

Comprehensive Geriatric Assessment

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Learning Objectives

- Defined Comprehensive Geriatric Assessment (CGA)
- Describe the fundamental principles of comprehensive geriatric assessment
- Outline the current geriatric physiotherapy assessment under the SOAP method
- Describe the method of comprehensive geriatric assessment
- Describe the importance of comprehensive geriatric assessment

Definition

Comprehensive geriatric assessment is,

A multidimensional, interdisciplinary diagnostic process to evaluate an elderly person's functional ability, physical health, cognition, mental health, and social circumstances [1].

Fundamental Principles

Patient centered approach

Customizing healthcare interventions to align with each individual's value, preference and personal goals

Multidimensional approach

Assess medical, psychological, functional, and social capabilities to develop a comprehensive care plan

Interdisciplinary collaboration

Involve multidisciplinary healthcare professionals to provide comprehensive evaluation and care

- Physician
- Nurse
- Physiotherapist
- Occupational therapist
- Nutritionist
- Pharmacists
- Psychiatrists
- Audiologists
- Podiatrists
- Opticians



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Member of multidisciplinary team	Domains
Physician	Mental and physical health
Nurse	Aspects of personal care (e.g. hygiene and continence)
Physiotherapist	Balance and mobility
Pharmacist	Medication review
Occupational therapist	Activities of daily living
Nutritionist	Nutritional status
Social worker	Social issues

Focus on functionality

Focus on maintaining or improving the ability to perform activities of daily living (ADL) and instrumental activities of daily living (IADLs)

Continuous monitoring and reassessment

Involve continuous monitoring overtime and reassessment to adjust the treatment plan as needed

Group discussion

Discuss the current assessment protocol
use in geriatric physiotherapy assessment.

- Duration of discussion - 10 minutes
- Duration of presentation - 15 minutes

Physiotherapy assessment by SOAP method

- Physiotherapy assessment can be conducted according to the SOAP method.

S - Subjective examination

O - Objective examination

A - Analysis

P - Plan

Subjective examination

- **Demographic data-** Name, age, gender, address, occupation etc.
- **Present complains**
- **History of present complains**
- **Past medical history-** Comorbidities, Previous medical treatments, previous physiotherapy treatments
- **Past surgical history**
- **Current medication**
- **Social history-** Civil status, position of the family, living environment, family and social support
- **Behavioral health-** Diet, exercise, sleeping, smoking, use of alcohol



• Patient's expectation from physiotherapy

Investigations - MRI/CT, X rays, blood test, nerve conduction tests etc

Falls history-

- No. of falls within 3 months, 6 months or 12 months, prospectively or retrospectively
- Circumstances and consequences of falls of recent falls

• Environmental hazards assessment

Overview of presence of environmental hazards inside and outside the home need to be assessed.

- Loose rugs/ carpets
- Slippery Floors of the house
- Uneven floors of the house
- Split levels in the house
- Inadequate lightening
- Inadequate handholds/grab bars
- Other hazards

Objective examination

Observation

- **Build-** Ectomorphic, endomorphic, mesomorphic
- **Mood-** Awake, alert, attentive, comprehensive
- **Skin-**
Colour (Normal, pallor, erythema, cyanosis), scars, wounds, pressure sore, swelling
- **Deformities**
- **Muscle wasting**
- **Respiration-** Breathing pattern, chest movements, use of accessory muscles
- **External appliances-** Splints, braces, prosthetics, orthotics
- **Assistive devices-** Crutches, cane, wheel chair, walking stick
- **Posture-** Observe the patient anteriorly, posteriorly and laterally to identify whether there is any postural deformities like forward head posture, hyper kyphosis, hyper lordosis, scoliosis etc.

Palpation

- **Temperature**- *Can indicate infections, inflammations, or poor circulation*
- **Tenderness**
- **Muscle tone**
- **Swelling**
- **Bony prominences**

Examination

Physical Assessment

- **Vital signs-**

Temperature, pulse rate, respiratory rate, systolic blood pressure, diastolic blood pressure, oxygen saturation

- **Range of motion-**

Active Range of Motion and Passive Range of Motion of the affected joints can be measured using goniometer.

- **Muscle strength**

Manual Muscle Testing

Hand-held Dynamometer

Hand-Grip Dynamometer

Repetition Maximum

Neurological examination

- **Reflexes**

Superficial reflexes- Presences or absence of reflexes

Deep reflexes - Normal/exaggerate/ absent

- **Proprioception**

Lower limb matching task using acrylic sheet

Distal proprioception test



Image source: https://geekymedics.com/wp-content/uploads/2022/06/proprioception_diabetic_foot_grip-700x300.jpg

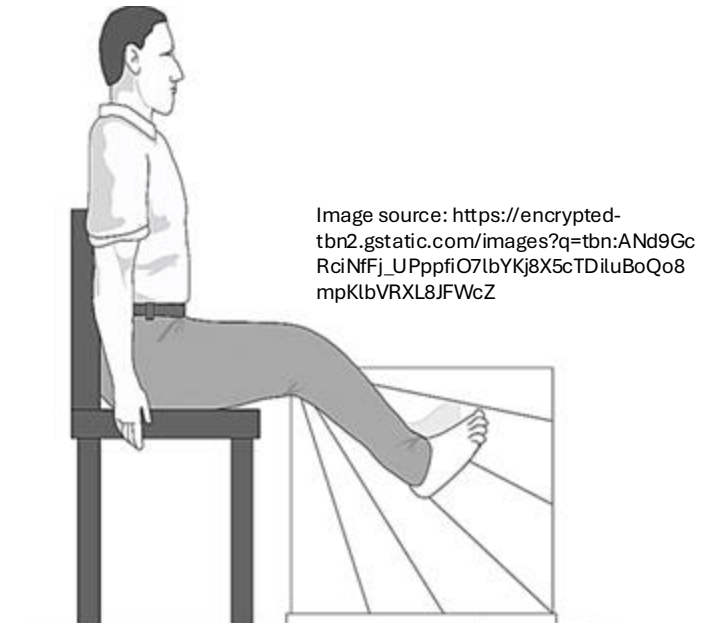


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- **Postural sway**

Measure anterior, posterior, left lateral and right lateral directions using sway meter

- **Coordination**

Upper limb- Finger to nose test

Lower limb- Heel to shin, tandem walking, foot tapping

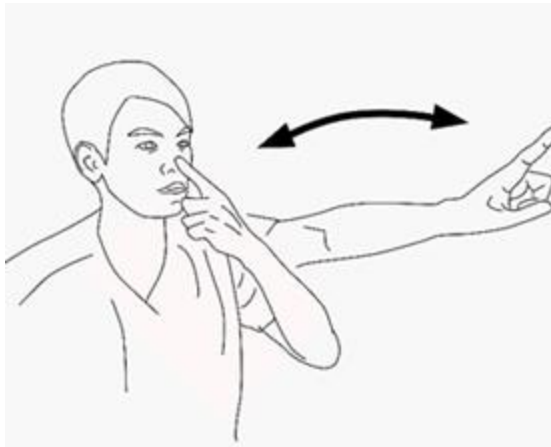


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Foot Tapping Test

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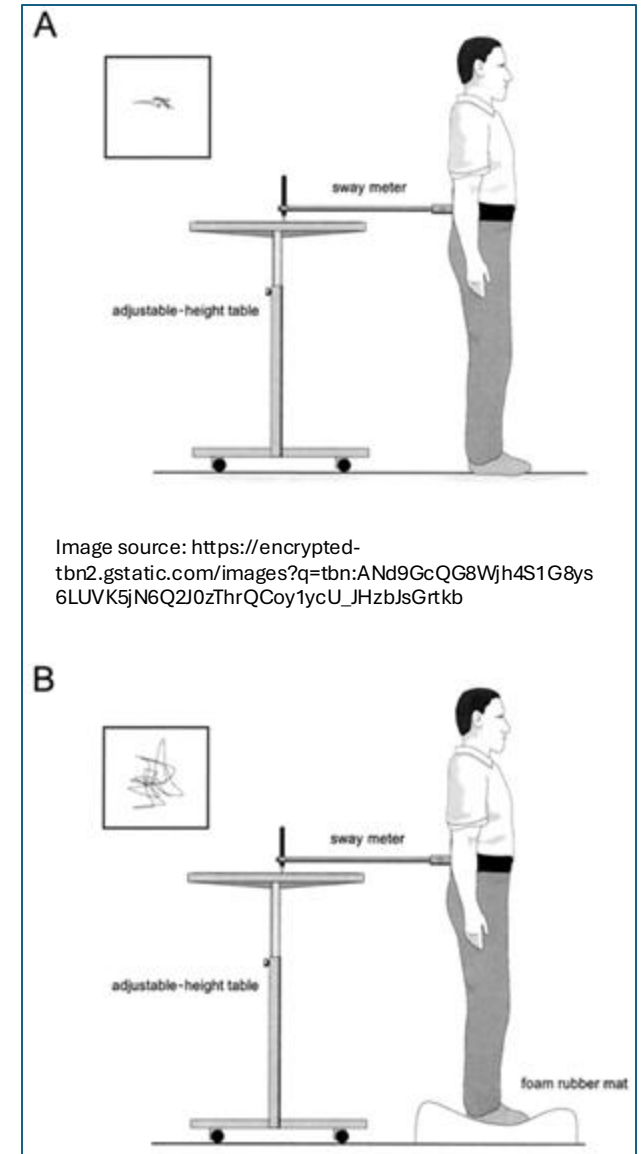


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- **Balance and falls risk**

Romberg Test

Four Stage Balance Test

Five Time Sit-to-Stand Test

Time Up and Go test

Berg balance scale

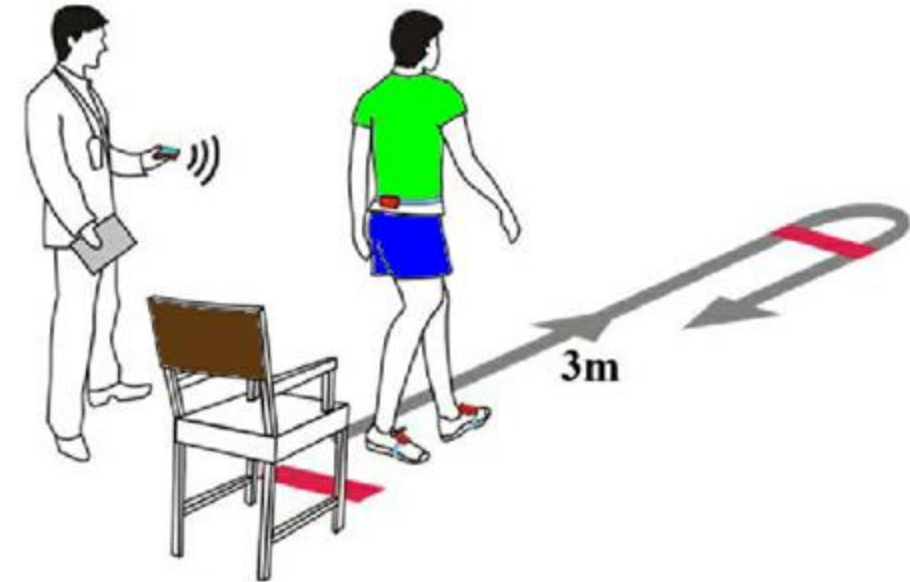


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Gait assessment

-*Observational gait analysis*

-*Gait-Up gait analyzer- measure the gait velocity, double support time, stance time, stride length, and cadence*

Gait assessment tools- ***Tinetti's Performance Oriented Mobility***

Assessment, Dynamic Gait Index

Image source: <https://www.carepatron.com/files/dynamic-gait-index.jpg>

Dynamic Gait Index (DGI)

Patient's full name: _____ Patient's age: _____

Patient's gender: _____ Date of assessment: _____

What you need:

- A 20-foot walkway, should also be 15 inches wide; shoebox; 2 cones; an area with stairs

1. Gait level surface

Instructions: Walk at your normal speed from her to the next mark (20 feet).

Grading: Mark the lowest category that applies.

Score	Level of function	Criteria
☐ 0	Severe impairment	Cannot walk 20 ft. without assistance, severe gait deviations, or imbalance.
☐ 1	Moderate impairment	Walks 20 ft., slow speed, abnormal gait pattern, evidence for imbalance.
☐ 2	Mild impairment	Walks 20 ft., uses assistive devices, slower speed, mild gait deviations.
☐ 3	Normal	Walks 20 ft., no assistive devices, good speed, no evidence of imbalance, normal gait pattern.

- **Physical fitness**

Cardiopulmonary endurance - Six-Minute Walk Test, Ten- Minute Walk Test

Lower body flexibility - Chair Sit and Reach Test

Upper body flexibility - Back Scratch Test

Upper body strength - Arm Curl Test

Lower body strength - 30-second Chair Stand Test

8 Foot Up and Go Test - Agility

- Vision**

Visual acuity - Using LogMAR letter chart

Visual contrast sensitivity -Using Melbourne edge test (MET)

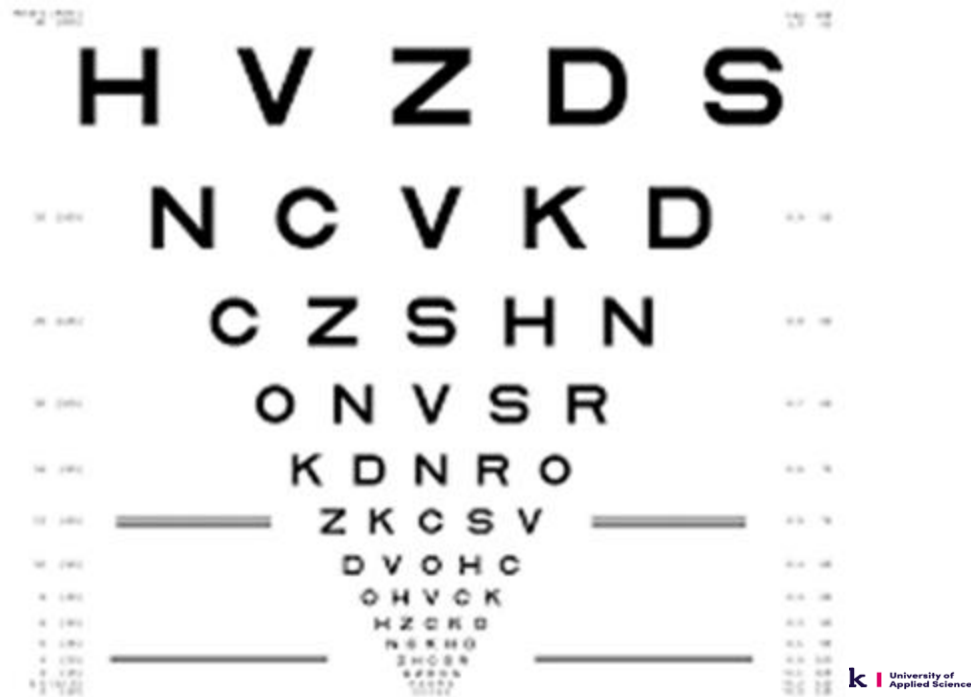
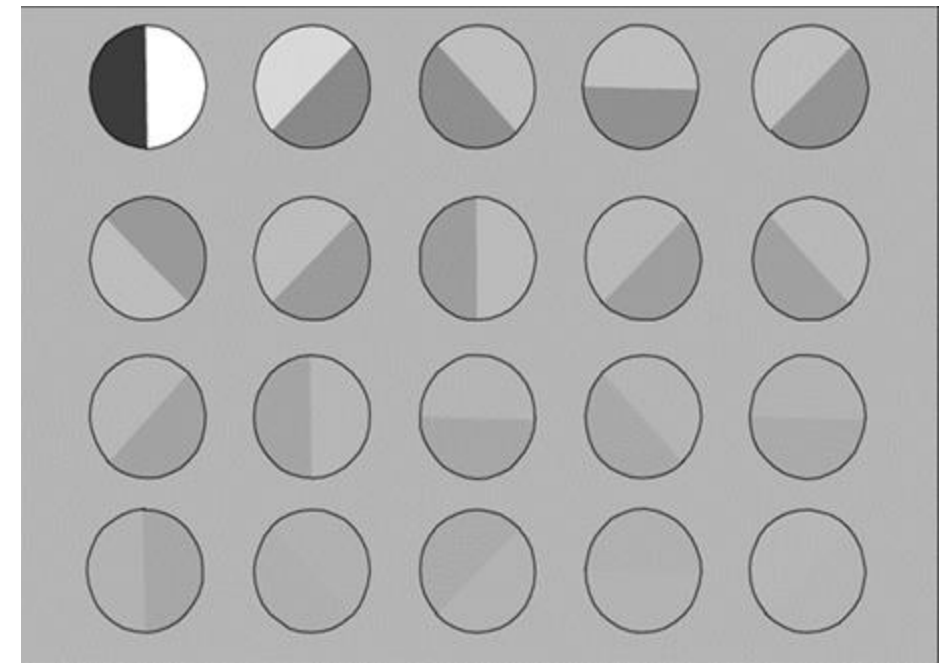


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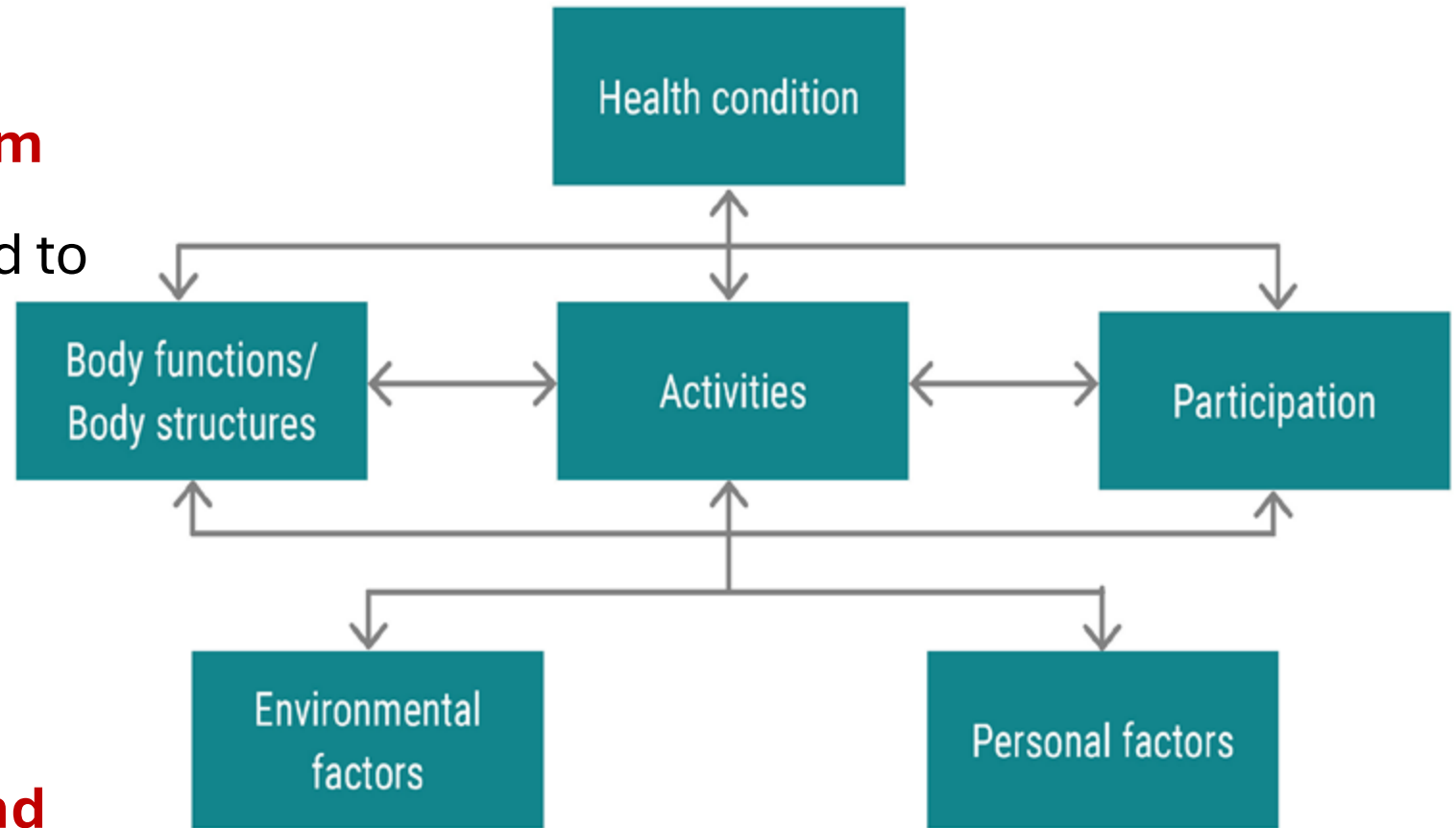
Different questionnaires used in geriatric assessment

Outcome measure	Questionnaire
Activities of daily living (ADL)	Barthel Index
Instrumental activities of daily living (IADL)	Lawton's Instrumental Activities of Daily
Cognitive Assessment	Mini Mental State Examination (MME) Montreal Cognitive Assessment (MoCA)
Depression	Geriatric Depression Scale
Nutritional Assessment	Mini Nutritional Assessment (MNA)
Quality of Life	SF-36
Physical Activity Level	International Physical activity Questionnaire Physical Activity Scale for the Elderly

Outcome measure	Questionnaire
Social Support	Medical Outcomes Social Support Survey (MOS-SS)
Disability	World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0)
Fear of falling	Falls Efficacy Scale-International Ichnographical Falls Efficacy Scale
Living Environment Assessment	Home Falls and Accidents Screening Tools (HOME FAST) Westmead Home Safety Assessment (WeHSA)
Frailty	Clinical Frailty Scale Fried Frailty Phenotype Frailty Index

Analysis

- Analyze various components of the assessment and **generate prioritize problem list** with impairments linked to functional limitations
- Determine and prioritizing problem list- **International Classification of Functioning, Disability, and Health (ICF)**



Plan

- The therapist develop the following aspects in the final component of the SOAP method;
 - **Short term and long term goals**
 - **Expected outcomes**
 - **Plan of treatments**

Why should Comprehensive Geriatric Assessment be preferred over the SOAP method in geriatric assessment?

- Provides a Holistic and Multidimensional Approach
- Better Detection of Geriatric Syndromes
- Multidisciplinary and interdisciplinary approach

Guidelines and tools available for comprehensive geriatric assessment

- **British Geriatric Society-**

*Comprehensive Geriatric Assessment Toolkit for Primary
Care Practitioners*



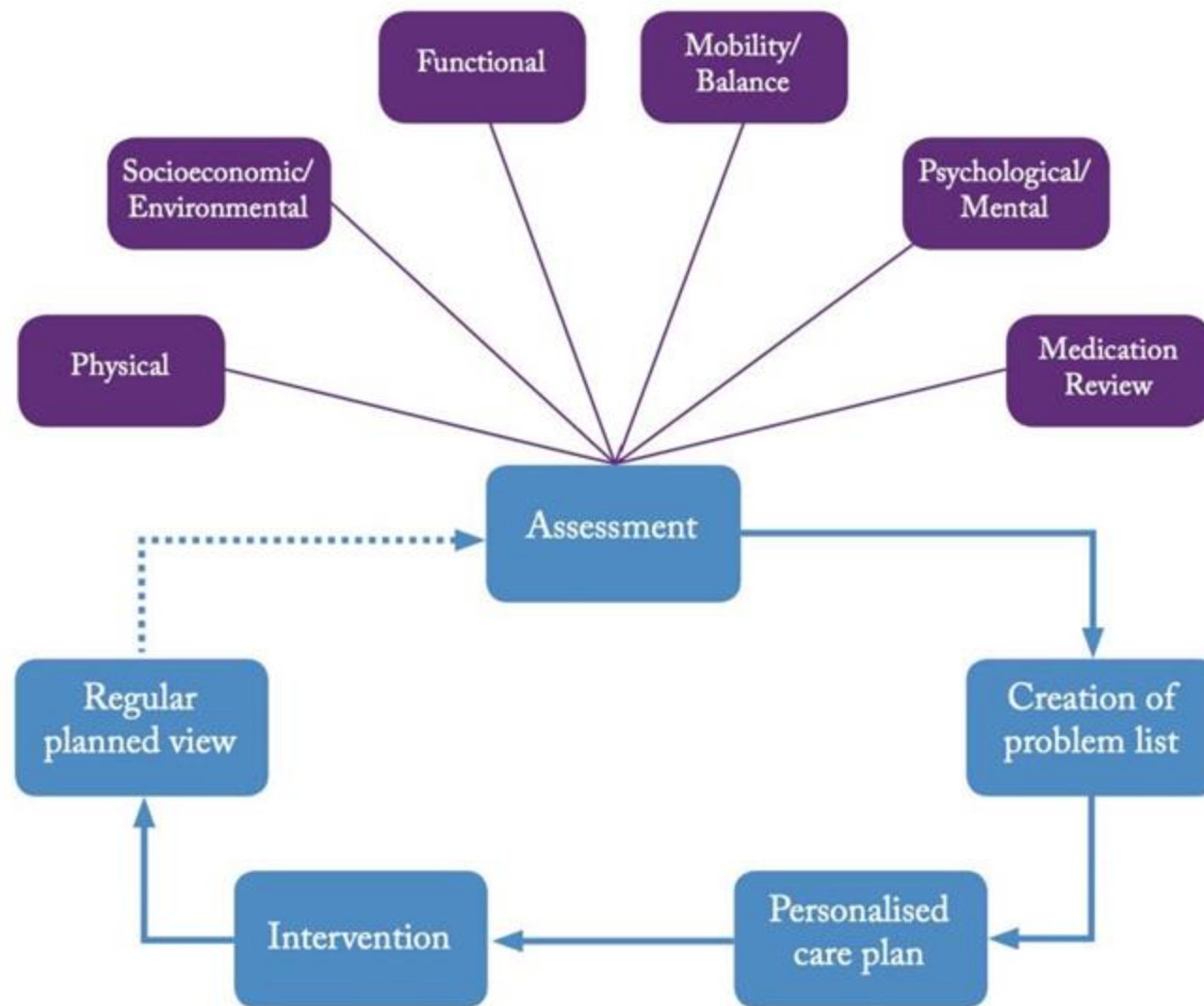
- **CAG Toolkit** ^{Plus}



Comprehensive Geriatric Assessment – British Geriatric Society

Comprehensive Geriatric Assessment (CGA) done in primary care setting is comprised of few elements including;

- Physical assessment
- Psychological assessment
- Functional, social issues, environmental assessment
- Medication review



Physical
assessment

Sensory loss-

Using quick screens of sensory assessments like whispering numbers in ear and requesting their repetitions (Hearing)

Gross visual testing

Feet and footwear-

Condition of skin and nails, edema, anatomical abnormalities, ulcers, peripheral sensation such as vibration, proprioception, light touch etc., pulse, and capillary refilling time

Gait and Balance

Observation around the examination how patient get on and off the bed, way of walking the room

Using standardized gait and balance assessment tools- **Time up and go test,**

Berg Balance Scale



Physical assessment	<i>Lying and sitting blood pressure</i> <i>Cognition and mood</i> Interactivity, alertness, vocabulary, ability to follow complex commands, recall <i>Pain/joints</i> Functional observation Range of motion/crepitus <i>Weight and nutrition</i> Check and record weight consistently General condition of hair, observation of oral health
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Functional, social and environmental assessment	Factors like: mobility, activities of daily living, instrumental activities of daily living Barthel Index, Nottingham Extended Activities of Daily Living Scale, Time Up and Go (TUG) test Social and financial information BGS social questionnaire and environmental questionnaire
Psychological assessment	Depression- using either simple screening questions or standardized tools. Eg- Geriatric Depression Scale Cognition- using simple screening questions or standardize tools Eg- Montreal Cognitive Assessment, Mini mental State examination)

Medication review	- Obtain full medication history - Review medication use - Review for pharmacological interactions or side effects - Obtain sufficient medical history - Review each medication - List and priorities medication related issues
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Physiotherapist role in CAG

- Physiotherapists are involved in assessing the following areas:
 - Activities of daily living and instrumental activities of daily living
 - Balance
 - Gait
 - Falls

Importance of Comprehensive Geriatric Assessment

- Reducing mortality
- Improving independence for older people
- Reducing hospital admission and readmission
- Reduce the impact of frailty
- Reverse the progression of frailty

References

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THANK YOU