 2012, 12:7.