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Principles and Practice of GERIATRIC MEDICINE

for Postgraduate and Practitioner

Editor
Prasun Chatterjee

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AB Dey

JAYPEE

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CHAPTER 9

Comprehensive Geriatric Assessment, Approach to Geriatric Patients

NN Prem, Anupa Pillai

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CASE VIGNETTE

- An 85-year-old woman has uncontrolled hypertension on one blood pressure medication (185/80 mm Hg).
- Plan: Add a second blood pressure medication
- After 2 weeks, she had a fall.

INTRODUCTION

In 2010, 524 million individuals globally were aged 65 years or older. By the year 2050, the World Health Organization has predicted that 1.5 billion people will be 65 years or older. Nearly 80% of these older individuals will be living in low- and middle-income countries. In 2011, older persons constituted 8.6% of India's total population, equaling 103 million. This proportion is expected to increase exponentially and is projected to reach 19.5% in 2050, equaling 319 million people. This will have a tremendous impact on the global cancer burden. India is also witnessing a demographic transition.

"Geriatric syndrome" is a term that is often used to refer to common health conditions in older adults that do not fit into distinct organ-based disease categories and often have multifactorial causes. The list includes conditions such as cognitive impairment, delirium, incontinence, malnutrition, falls, gait disorders, pressure ulcers, sleep disorders, sensory deficits, fatigue, dizziness, and frailty. These conditions are common in older adults, and they may have a major impact on quality of life and disability. Geriatric syndromes can best be identified by a geriatric assessment.

ORIGIN OF COMPREHENSIVE GERIATRIC ASSESSMENT

- The emergence of a comprehensive geriatric assessment (CGA) as the best approach to the care of older persons was a critical milestone
- The idea that improving medical outcomes and quality of life in older persons requires a multidisciplinary approach
- The assessment cannot be limited to disease management that originated and developed in the UK healthcare system
- The operational idea that this complexity could be handled through a CGA was proposed by *Marjory Warren* in the late 1930s.

DEFINITION OF COMPREHENSIVE GERIATRIC ASSESSMENT

Comprehensive geriatric assessment is defined as a multidisciplinary diagnostic and treatment process that identifies medical, psychosocial, and functional limitations of a frail older person in order to develop a coordinated plan to maximize overall health with aging.

The healthcare of an older adult extends beyond the traditional medical management of illness. It requires evaluation of multiple issues, including physical, cognitive, affective, social, financial, environmental, and spiritual components that influence an older adult's health. CGA is based on the premise that a systematic evaluation of frail older persons by a team of health professionals may identify a variety of treatable medical and social problems and lead to better health outcomes.

The content of the assessment varies depending on different settings of care (e.g., home, clinic, hospital, and nursing home).

INDICATIONS FOR REFERRAL TO COMPREHENSIVE GERIATRIC ASSESSMENT

One must know whether the older adult is too fit or too sick to benefit from CGA.

The criteria could be:
- Age
- Medical comorbidities such as heart failure or cancer
- Psychosocial disorders such as depression or isolation
- Specific geriatric conditions such as dementia, falls, functional disability, or frailty
- Previous or predicted high healthcare utilization
- Consideration of change in living situation (e.g., from independent living to assisted living, nursing home, or in-home caregivers)

Multidisciplinary Team

The CGA multidisciplinary team may include:
- Medical, e.g., geriatrician, psychiatry of old age, palliative care specialist
- Nursing
- Medical social worker
- Physiotherapy
- Occupational therapy
- Speech and language therapy
- Dietetics
- Pharmacists
- Podiatry

Framework

The overall care rendered by CGA teams providing longitudinal assessment and care can be divided into six steps:
1. Data gathering
2. Discussion among the team increasingly including the patient and/or caregiver as a member of the team
3. Development, with the patient and/or caregiver, of a treatment plan
4. Implementation of the treatment plan
5. Monitoring response to the treatment plan
6. Revising the treatment plan

Each of these steps is essential if the process is to be successful at achieving maximal health and functional benefits. However, monitoring response and revising the treatment plan may be left to primary care providers if the model relies on a single consultation.

MODELS OF COMPREHENSIVE GERIATRIC ASSESSMENT

- Postdischarge assessment due to the pressure to decrease lengths of hospital stay and reduce readmissions.
- Early CGA programs focused on restorative or rehabilitative goals (tertiary prevention)
- Newer programs are aimed at primary and secondary prevention.

PRINCIPLES OF COMPREHENSIVE GERIATRIC ASSESSMENT

- *Goal*: Promote wellness, independence
- *Focus*: Function, performance (gait, balance, transfers)
- *Scope*: Physical, cognitive, psychological, social domains **(Table 1 and Fig. 1)**
- *Approach*: Multidisciplinary
- *Efficiency*: Ability to perform rapid screens to identify target areas
- *Success*: Maintaining or improving quality of life

TABLE 1: Domains and assessment tools used in comprehensive geriatric assessment.

Domain	Subdomain	Tests
Physical	• Functional status • Nutrition • Vision hearing	ADL, IADL, TUG, MNA
Cognition	Dementia, MCI	Mini-cog, HMSE
Psychological	Depression	GDS
Social	Support system	Caregiver, socioeconomic, advance directives

(ADL: activities of daily living; GDS: Geriatric Depression Scale; HMSE: Hindi Mental State Examination; IADL: instrumental activities of daily living; MCI: mild cognitive impairment; MNA: Mini Nutritional Assessment; TUG: timed up and go test)

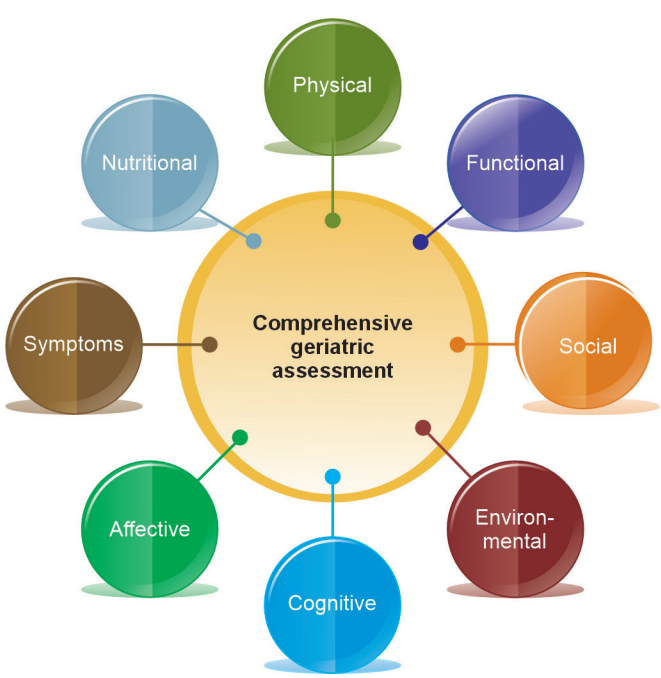

FIG. 1: Domains of comprehensive geriatric assessment.

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DIMENSIONS OF GERIATRIC ASSESSMENT

The four main dimensions covered in a CGA should include: (1) physical, (2) functional, (3) psychological, and (4) social assessment, as given in **Box 1**.

BENEFITS OF COMPREHENSIVE GERIATRIC ASSESSMENT

The benefits of CGA, in comparison to less-structured multidisciplinary assessment, where each discipline approaches the patient's assessment and plan of care in isolation, include the following:

- Improves diagnostic accuracy
- Optimizes medical and rehabilitation treatment
- Enhances health and functional outcomes
- Informs the development of individualized care plans
- Assists in avoiding the potential complications of hospitalization
- Facilitates effective discharge planning

GOALS OF CARE

- *To improve process of care*:
  - Improve diagnostic accuracy
  - Improve medical treatment
  - Arrange for long-term case management
- *To improve outcomes of care*:
  - Improve functional status
  - Better quality of life
- *To contain costs of care*:
  - Reduce use of unnecessary formal services
  - Prolong tenure in the home/community

BOX 1 Four dimensions of geriatric assessment.

1. *Physical assessment*:
   - Presenting complaint
   - Past medical history
   - Medication reconciliation and review
   - Nutritional status
   - Alcohol
   - Immunization status
   - Advanced directives
2. *Psychological assessment*:
   - Cognition and mood
3. *Functional assessment*:
   - Activities of daily living
   - Balance
   - Mobility
4. *Social assessment*:
   - Living arrangements
   - Social support
   - Carer stress
   - Financial circumstances
   - Living environment

COMPREHENSIVE GERIATRIC ASSESSMENT IN DIFFERENT SETTINGS

Comprehensive Geriatric Assessment in Hospitals

- Comprehensive geriatric assessment is commonly divided into two types:
  i. *Geriatric evaluation and management units (GEMUs) or acute care for elders (ACE)*:
     a. Delivered by a team in a discrete ward
     b. With control over the delivery of the multidisciplinary team recommendations
  ii. *Inpatient geriatric consultation service (IGCS)*:
     a. A multidisciplinary team will assess patients.
     b. Deliver recommendations to the general physicians or internists
- The number of randomized controlled trials (RCTs) has shown GEMUs/ACEs associated with:
  - *Greater functional independence* at discharge
  - *Less frequent* institutionalization
  - Shorter and *less expensive hospitalization*
  - *Higher satisfaction* rate among patients, family members, physicians, and nurses

Mobile Acute Care of the Elderly

- Mobile services which incorporate the principles of CGA
- Deliver them to patients who are not on dedicated wards for older inpatients
- Similar to already existing inpatient geriatric consultation team
- But these teams attempt to overcome the key limitation of peripatetic geriatric assessment care:
  - Tendency not to implement the recommendations
- Delivering care directly on wards which do not normally provide such care

Comprehensive Geriatric Assessment in Emergency Department

- Emergency department (ED) will face increasingly high numbers of older people in the future with complex comorbidities.
- *The idea*:
  - Deliver CGA close to the point of presentation with acute illness
- *Achieved in a number of ways*:
  - Enhancing the ED team:
    - Placing specially trained nursing staff (advanced nurse practitioners)

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  - Bringing the geriatric medicine team into the assessment process either during or after ED attendance and embedding CGA service
  - Creation of a dedicated physical environment for patents requiring CGA in the ED setting
- *ED-based CGA may*:
  - Reduce admissions to acute wards and the intensive care unit (ICU)
  - Increase referrals to palliative and hospice care
  - Increase patient satisfaction
  - Slow the decrease in functional status

Comprehensive Geriatric Assessment in Surgical Care

- Aging populations are at an increased risk of postoperative complications
- *CGA in surgical care has been described through*:
  - The use of *preoperative protocols*
  - Surgical patients in the ACE unit service
  - Delivering CGA for older patients requiring abdominal surgery
  - Multidisciplinary geriatric consultation team for older hip fracture patients
- *Reported effects*:
  - Improved function
  - Reduction in delirium
  - Reduction in falls and bed sores

Comprehensive Geriatric Assessment in Oncology

Comprehensive geriatric assessment is able to:

- Detect problems not found by routine examinations in the initial evaluation
- Assist in cancer treatment decisions
- *Predict complications and side effects from treatment*:
  - Chemotherapy-related toxicity
  - Tolerance of chemotherapy
  - Outcome in surgical oncology
  - Identification and treatment of new problems during follow-up care
- Estimate survival
- Improving functional status and quality of life (in primary care, medical and surgical clinics and wards, long-term care rehabilitation facilities and nursing homes, hospice, and palliative care networks)
- Improving the early identification of palliative care needs
- Reducing mortality (in outpatient care of surgical area, ED, and nursing homes)
- Reducing hospitalization (from nursing homes, hospice, and palliative care network)
- Reducing access rate to ED (in primary care setting and after discharge from the hospital medical wards)
- Reducing the length of hospital stay (in a surgical hospital setting)
- Optimizing postdischarge management pathways (in medical and surgical hospital setting)
- Improving medications appropriateness (in primary care, medical hospital setting, and nursing homes)
- Reducing postoperative complications (in surgical outpatient and hospital settings)
- Minimizing use of physical restraints (in medical hospital setting and nursing homes)

CASE AFTER COMPREHENSIVE GERIATRIC ASSESSMENT

An 85-year-old woman has uncontrolled hypertension on one blood pressure medication.

- Lives alone (daughter will help with medications)
- Gait and balance abnormality (home therapy)
- Osteoporosis (treated)
- Mild memory impairment (evaluated for dementia)
- Incontinent of urine (treated)
- Vision impairment (fix or find glasses, ophthalmology appointment)
- Over-the-counter (OTC) medications (discard)
- Difficulty with cleaning [home occupational therapy evaluation (OT-eval) for fall risk]

CONCLUSION

Caring for older adults is not just about treating illnesses , it is about understanding the whole person. Comprehensive Geriatric Assessment (CGA) recognizes that every older individual has unique physical, emotional, social, and functional needs. By bringing together different specialists and looking beyond diseases, CGA helps uncover hidden problems, prevents complications, and ensures that care plans are truly meaningful to the person's life. More than a checklist, it is a process that respects dignity, promotes independence, and supports families in their caregiving role. As populations age, especially in countries like India, the role of CGA will only become more vital. Its ultimate goal is to help older adults live healthier, safer, and more fulfilling lives.

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Self-Assessment Questionnaire

Q1. What is meant by a comprehensive geriatric assessment (CGA), and how does it differ from a routine medical evaluation?

Q2. Which four major dimensions are included in a CGA, and what key elements are assessed in each?

Q3. Who are the essential members of a multidisciplinary CGA team, and what is the role of each in the assessment process?

Q4. What are the six key steps in the CGA framework, and why is it important to include the patient and caregiver in the process?

Q5. How does CGA improve diagnostic accuracy, treatment outcomes, and quality of life in older adults compared to standard care?

Q6. What are the common indications for referring an elderly person for CGA, and how can clinicians identify those who will benefit most?

Q7. How is CGA adapted for use in different healthcare settings such as hospitals, emergency departments, surgical care, and oncology?

Q8. Discuss the evidence supporting the benefits of GEMUs/ACE units compared to inpatient geriatric consultation services.

Q9. Reflect on the case vignette: How did applying CGA change the management plan for the 85-year-old woman with hypertension, and what lessons can be learned from this example?

FURTHER READINGS

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Principles and Practice of GERIATRIC MEDICINE for Postgraduate and Practitioner

Salient Features

- The author of this book has given an exclusive focus on topics unique to elderly patients, such as falls, frailty, sarcopenia, syncope, and polypharmacy.
- The book has been authored by highly skilled geriatricians and allied multidisciplinary specialists.
- Real-world clinical scenarios are integrated into the text to enable postgraduate students and practitioners to connect theoretical knowledge with practical application.
- Combines the latest evidence-based guidelines with a patient-centered care approach.
- The book has a comprehensive coverage of pathogenesis, clinical features, diagnostic approaches, and management strategies.

This book is an indispensable guide for postgraduate students, healthcare practitioners, and anyone involved in the care of the elderly, providing the tools and knowledge needed to excel in geriatric medicine.



Prasun Chatterjee MD(Geriatric Medicine) FRCP(Edinburgh) is a Chief Geriatric Medicine and Longevity Science at Artemis Hospitals, Gurugram and New Delhi and Former Professor at All India Institute of Medical Sciences (AIIMS), New Delhi, India. He is a pioneer in Geriatric Medicine, being the first qualified geriatrician from North India, with an MD in Geriatric Medicine from Madras Medical College (2007–2010). With over two decades of dedicated service to elderly care, he has treated over a lakh of elderly patients and has sensitized millions through print and audiovisual media on geriatric health and well-being. Dr Chatterjee has vast experience as a consultant and expert with the World Health Organization (WHO) and currently serves as a TAG member at WHO HQ, focusing on monitoring and evaluating healthy aging indicators. At AIIMS, New Delhi, he holds multiple roles, including Professor in the Department of Geriatric Medicine and Additional Medical Superintendent, heading the National Center of Aging. He has more than 100 scientific publications and has mentored over 30 postgraduate students as Chief Guide, contributing significantly to academic and clinical advancements in geriatric medicine. A passionate advocate for elderly empowerment, Dr Chatterjee founded the NGO named as "Healthy Aging India", which implements an innovative intergenerational learning model that engages elderly individuals in educating underprivileged children, with notable success in tribal areas of Jharkhand.

He is also the author of the well-received nonfiction book "Health and Wellbeing in Late Life—Indian Perspective (Springer)". As a TEDx speaker and thought leader, Dr Chatterjee continues to inspire transformative change in geriatric care and education.

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Shelving Recommendation
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