

COMPREHENSIVE GERIATRIC ASSESSMENT (CGA) AND COMMON GERIATRIC PROBLEMS

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COMPREHENSIVE GERIATRIC ASSESSMENT | CGA

CGA

Defined as a **multidimensional interdisciplinary diagnostic process** that identifies **medical, psychosocial, and functional** limitations of an **older** person in order to develop a **coordinated and integrated plan for treatment** and long term follow up to maximize overall health with aging

WHY CGA?

- ❑ Understand the overall health status of the patient
- ❑ Identify previously unknown health problems
- ❑ Predict life expectancy of the patient
- ❑ Predict tolerance of treatments / Treatment toxicity
- ❑ Influences treatment choices
- ❑ Identify geriatric interventions that can improve treatment tolerability and compliance

GOALS OF CGA

Goal : Promote wellness, independence

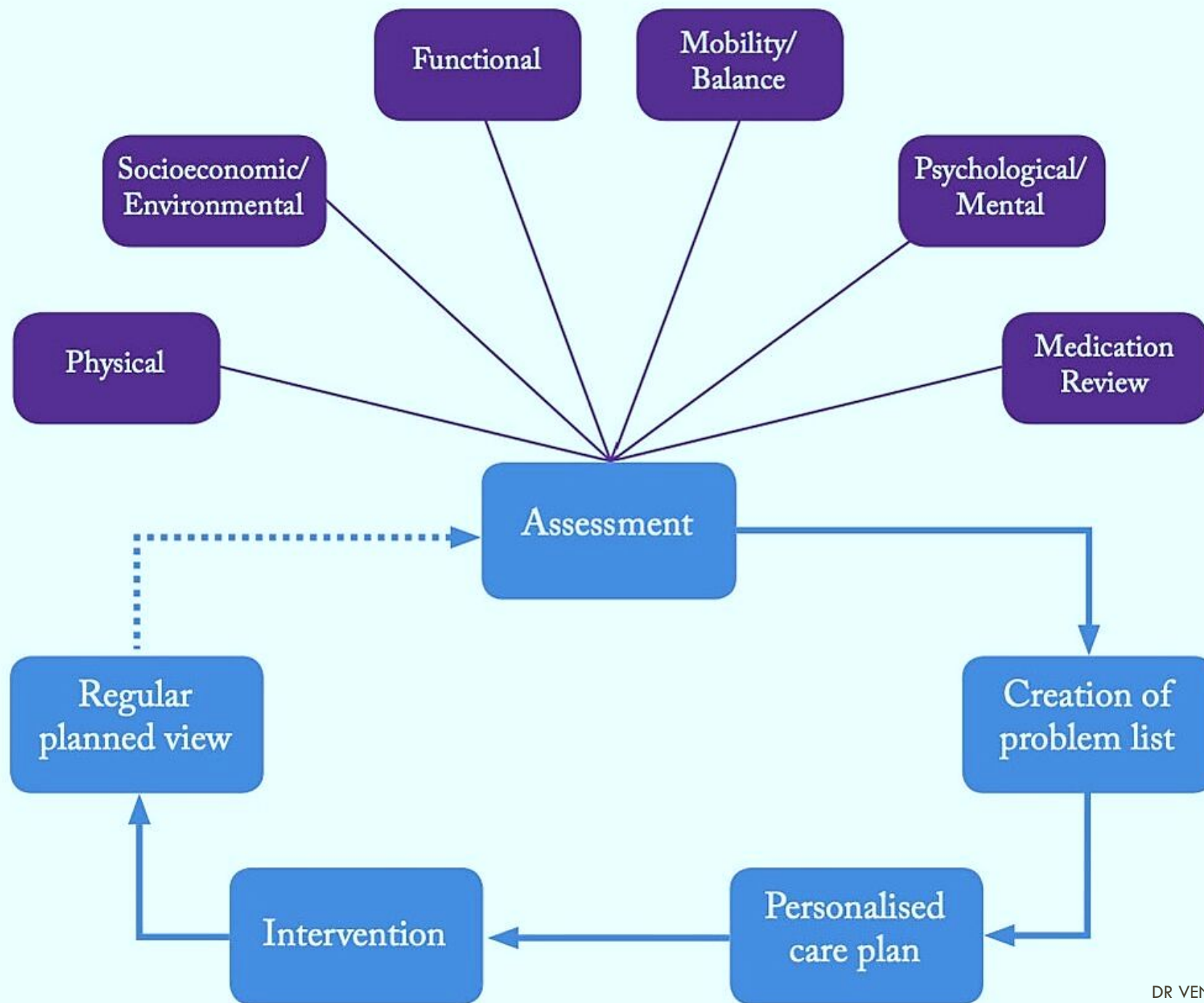
Focus : Function, performance (gait, balance, transfers)

Approach : Multidisciplinary

Efficiency : Ability to perform rapid screens to identify target areas

Success : Maintaining or improving quality of life

Domains of CGA	Constituents	Tests
Medical	Problem list Comorbidities Medication review	
Psychological / Mental	Cognition – Dementia	Mini cog, HMSE
	Mental health – Depression, anxiety, etc.	GDS
Physical / Functional	Functional status Mobility Nutrition Vision Hearing	ADL, iADL TUG MNA WHO ICOPE
Social	Support system Elder Abuse	Caregiver, socioeconomic, advance directives



COMPONENTS/DOMAINS

- **Medical assessment**
- **Functional capacity**
- **Social support**
- **Living situation**
- **Palliative care**
- **Goals of care**
- Fall risk
- Cognition
- Mood
- Polypharmacy
- Financial concerns

ACTIVITIES OF DAILY LIVING

BADL
(Basic activities of daily living)

Self Care Tasks
(Feeding, Bathing, Grooming, Dressing, Bowel & Bladder incontinence, Toilet use, Transfer from bed, Mobility, Stair usage)

IADL
(Instrumental/Intermediate activities of daily living)

Ability to maintain an independent household
(Telephone use, Shopping, Food preparation, Housekeeping, Laundry, Transportation, Medication, Handling Finances)

AADL
(Advanced activities of daily living)

Ability to fulfill societal, community, and family roles as well as participate in recreational or occupational tasks.

MINI-COG

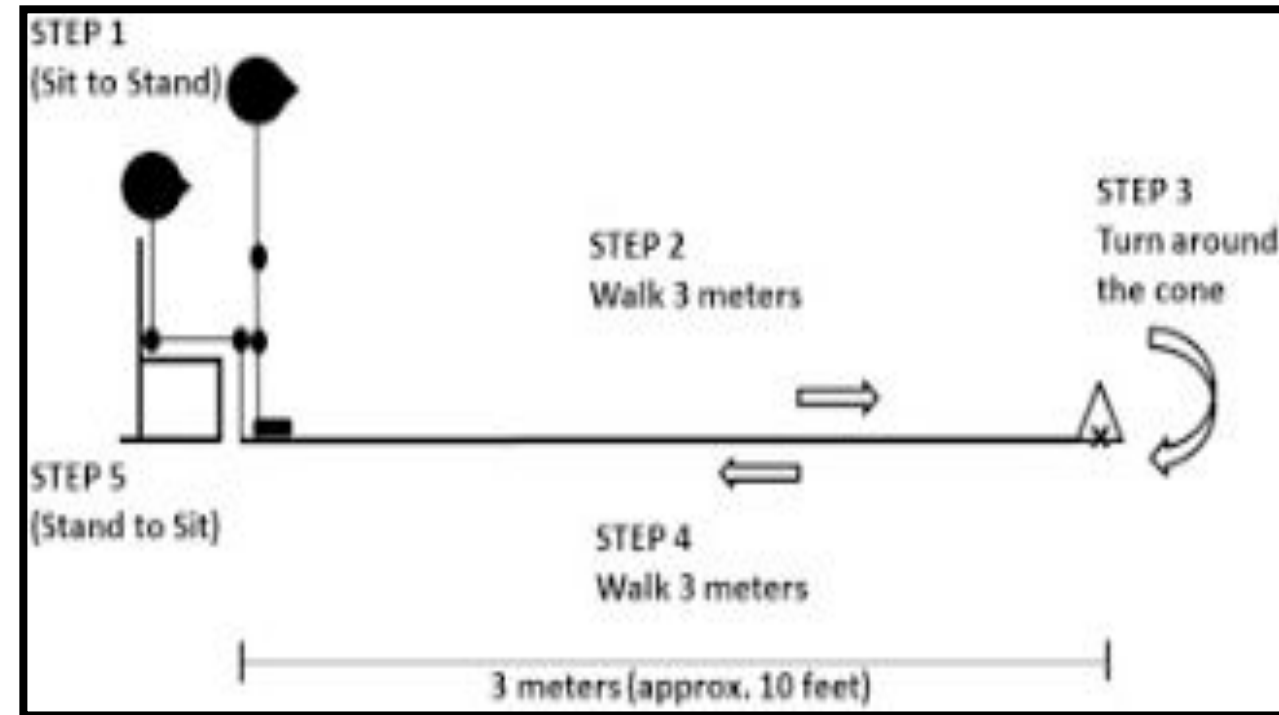
- 3 word recall
- Clock drawing test (CDT)

Mini-Cog Test	Possible Points	Scoring	Interpretation
Normal Clock Drawing	2	0-2	Higher likelihood of dementia
Word Recall	1 for each word	3-5	Lower likelihood of dementia

TIMED UP AND GO TEST (TUG)

It measures the ability of patient to get out of chair and walk for 3m and back

- A score of **>12 secs** associated with an increase risk of fall
- A score of **>13.5 secs** associated with functional decline
- **> 20 secs** assess for frailty

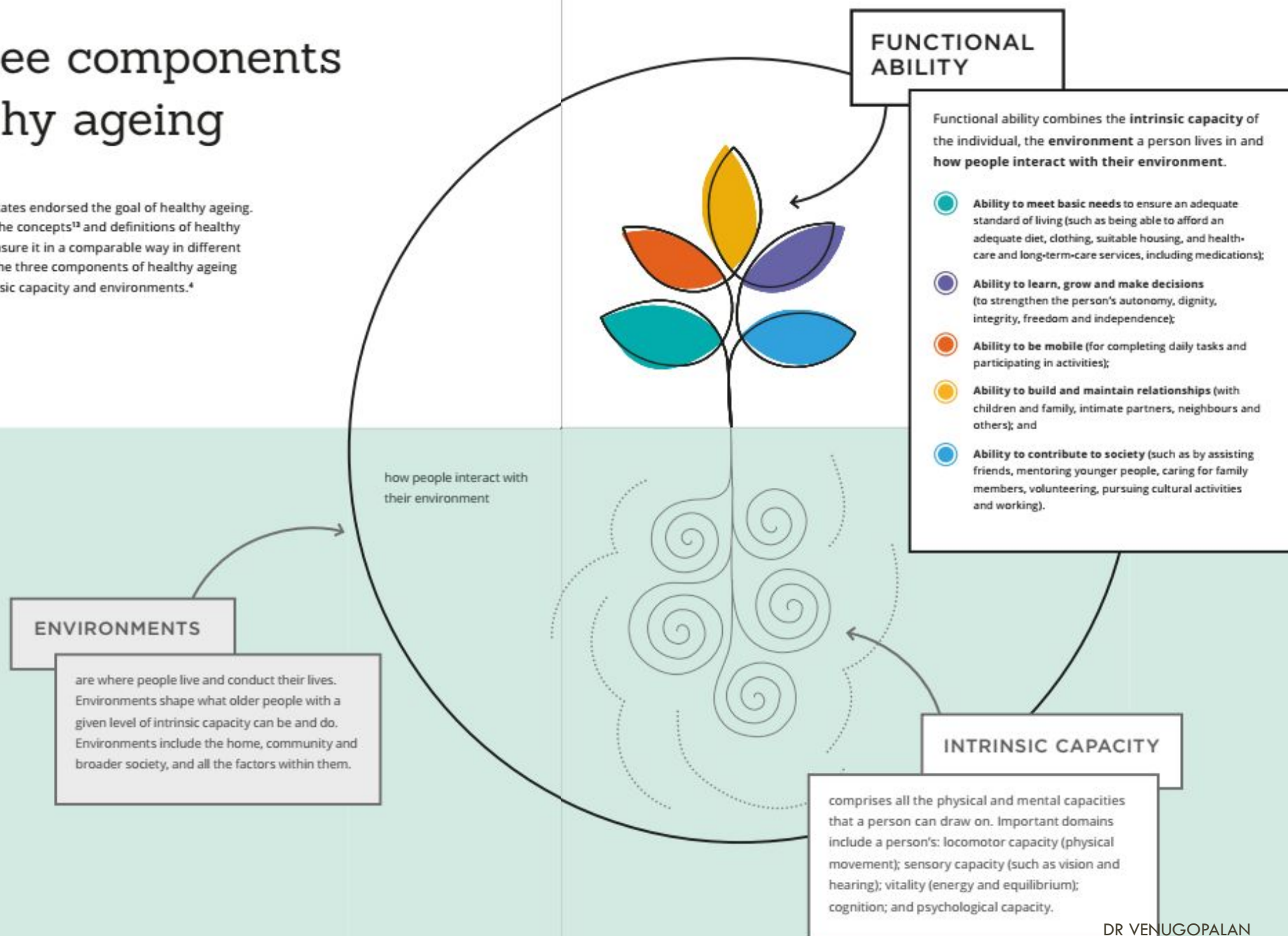


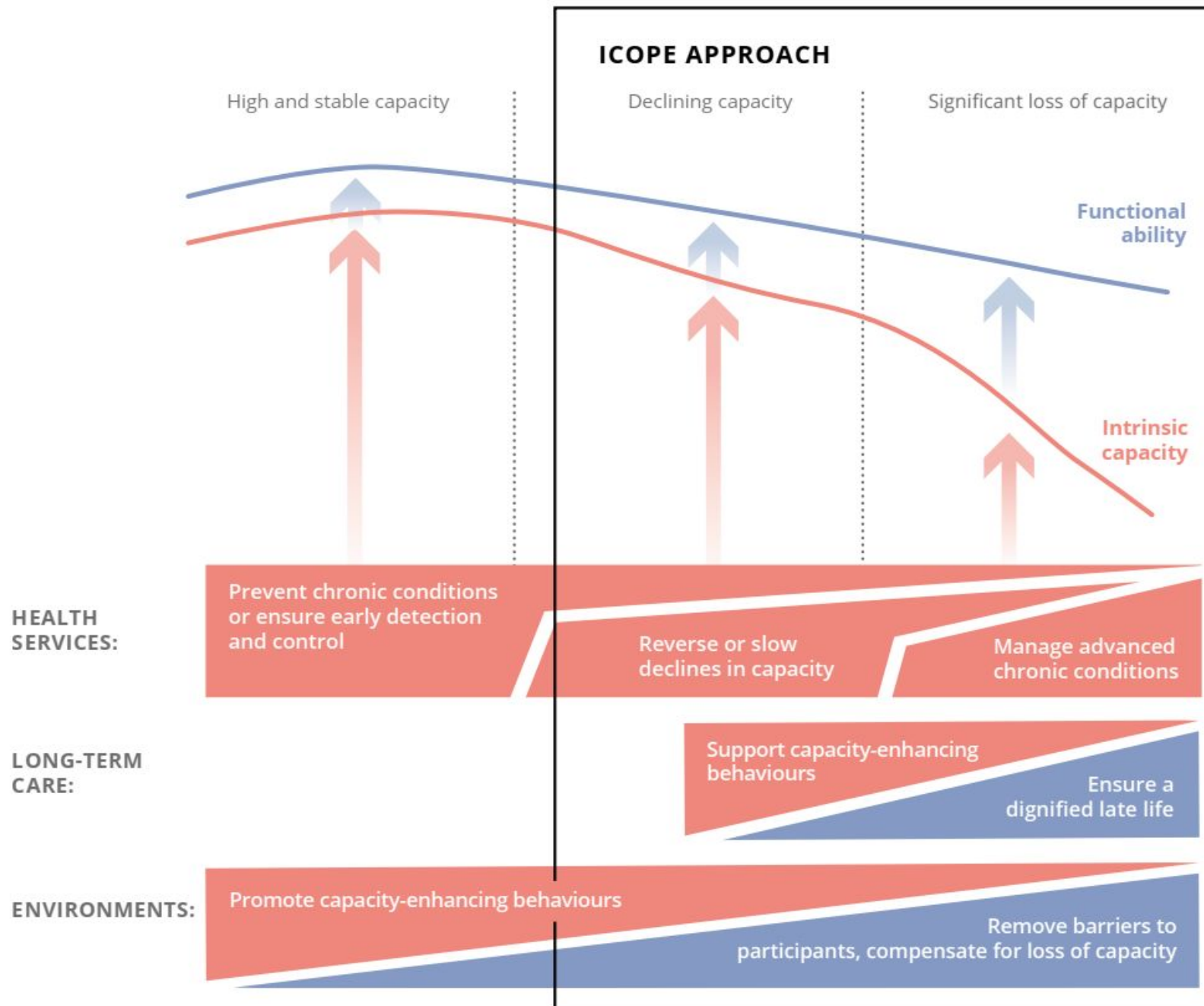


WHO INTEGRATED CARE OF OLDER PEOPLE (ICOPE)

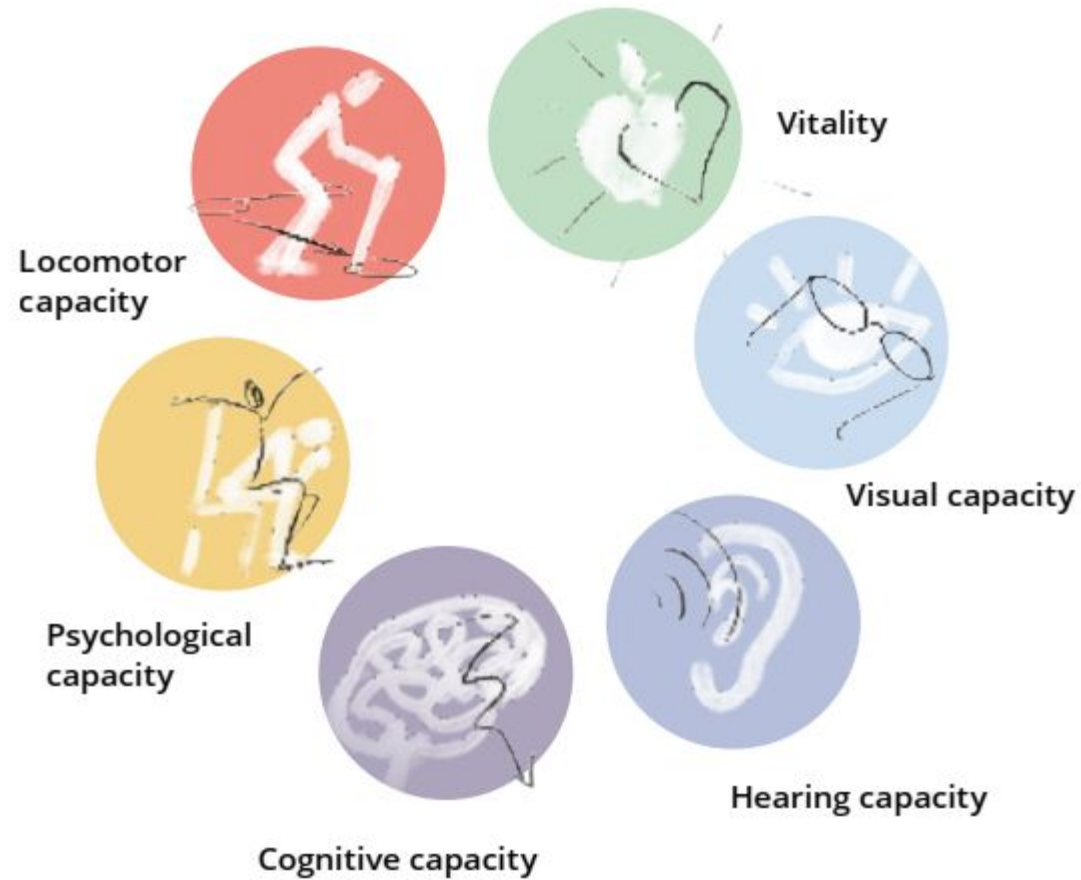
The three components of healthy ageing

In 2016 all WHO Member States endorsed the goal of healthy ageing. WHO has further clarified the concepts^{1,2} and definitions of healthy ageing in order to help measure it in a comparable way in different countries and over time. The three components of healthy ageing are functional ability, intrinsic capacity and environments.⁴





KEY DOMAINS OF INTRINSIC CAPACITY



WHO ICOPE SCREENING TOOL

Priority conditions associated
with declines in intrinsic capacity

Tests

COGNITIVE DECLINE

(Chapter 4)

1. Remember three words: flower, door, rice (for example)
2. Orientation in time and space: What is the full date today?
Where are you now (home, clinic, etc)?
3. Recalls the three words?

LIMITED MOBILITY

(Chapter 5)

Chair rise test: Rise from chair five times without using arms.
Did the person complete five chair rises within 14 seconds?

MALNUTRITION

(Chapter 6)

1. Weight loss: Have you unintentionally lost more than 3 kg
over the last three months?
2. Appetite loss: Have you experienced loss of appetite?

VISUAL IMPAIRMENT

(Chapter 7)

Do you have any problems with your eyes: difficulties in
seeing far, reading, eye diseases or currently under
medical treatment (e.g. diabetes, high blood pressure)?

HEARING LOSS

(Chapter 8)

Hears whispers (whisper test) *or*
Screening audiometry result is 35 dB or less *or*
Passes automated app-based digits-in-noise test

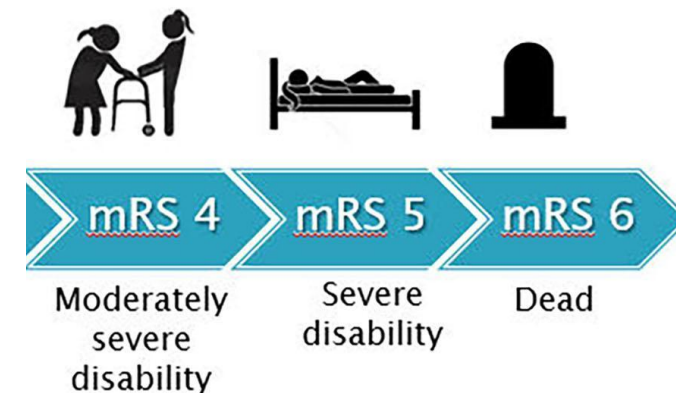
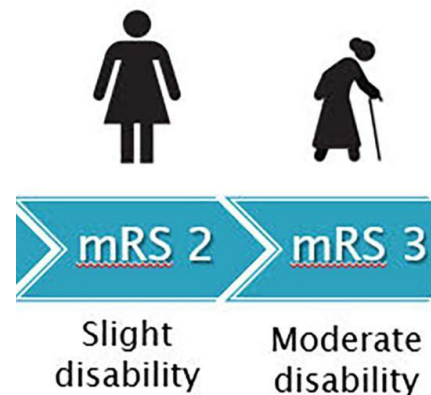
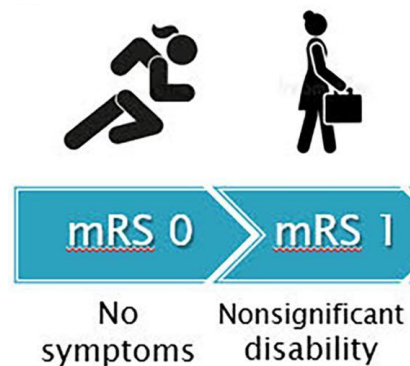
DEPRESSIVE SYMPTOMS

(Chapter 9)

Over the past two weeks, have you been bothered by
– feeling down, depressed or hopeless?

– little interest or pleasure in doing things?

Full Intrinsic capacity	Declining capacity	Significant loss of capacity
Normal age related cognitive slowing	Mild Cognitive impairment, Mild Dementia	Dementia (Moderate, Severe)
Modified Rankin Score 0 & 1	MRS 2 & 3	MRS 4 & 5
ECOG 0 & 1	ECOG 2	ECOG 3 & 4



COMMON GERIATRIC PROBLEMS

GERIATRIC SYNDROME

- ❑ **Frailty**

- ❑ Dementia

- ❑ **Delirium**

- ❑ Incontinence

- ❑ Osteoporosis

- ❑ Neglect or abuse

- ❑ **Falls**

- ❑ Constipation

- ❑ Polypharmacy

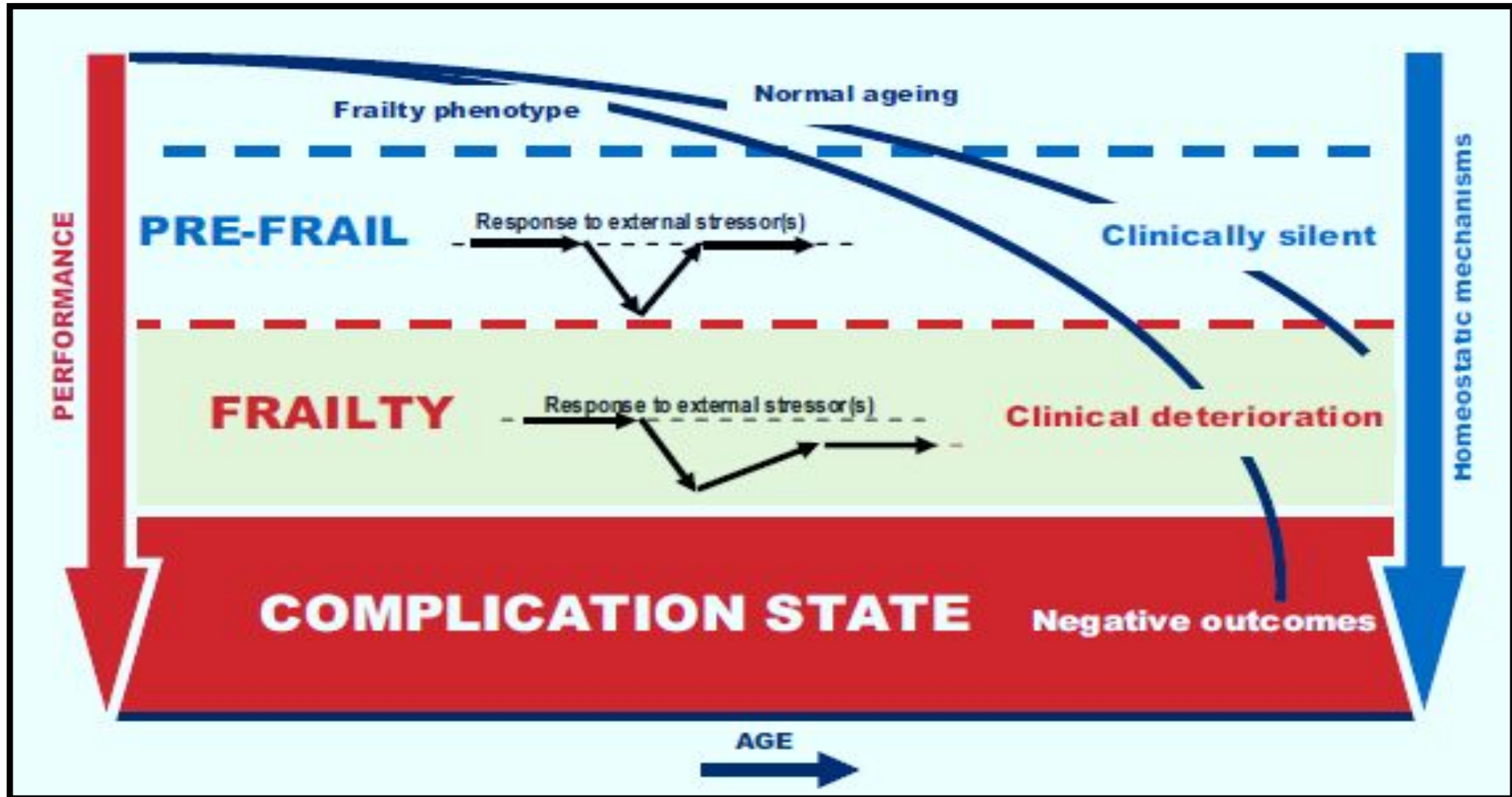
FRAILTY SYNDROME

FRAILTY SYNDROME

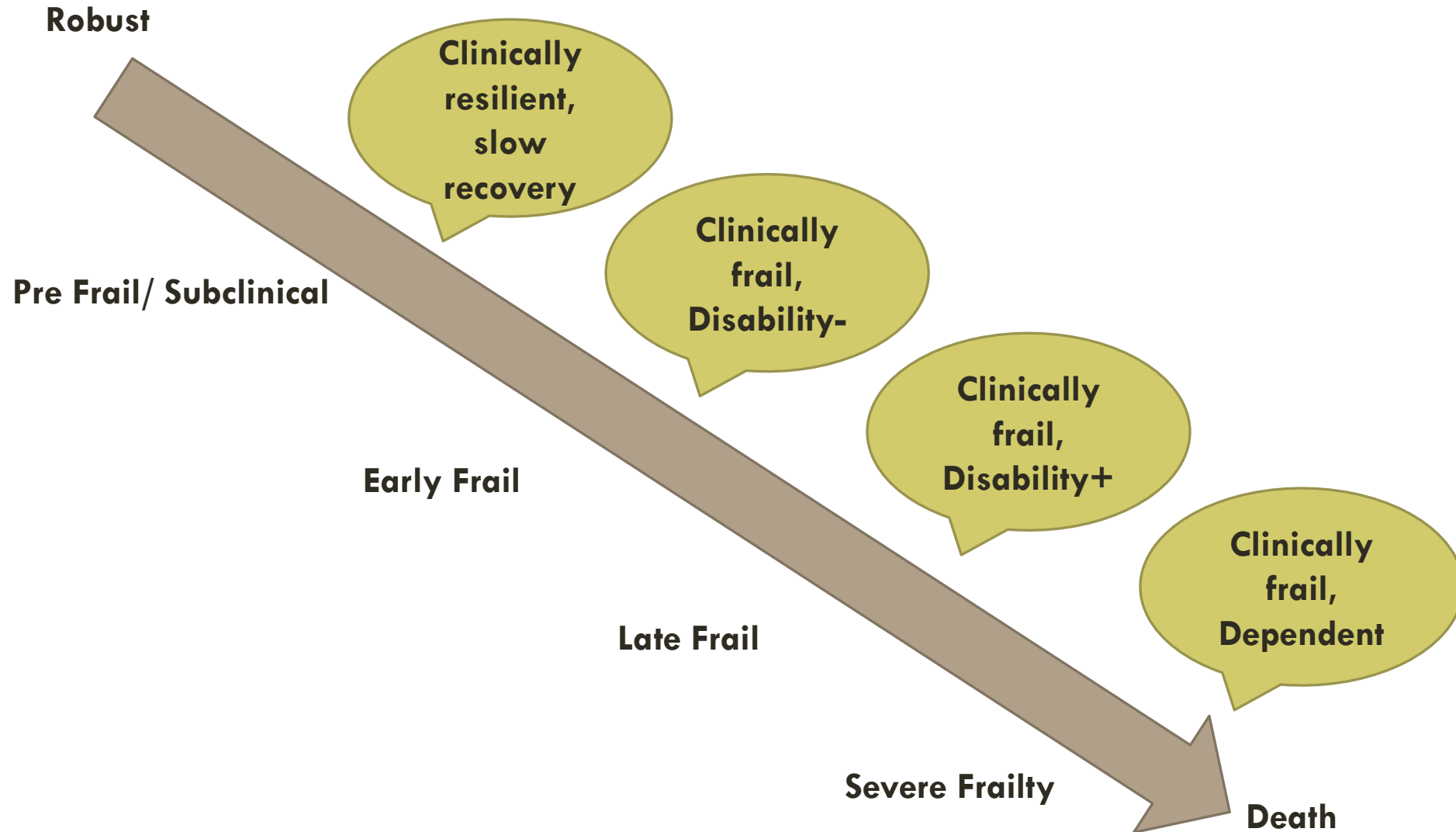
Definition:

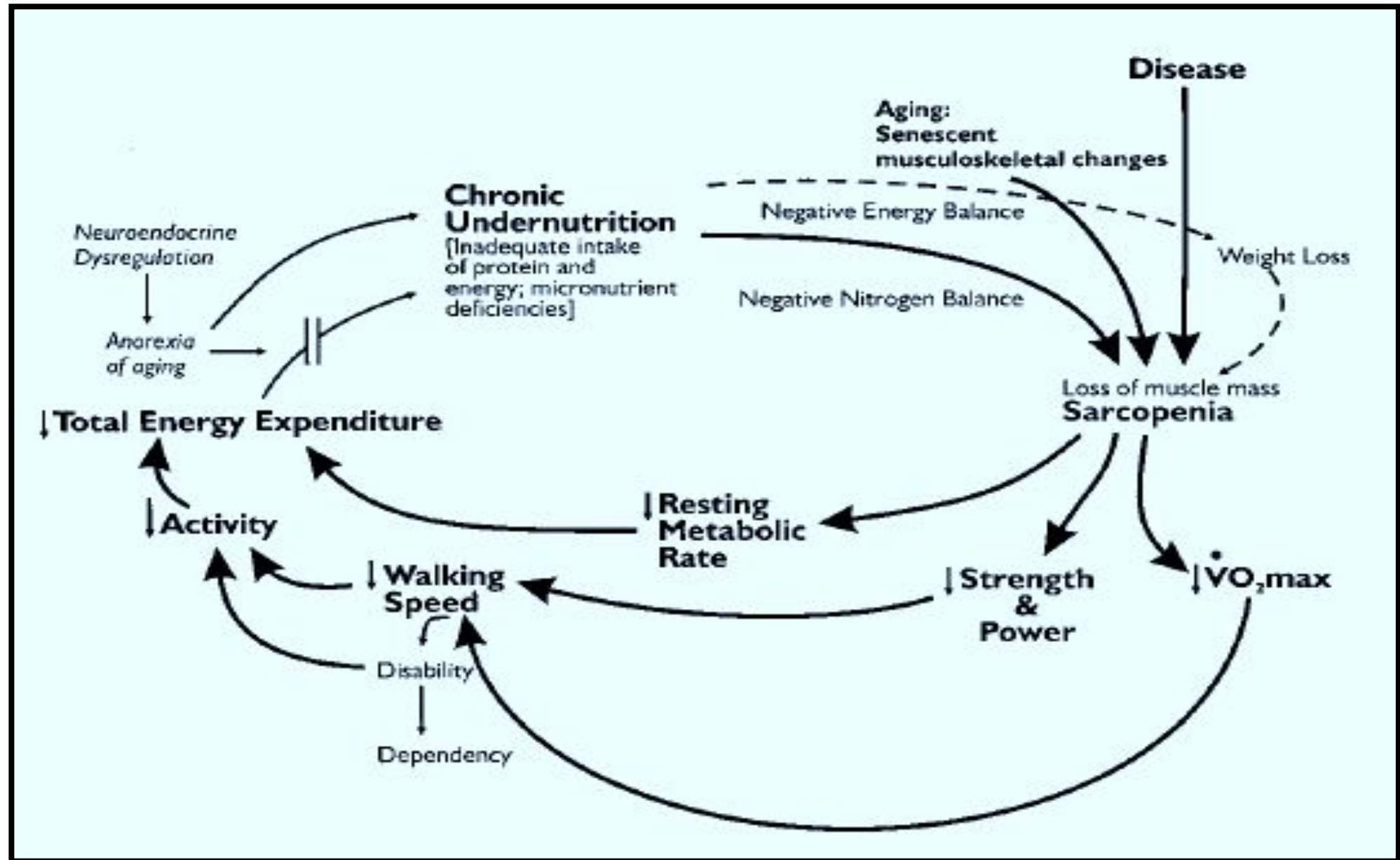
“a medical syndrome with multiple causes and contributors that is characterized by diminished strength, endurance, and reduced physiologic function that increases an individual’s vulnerability for developing increased dependency and/or death”

COURSE OF FRAILTY



CONTINUUM OF FRAILITY





CHS STUDY SCALE / PHENOTYPE MODEL

Characteristics of Frailty	Cardiovascular Health Study Measure
Shrinking: Weight loss (unintentional) Sarcopenia (loss of muscle mass)	Baseline: >10 lbs lost unintentionally in prior year
Weakness	Grip strength: lowest 20% (by gender, body mass index)
Poor endurance; Exhaustion	“Exhaustion” (self-report)
Slowness	Walking time/15 feet: slowest 20% (by gender, height)
Low activity	Kcals/week: lowest 20% males: < 383 Kcals/week females: < 270 Kcals/week

*Frail: ≥ 3 criteria

* Intermediate/prefrail: 1 or 2 criteria

FRAIL SCALE

0 – Robust

1,2 – Prefrail

3,4,5 – Frail

Fatigue	How much time during the previous 4 weeks did you feel tired? (all of the time, most of the time = 1 point)
Resistance	Do you have any difficulty walking up 10 steps without resting and without aids? (Yes = 1 point)
Ambulation	Do you have any difficulty walking several hundred yards alone with or without aids? (Yes = 1 point)
Illness	How many illnesses do you have out of a list of 11 total (5 or more = 1 point)
Loss of weight	Have you had weight loss of 5% or more in past 1 year (Yes = 1 point)
The illnesses include hypertension, diabetes, cancer (other than a minor skin cancer), chronic lung disease, heart attack, congestive heart failure, angina, asthma, arthritis, stroke, and kidney disease	

TREATMENT FOR ALL FRAIL

1. Exercise therapy including:

- A. Aerobic
- B. Resistance
- C. Balance
- D. Dual-tasking

2. High protein diet (1.2-1.5g/kg)

3. Leucine enriched essential amino acids supplement between meals

4. Vitamin D 1000 iu daily

FOCUSED TREATMENT

1. Testosterone in males with low testosterone levels
2. Treat anemia – treatable causes and erythropoietin if $\text{Hb} < 10\text{g/dl}$
3. Treat depression
4. Reduce polypharmacy

	Fit	Prefrailty	Frailty	End-Stage Frailty
Frailty Score	Fried frailty phenotype, 0 points Deficit-accumulation frailty index of <0.10 Score on Clinical Frailty Scale, 1–3	Fried frailty phenotype, 1 or 2 points Deficit-accumulation frailty index of 0.10 to <0.20 Score on Clinical Frailty Scale, 4	Fried frailty phenotype, 3 or 4 points Deficit-accumulation frailty index of 0.20 to <0.55 Score on Clinical Frailty Scale, 5–7	Fried frailty phenotype, 5 points Deficit-accumulation frailty index of ≥0.55 Score on Clinical Frailty Scale, 8 or 9
Goal	Increase physiological reserve	Increase physiological reserve	Preserve physiological reserve and prevent avoidable stressors	Provide comfort
Lifestyle	Exercise and physical activity High-quality diet Social engagement	Exercise and physical activity High-quality diet (protein intake) Social engagement	Less intense exercise may be better tolerated High-quality diet (protein intake) Social engagement	Physical activity as tolerated Diet as tolerated Social engagement as tolerated
Disease Management	Apply disease-based guidelines	Apply disease-based guidelines	Consider trade-off between disease and treatment burden	Deescalate treatments
Preventive Care	Vaccination Cancer screening	Vaccination Cancer screening	Vaccination Individualize cancer screening (time to benefit vs. remaining life expectancy)	Vaccination Stop cancer screening
Interventions for Frailty		Treat reversible causes of frailty Exercise and physical activity Nutritional counseling and supplementation CGA and multidisciplinary intervention Comprehensive medication review	Treat reversible causes of frailty Rehabilitation (PT and OT) Nutritional counseling and supplementation CGA and multidisciplinary intervention Comprehensive medication review	Comprehensive medication review
Patient Engagement	Patient-centered goal	Patient-centered goal	Patient-centered goal	Patient-centered goal
Social Support	Social support (family and caregiver)	Social support (family and caregiver)	Social support (family and caregiver)	Social support (family and caregiver)

SARCOPENIA

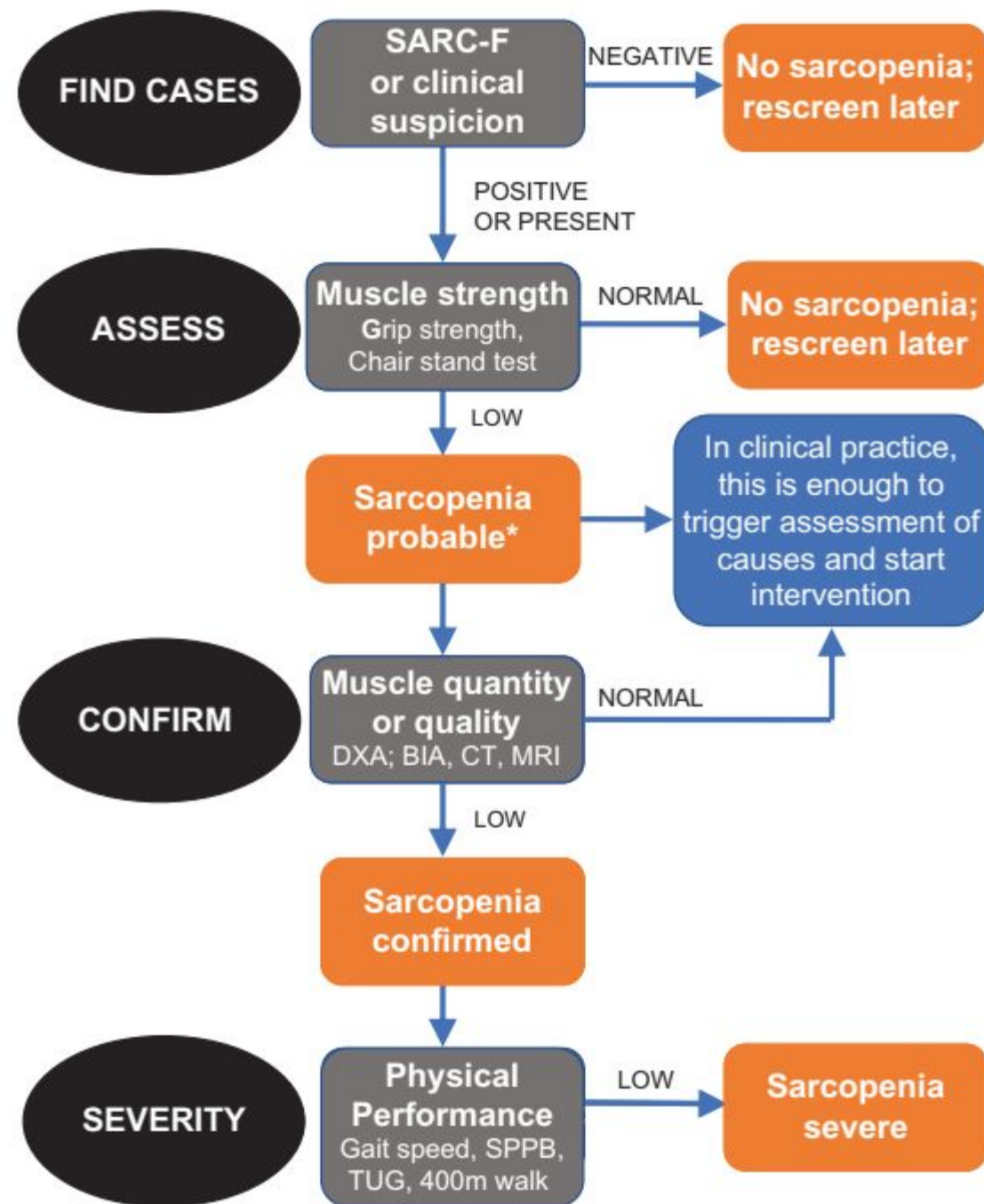
SARCOPENIA

Definition:

Sarcopenia is a syndrome characterised by progressive and generalised loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death

2018 operational definition

Low muscle strength	Grip strength, Chair stand test	Probable sarcopenia
Low muscle strength AND Low muscle quantity or quality	DEXA, BIA, CT, MRI	Sarcopenia
Low muscle strength AND Low muscle quantity or quality AND Low physical performance	Gait speed, SPPB, TUG, 400 metre walk	Severe sarcopenia



MANAGEMENT

Management is almost same like Frailty syndrome

- Exercise
- Protein rich diet
- Vitamin D supplementation in insufficiency
- Testosterone supplementation in hypogonad males

DELIRIUM

Risk Assessment

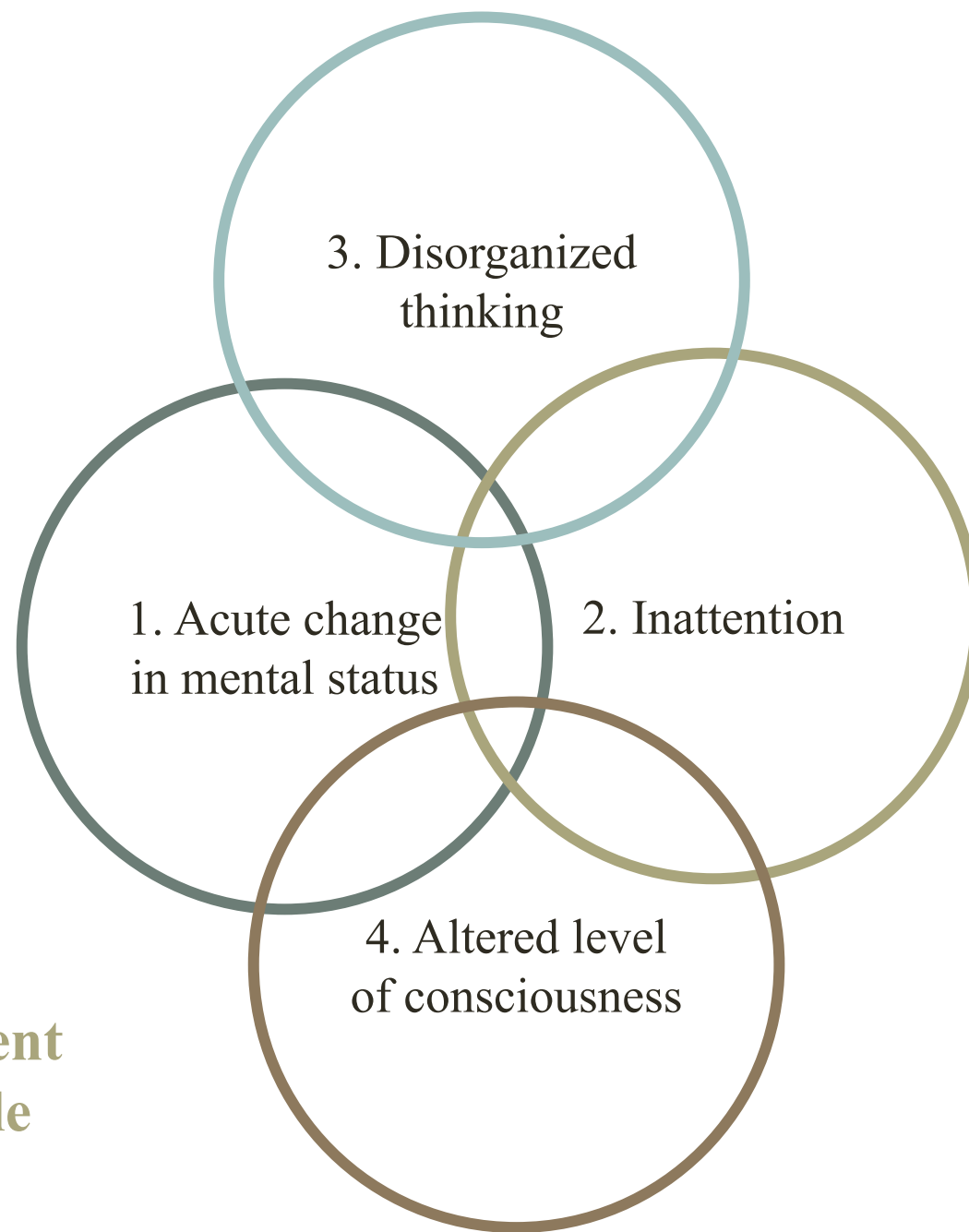
- All 65 years and above
- 50 to 64 years with risk
- Dementia, surgery, etc.

Diagnosis

- CAM (Confusion Assessment Method)
- Daily assessment

Prevention & Management

- Multicomponent intervention



Confusion Assessment Method (CAM) scale

Hypoactive
Hyperactive
Mixed

General Preventive Measures

- ❖ Appropriate lighting; Sunlight exposure
- ❖ Clear signage
- ❖ A clock and a calendar should also be easily visible to the person at risk
- ❖ Reorientate them by explaining where they are, who they are, and what your role is
- ❖ Cognitively stimulating activities
- ❖ Facilitating regular visits from family and friend
- ❖ Avoid frequent changes in shift/persons
- ❖ Name plate for staffs



Treat Precipitating factors	• Workup to find out precipitating factors (infection, electrolyte imbalance, pain, etc.) and treat the same
Medication Review	• Overall medication review • Avoid polypharmacy
Hydration	• Adequate fluid intake to prevent dehydration • Precaution in comorbidities like heart failure or CKD
Sensory system	• Hearing and Visual aids • Cleaning ear wax
Pain	• Assessing for pain • Look for non-verbal signs of pain, particularly in those with communication difficulties • Appropriate pain management

Sleep	• Avoid nursing or medical procedures during sleeping hours, if possible • Scheduling medication rounds to avoid disturbing sleep • Reducing noise to a minimum during sleep periods
Nutrition	• Balanced diet, fiber rich • High Protein diet (when no contraindication) • Easy to chew and swallow • Denture
Supervised Mobility	• Encourage people to: ☐ mobilise soon after surgery ☐ walk (provide appropriate walking aids if needed) • Encourage all people, including those unable to walk, to carry out active range-of motion exercises.

FALL

- ❖ Age >65 yrs: 33% fall every year (one in three)
- ❖ Age >80 yrs: 50% fall every year (one in two)
- ❖ Recurrent falls increase morbidity and mortality in the elderly
- ❖ About 50% individual in long term care setting fall yearly
- ❖ Marker of poor physical and cognitive status

Multifactorial Causes of Fall

Intrinsic Risk factors

- Gait and balance impairment
- Peripheral Neuropathy
- Vestibular Dysfunction
- Muscle weakness
- Vision impairment
- Medical illness
- Advanced age
- Impaired ADL
- Orthostatic Hypotension
- Dementia
- Medication

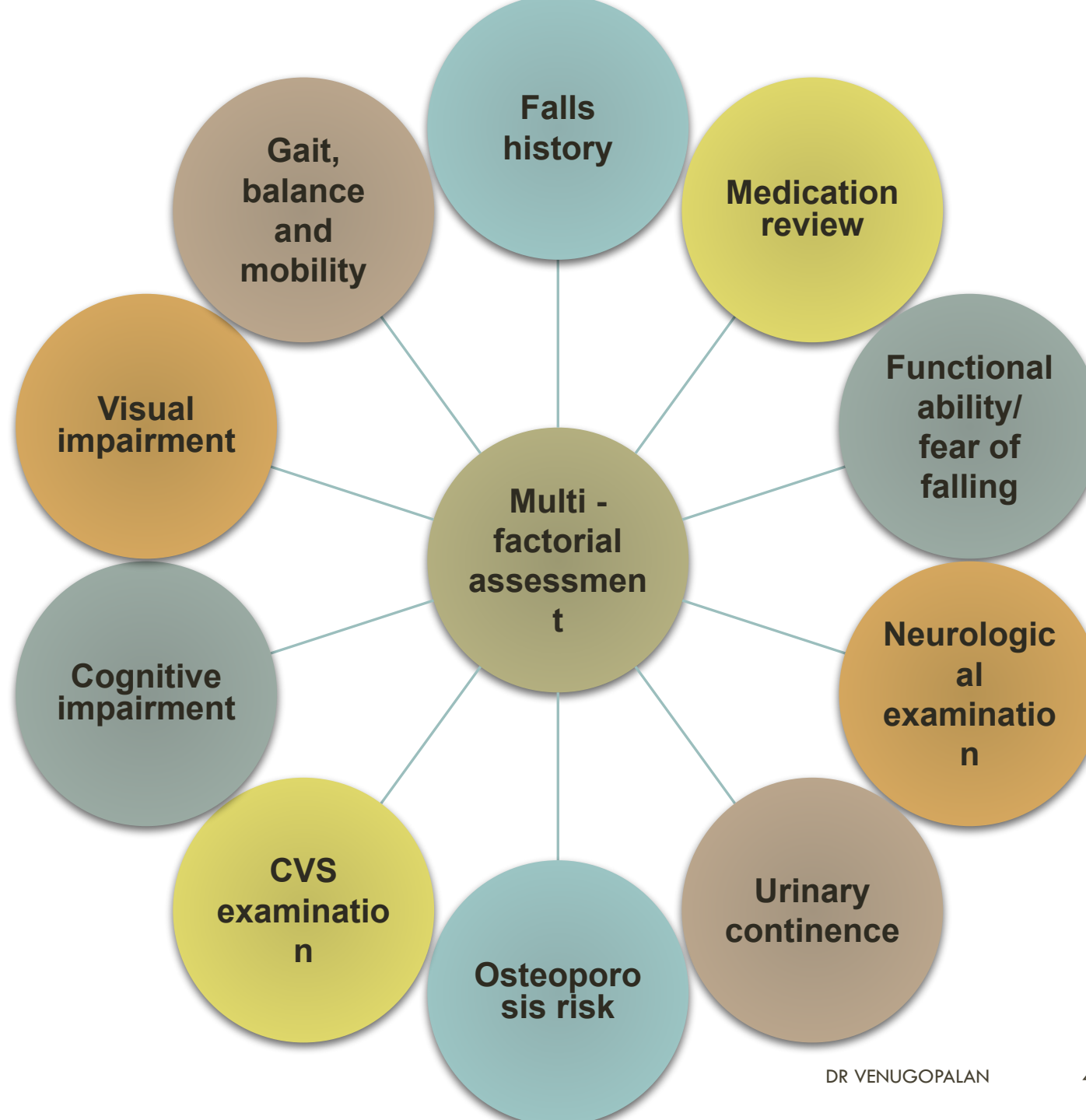
Extrinsic Risk factors

- Environmental Hazards
- Poor footwear
- Restraints

Precipitating causes

- Trips and slips
- Drop Attack
- Syncope
- Dizziness
- Acute medical illness

FALL



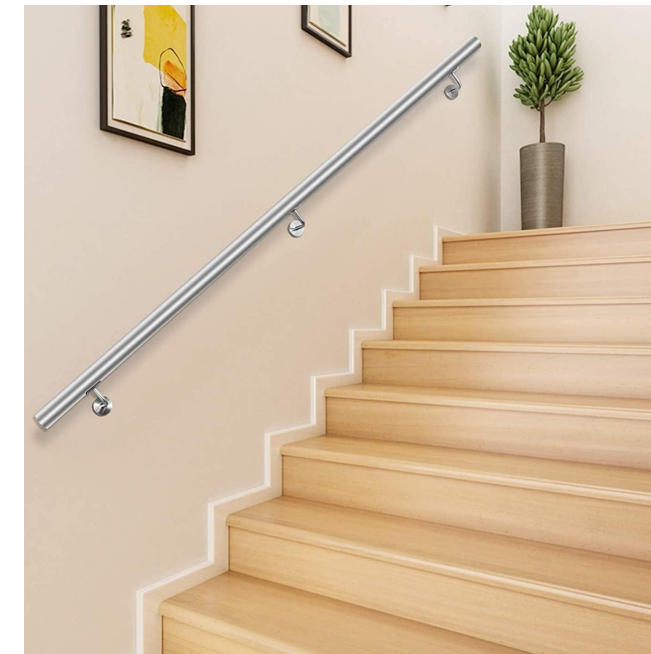
MORSE FALL RISK

<i>Item</i>	<i>Scale</i>	<i>Scoring</i>
1. History of falling; immediate or within 3 months	No 0 Yes 25	_____
2. Secondary diagnosis	No 0 Yes 15	_____
3. Ambulatory aid Bed rest/nurse assist Crutches/cane/walker Furniture	0 15 30	_____
4. IV/Heparin Lock	No 0 Yes 20	_____
5. Gait/Transferring Normal/bedrest/immobile Weak Impaired	0 10 20	_____
6. Mental status Oriented to own ability Forgets limitations	0 15	_____

Risk Level	MFS Score	Action
No Risk	0 - 24	Good Basic Nursing Care
Low Risk	25 - 50	Implement Standard Fall Prevention Interventions
High Risk	≥ 51	Implement High Risk Fall Prevention Interventions

GENERAL MEASURES

- ❖ Improve lighting in room/hallway/bathroom
- ❖ Wall rail / Grab bar
- ❖ Light switch near patient bed/ toilet/ easily accessible
- ❖ Avoid clutters, loose wire, unnecessary furniture
- ❖ Patient with high risk of fall – supervised mobility only or bedside care
- ❖ Identify risk factors (Delirium, orthostatic hypotension, cognitive impairment, etc.)
- ❖ Adjust bed height, side railing
- ❖ Advice for OH



BATHROOM

- ❖ Don't latch bathroom door
- ❖ Anti-skid floor
- ❖ Grab bar
- ❖ Avoid wet floor/ water stagnation/ slippery floor
- ❖ Wheelchair friendly
- ❖ Emergency call button to central nursing station
- ❖ Assisted mobility



REVIEW

❖ CGA

❖ WHO ICOPE

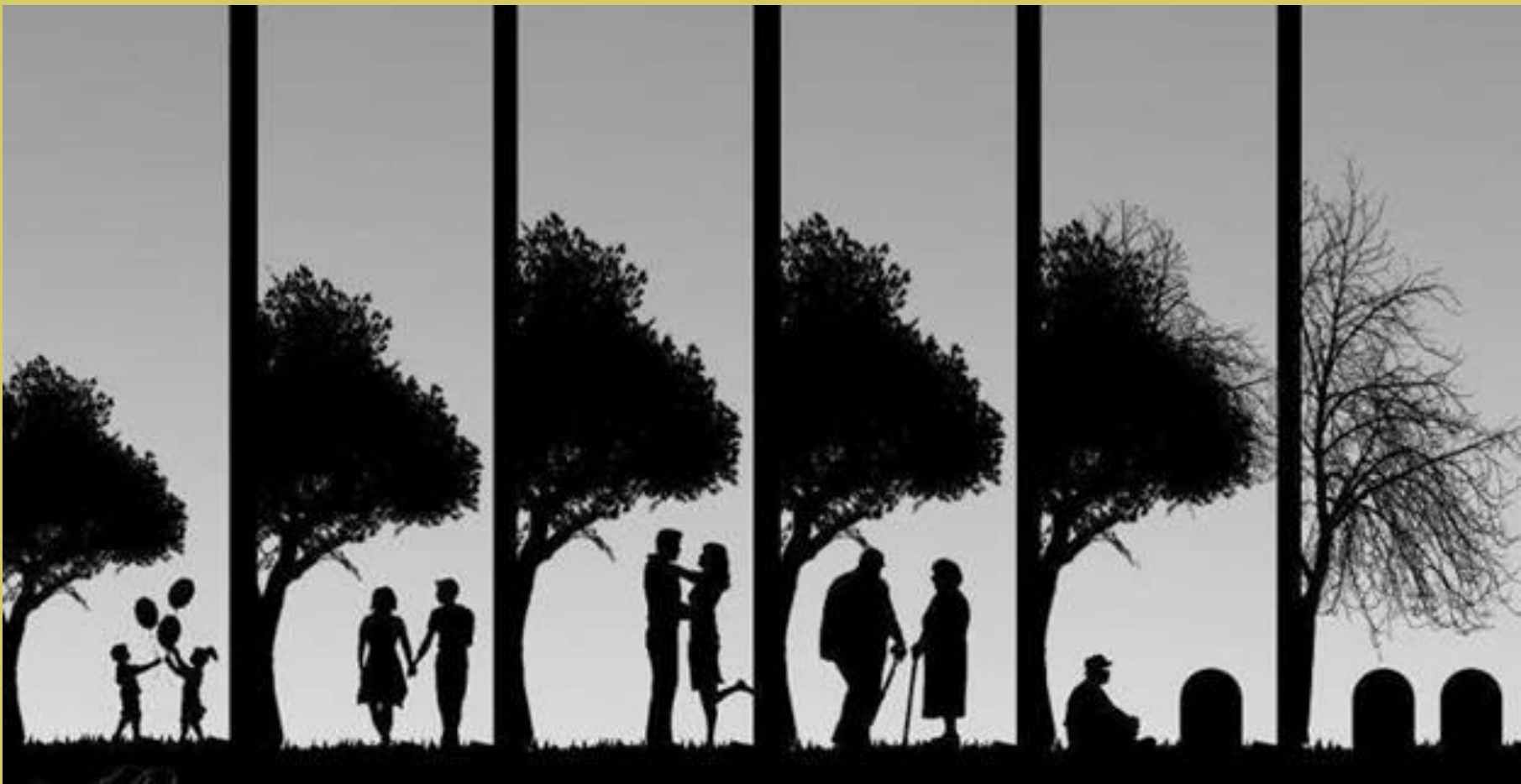
❖ GERIATRIC SYNDROMES

☐ Frailty

☐ Sarcopenia

☐ Delirium

☐ Fall



THANK YOU