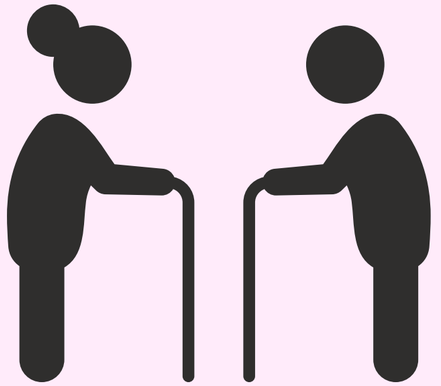
Geriatric Syndromes
For MO

GERIATRIC SYNDROMES

Syndrome: A group of common symptoms and signs that occur due to multiple causes. Clinical presentation is similar – ex nephrotic syndrome, hemiplegia



Geriatrics: Health of individuals 60 years and above

Geriatric syndromes:

- Symptoms - dizziness, sleep problems, constipation, incontinence
- Signs - sarcopenia, delirium
- Events - abuse, falls that occur more commonly in the geriatric age group

GERIATRIC GIANTS

- ‘Geriatric Giants’ or the four I’s
- Impairment of intellect
  - Cognitive impairment
  - Delirium
  - Depression
- Immobility
- Instability
  - Incontinence

HTTPS://WWW.BGS.ORG.UK/A-GIANT-OF-GERIATRIC-MEDICINE-PROFESSOR-BERNARD-ISAACS-1924-1995-POST-1

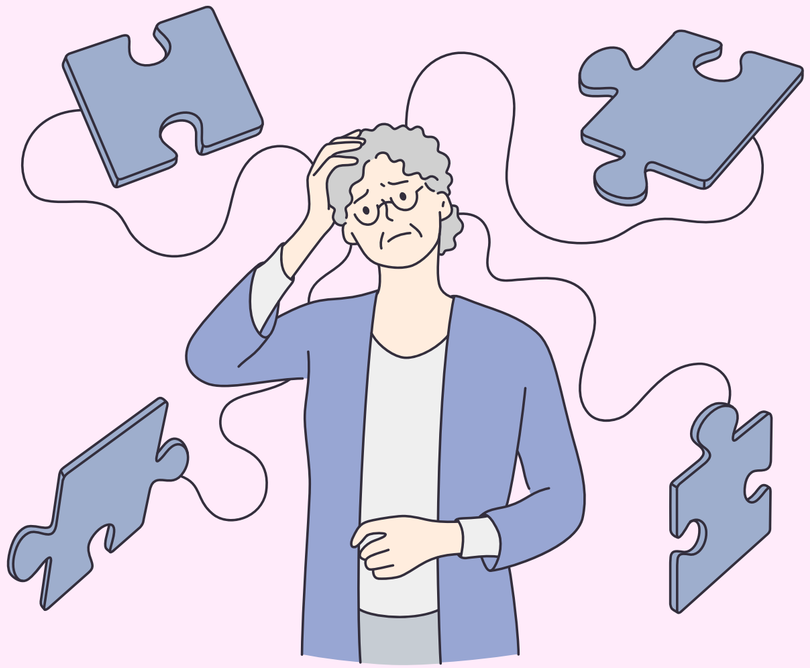
NEWER GERIATRIC GIANTS

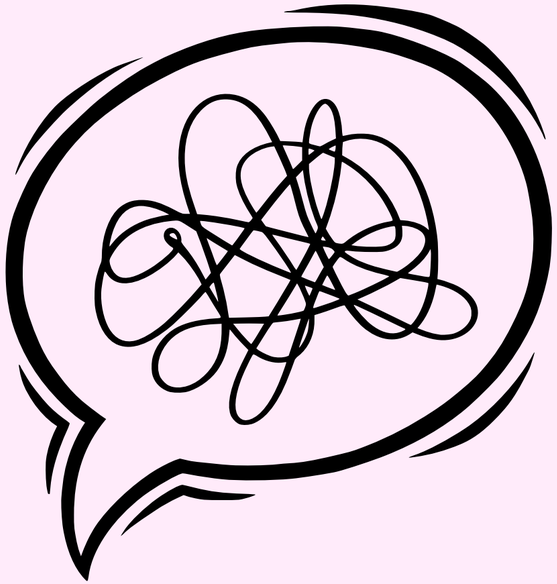
- Frailty
- Sarcopenia
- The ‘anorexia of aging’
- Others: elder abuse, polypharmacy
    - Nutrition in older adults

The New Geriatric Giants.Morley, John E. Clinics in Geriatric Medicine, Volume 33, Issue 3, xi – xii.
https://doi.org/10.1016/j.cger.2017.05.001

IMPAIRMENT - DEMENTIA

- Cognitive Impairment





Memory loss

Dementia

Delirium

Depression

DEMENTIA - NEUROCOGNITIVE DISORDER

Hallmark: Altered level of cognition

DEMENTIA

A clinical syndrome involving a sustained loss of cognitive function and memory of sufficient severity to cause dysfunction of Daily Living

Cognitive disturbances

- Impairment of occupational and social functioning and
- Decline from previous level of Functioning
- Gradual onset & progression not due to CNS problem

PSEUDO DEMENTIA

Older patients with depressive symptoms (i.e. hopelessness, excessive guilt, inertia and suicidality may be suffering from pseudodementia (ie, major depression).

When the depression improves with treatment, the cognitive impairments may resolve.

COMMON SUBTYPES OF IRREVERSIBLE DEMENTIA

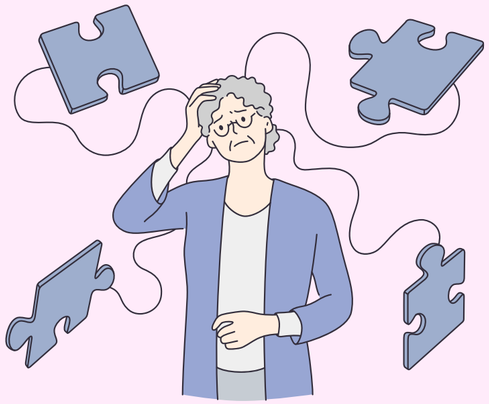
Dementia subtype	Early, characteristic symptoms	Neuropathology	Proportion of dementia cases
Alzheimer's Dementia(AD)	Impaired memory, apathy and depression Gradual onset	Cortical amyloid plaques and neurofibrillary tangles	50-75%
Vascular dementia (VaD)	Similar to AD, but memory less affected, and mood fluctuations more prominent Physical frailty Stepwise progression	Cerebrovascular disease Single infarcts in critical regions, or more diffuse multi infarct disease	20-30%
Dementia with Lewy Bodies (DLB)	Marked fluctuation in cognitive ability Visual hallucinations Parkinsonism (tremor and rigidity)	Cortical Lewy bodies (alphas nuclein)	<5%
Frontotemporal Dementia(FTD)	Personality changes Mood changes Dis-inhibition, Language difficulties	No single pathology – damage limited to frontal and temporal lobes	5-10%

BEHAVIORAL & PSYCHOLOGICAL SYMPTOMS IN DEMENTIA

- Agitation (A range of purposeless verbal, motor behaviors that put the patient or others at risk of harm) – 75%
- Wandering in up to 60%
- Depression in up to 50%
- Repeated stories and statements in ~32%
- Psychosis in up to 30%
- Hoarding in up to 30%
- Screaming in up to 25%
- Aggression and violence in up to 20%
- Hypersexuality in up to 10%

REVERSIBLE DEMENTIA

- Delirium
- Depression: so-called “Pseudodementia”
- Electrolyte disorders (hyponatremia, hypercalcemia, etc.)
- Hypothyroidism
- Late onset Psychosis
- Medication side effects (e.g. sedatives, anticonvulsants, anti-hypertensives, anti-cholinergics, first generation neuroleptics)
- ETOH overuse/misuse



- Vitamin deficiencies (B-12, folate)
- Normal Pressure Hydrocephalus (although few, if any actually reverse with shunting)
- Brain tumour/ SOL
- Subdural Hematoma (SDH)
- Sub-acute CNS infections (i.e. syphilis)

MANAGEMENT OF DEMENTIA: GOALS

- Early diagnosis
- Optimization of physical health, cognition, activity and well being
- Detection and treatment of Behavioural and Psychological symptoms of Dementia (BPSD)
- Educating care giver and providing long term support to them

MANAGEMENT OF BEHAVIOURAL & PSYCHOLOGICAL SYMPTOMS OF DEMENTIA

- Individualized non pharmacological therapies preferred over drug therapy

- Caregiver training
  - Improves coping mechanisms
  - Cognitive engagement
  - No effect on patients ADLs

- Pharmacological: (Journal of Geriatric Psychiatry 2008)
  - Cognition Enhancer – Donepezil, memantine
  - Antipsychotics – Risperidone
  - Antidepressants – SSRI, Mirtazipine

IMPAIRMENT - DEPRESSION

Hallmark: Altered level of mood/affect

DEPRESSION

- Depression is the most common psychiatric illness in the elderly
- Although common, it is NOT a natural part of ageing
- The prevalence in community dwelling elders range from 8% to 15%; it raises to as much as 30% of those in long-term care facilities
- GDS 4 or GDS 15 used to assess depression

MANAGEMENT OF DEPRESSION IN OLDER ADULTS

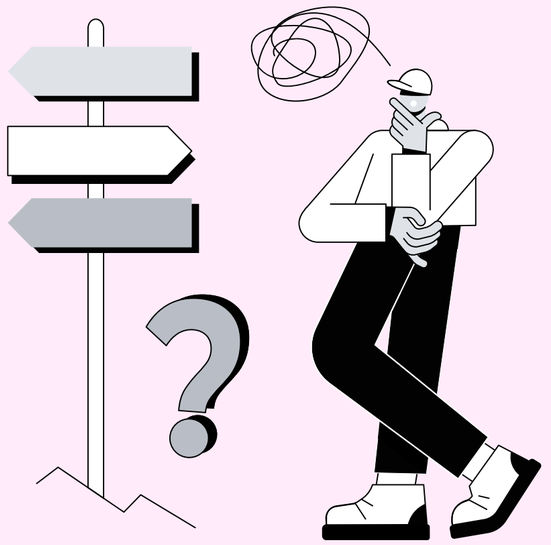
- Non pharmacological therapy preferred
  - Cognitive behavior therapy
- Pharmacological therapy
  - SSRIs preferred (risk of hyponatremia +)
  - Mirtazapine, Venlaflaxine, Duloxetine also useful
- Needs referral to psychiatrist
  - If suicidal/homicidal OR refusing to eat/drink
  - if not responding to antidepressants (8-12 week trial at appropriate dose)

- Needs referral to psychiatrist
  - Uncertain diagnosis
  - Bipolar disorder present
- Electro convulsive therapy safe in older adults - if indicated

IMPAIRMENT - DELIRIUM

- Hallmark: Altered level of consciousness

DELIRIUM



- Acute decline - attention and global cognitive function
- Often under-recognised & under diagnosed
- > 50% of hospitalized elderly persons are affected
- Often life threatening and potentially preventable source of morbidity and mortality for elderly patients
- It is preventable in 30% to 40% of cases
- Types: Hypoactive, Hyperactive, Mixed
- Delirium prevention is a cost effective strategy, as longer lengths of hospital stay and an increased need for long-term care may be avoided

DIAGNOSIS OF DELIRIUM: CAM SCORE

Feature 1: Acute change or fluctuating course of mental status

And

Feature 2: Inattention

And

Feature 3: Altered level of consciousness

Or

Feature 4: Disorganized Thinking

[6]Inouye, et. al. Ann Intern Med 1990; 113:941-948.
[7]Ely, et. al. CCM 2001; 29:1370-1379.
[8]Ely, et. al. JAMA 2001; 286:2703-2710.

CAUSES OF DELIRIUM

Infection	Pneumonia, UTI, Sepsis, Cellulitis, Abscess
Metabolic Disturbance	Hypo/hypernatremia, hypoglycemia, Hepatic encephalopathy, Thiamin deficiency
Toxic Insult	Anticholinergics, Alcohol withdrawal
Acute Neurological Conditions	Acute stroke, subdural haemorrhage
Hypoxia	Pneumonia, pulmonary edema, COPD/bronchial asthma exacerbation

TREATMENT OF DELIRIUM

- Treat the cause, if you find it
- Do frequent CAM to follow the progress of the delirium
- Provide supportive care (IV fluids if not drinking, O2 if hypoxic)
- Move the patient to a quiet, well lit room
- Re orient the patient
- Medications – Only if hyperactive/risk of Self harm
  - Neuroleptics: risperidone, olanzapine
  - Benzodiazepines
  - Haloperidol

	Risk Factor	Intervention
1	Cognitive Impairment	Realty orientation, Therapeutic activities program (Clock, Calendar, Extended visiting Hrs)
2	Sleep Deprivation	Non Pharmacological Sleep enhancement protocol
3	Immobilization	Minimize Restraints/ avoid bladder catheters
4	Vision Impairment / Hearing impairment	Spectacles/ Hearing amplifying devices
5	Psychoactive medication use	Non pharmacologic approach to sleep & agitation
6	Dehydration	Early recognition, Volume repletion (esp. LTC)

TREATMENT

Drugs commonly used:

- Haloperidol, Olanzapine, Risperidone
- Melatonin (postop. Delirium)
- Rivastigmine, Donepezil

IMMOBILITY

- Immobility implies a limitation in independent, purposeful physical movement of the body or of one or more lower extremities

- Due to physical decline

- Causes
  - –Physical(medical illnesses)
  - –Psychological(depression)
  - –Environmental (i.e. hospitalization)

- Leads to pain, disability and poor quality of life

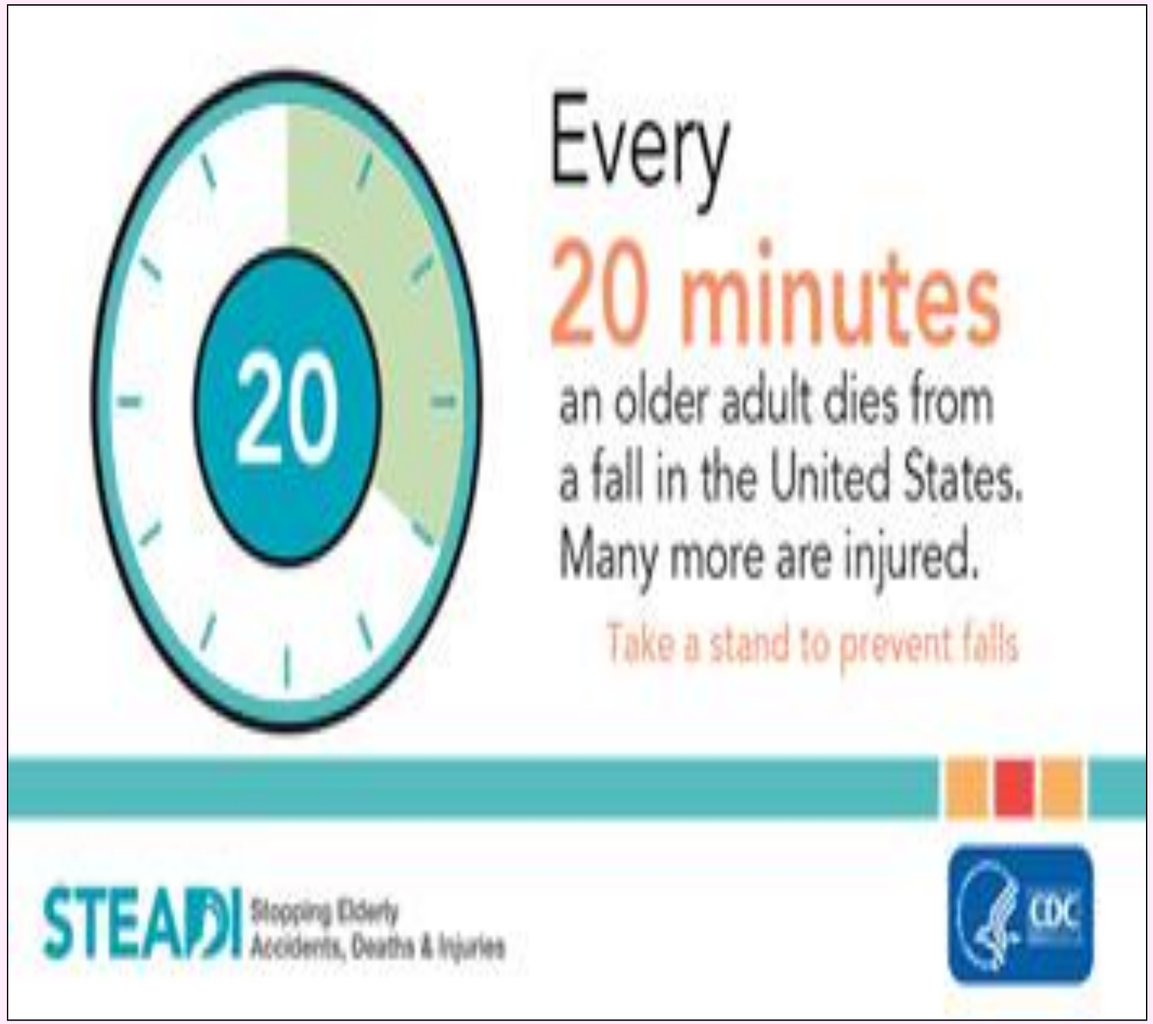
- Causes deconditioning(decreased functional capacity of multiple organ systems)

- Pressure sores
- Contractures
- Constipation
- Malnutrition
- Osteoporosis
- Depression, loss of social roles
- Caregiver burden, increased cost of care

IMMOBILITY - MANAGEMENT

- Positioning
- Mattress
- Range of Motion exercises
- Nutrition
- Assistive devices

FALLS, FEAR OF FALL



FALL/RECURRENT FALL

- A fall is defined as an event that results in the patient or a body part of the patient coming to rest inadvertently on the ground or other surface lower than the body
- Recurrent falls is defined as 2 or more falls within 6 months

(Prevention of Falls Network Europe, www.profane.eu.org)

CAUSES FOR FALLS IN ELDERLY

Environmental hazards

- Clutter
- Slippery Floor
- Poor lighting

Mechanical & Recurrent falls

- Multiple comorbidities
- Risk factors for falls
  1) Gait/balance abnormalities
  2) Visual impairment
  3) Arthritis
  4) Geriatric Giants

Acute Illness

- Infection
- Stroke
- Metabolic disturbance

Blackouts

- Syncope
- Seizure

Falls

AETIOLOGY OF RECURRENT FALLS

Intrinsic	Extrinsic
• Aging • Acute illness • Metabolic abnormalities • Impaired balance • Systemic diseases • Focal deficits • Visual disorders • Postural hypotension	• Poor lighting • Unsafe stairways • Irregular floor surfaces • Slippery bathroom • Too low furniture and commode • Foot wears with high heels • Obstacles on the floor like rugs and Floor mats

DRUGS CAUSING INCREASED RISK OF FALLS

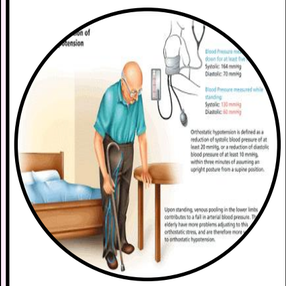
- Sedative/hypnotic
- Tricyclic antidepressants
- Antihypertensives
- Cardiac medications
- NSAIDs
- Anticholinergic drugs
- Hypoglycemic agents
- Any medication likely to affect balance

PREVENTION OF FALLS-MULTIDISCIPLINARY APPROACH

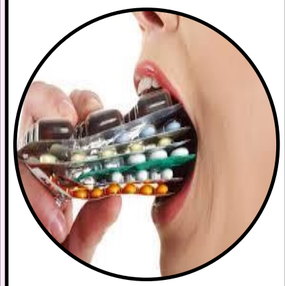
Balance and Strength training- Tai Chi

Reduce hazards at home

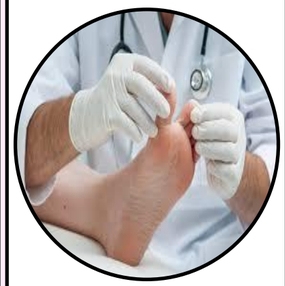
Correct vision- Spectacles



Correct postural hypotension



Rationalizing drug use Psychotropic medication



Podiatry

Identify and treat medical conditions causing falls

Use assistive devices

Walking alone does not prevent fall risk

URINARY INCONTINENCE

- Involuntary loss of urine- comes to attention → severe enough to cause social/hygiene problem
- Skin damage
- Socially restricting
- Not due to ageing– needs to be investigated and treated

Contributory factors
• Acute illness • UTI • Severe constipation • Drugs : eg. Diuretics • Hyperglycemia • Restricted mobility • Acute confusion

URINARY INCONTINENCE - CAUSES

D- Delirium

I- Infection

A- Atrophic vaginitis

P- Pharmaceuticals

P- Psychological disorders

E- Endocrine causes

R- Restricted mobility

S- Stool impaction

D- Delirium

R - Restricted mobility

I - Infection / impaction of stool

P - Polyuria / Pharmaceuticals

Urinary Incontinence

Address Contributory factors

If still incontinent:

- Establish pattern of urinary loss (Bladder diary)
- Ultrasound: Residual Volume, Prostate size
- Assess for vaginal prolapse/prostate enlargement

Urge

Stress

Overflow

Urge	Stress	Overflow
• Due to detrusor overactivity • Results in urgency and frequency	• Women • Weakness of pelvic floor muscles • Atrophic vaginitis	• Prostatic enlargement
Bladder retraining Antimuscarinic drugs: solifenacin, tolterodine	Pelvic Floor muscle training Surgical intervention	Residual Vol>100ml Resection of prostate Intermittent catheterisation

Functional incontinence It results when an elderly person is unable or unwilling to reach a toilet on time

- Urinary Infection-urgency
- Severe pain-osteoarthritis, metastasis
- Imbalance, dizziness
- Inaccessible toilets

FRAILTY

- A state of increased vulnerability to stressors due to age-related declines in physiologic reserve across neuromuscular, metabolic and immune systems"

- Sarcopenia is age-related loss of skeletal muscle and muscle strength (Key physiologic component of frailty)

Fried Frailty Score

1. Unintentional weight loss [at least 6 kg in 1 yr]

2. Self-reported exhaustion

3. Reduced gait speed

4. Decreased physical activity and

5. Reduced grip strength

Frail if ≥3 factors present

Treatment

- Address the precipitating acute illness
- Address the underlying loss of reserve
  - Eg. Frail woman with Myocardial Infarction
  - Exercise- musculoskeletal function
  - Improve balance and aerobic capacity
  - Drugs
  - Nutritional support to improve lost weight

SARCOPENIA

- Age-related loss of muscle mass and muscle strength
- Increases the risk for falls, fractures, dependency, use of hospital services, institutionalization, poor quality of life, and mortality
- Assessment
  - 5 item SARC-F score
- Management
  - Protein supplementation
  - Resistance exercises

ANOREXIA OF AGING

- The multifactorial decrease in appetite and/or food intake that occurs in late life

- Specific geriatric syndrome that can lead to malnutrition if not appropriately diagnosed and treated

- Features:
  - body wasting (cachexia and sarcopenia)
  - poor endurance,
  - reduced physical performance,
  - slow gait speed, and
  - impaired mobility

- Impacts survival independent of age , gender and multimorbidity
- Risk Factors:
  - Functional impairment
  - Chronic medical conditions
  - Polypharmacy
  - Environmental factors: physical limitations causing mobility problems
  - Poor dentition/dentures
  - Depression – refusal to eat suicidal gesture?
  - Economic inequality
  - Social Isolation (Living alone/ living in old age home)

- **Management**:
  - Address reversible contributing factors/ comorbidities
  - Prescription review
  - Improve food texture and palatability
  - Protein supplementation – 1- 1.2 gm/kg body weight

Thank You