



Objectives:

(taken from last year)

- What is aging? .
- What is the meaning of geriatric medicine? .
 - General principles of geriatric care .
 - Common geriatric syndromes .
 - Comprehensive geriatric assessment .
 - Common home care services .
- Home care teams and their roles in medical practice. .
 - Home safety.

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References : Slides , doctor's notes , 432 team

[Color index : **Important** | **Notes** | Extra]



Aging

What's Aging? Aging is not a disease, it's only a risk factor

Which definition is : a **physiological process** that is associated with complex changes in all organs , Aging can be defined as the decline and deterioration of functional properties at the cellular, tissue, and organ level.

- The accumulation of biological changes over time leading to **decreased biological functioning** and impaired ability to adapt to stressors.

Who is old? (Depends on the country)

Elderly age: classified as group for the risk of diseases

- 60 & ↑ years of age (UN)
- 65 & ↑ (developed countries)
- 50 & ↑ (African countries, birth certificates problem) (b/c developing countries have more life stresses).

The typical “geriatric” patient have:

- chronic disease
- multiple disease “comorbidity”
- multiple drugs “polypharmacy”
- social isolation and poverty
- physiological function

A Geriatrician is physician, who **diagnoses, treats & manages diseases & conditions** with a **special approach** for aging patients and serve as **Primary Care Physicians & consultants for older adults.**



❖ Geriatric Medicine:

MALTA Definition :

- Geriatric medicine exceeds organ orientated medicine.
- Additional therapies are offered through multidisciplinary team, to optimise functional status, quality of life and autonomy.
- Most patients will be **over 65 years** of age but the problems best dealt with by the speciality of Geriatric Medicine are **in the 80+ age group**.

General principles of geriatric care:

- Multifactorial disorders are best managed by multifactorial interventions.
- Atypical presentations need to be considered.
- Not abnormalities require evaluation and treatment.
- Complex medication regimens, adherence, problems, and poly-pharmacy are common challenges.


Why are elderly special ?

Why we care about them specially?	
> Medical incidents:	
• IHD	• HTN
• DM	• Cancer (GI/prostate/lung/breast)
• Psychological problems	• Geriatric syndrome (Osteoporosis + Urine incont. + falls + bed sores", Sleep problems, OsteoArth., Hearing/Visual problems.)





❖ Normal Aging vs. Disease:

Normal Aging	Disease
Crow's feet : wrinkle at the outer corner of a person's eye . 	Macular degeneration .
Presbycusis : loss of hearing due to old age .	Tympano-sclerosis .
Seborrheic keratosis : loss of skin elasticity .	Basal cell CA .
Benign forgetfulness .	Dementia .
Decreased blood vessel compliance .	Atherosclerosis and HTN .
Increase in % body fat .	Obesity .

Principles of Geriatrics:

1. Aging is not a disease:

- ⇒ Aging occurs at different rates.
- ⇒ Between individuals.
- ⇒ Within individuals in different organ systems.

2. Geriatric conditions are chronic, multiple, multifactorial.
3. Reversible conditions are underdiagnosed and undertreated.
4. Function and quality of life are important outcomes.
5. Social support and patient preferences are critical aspects.
6. Geriatrics is multidisciplinary issues.
7. Cognitive and affective disorders prevalent and undiagnosed at early stages.
8. Iatrogenic disease common and often preventable.
9. Care is provided in multiple settings.
10. Ethical and end of life issues guide practice



Common Geriatric Syndromes:

- Dementia and Delirium
- Polypharmacy
- Urinary Incontinence
- Falls Usually caused by medication such as anti-HTN drugs.
- Pressure Ulcers

❖ Decline in quality of elderly life Causes:

- Chronic disease.
- Falls, (more with **DM (58%) & HTN (29%)**).
- Sedentary lifestyle (69%; more in joint / bone pain (90%)).
- Low physical activity (63%).
- Sleep disturbances.
- Sensory impairments-depression risk.
- Decreased self-sufficiency.

Chronic Disease Burden		
Condition	Age 65	Age 75
Arthritis	50 %	54 %
Hypertension	36 %	39 %
Heart	32 %	39 %
Hearing	28 %	36 %
Cataracts	16 %	24 %
Diabetes	10 %	11 %
Vision	8 %	11 %

Assessment of old patient:

❖ Comprehensive geriatric assessment (CGA):

- Co-ordinated multidisciplinary assessment .
- Identify medical, functional, social & psychological problems.
- The formation of a plan of care including appropriate rehabilitation.
- The ability to directly implement treatment recommodations by the multidisciplinary team.
- Long term follow up.
- Targeting (age & frailty).



Structured Approach

Multidimensional	Multidisciplinary
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- | | |
|---|--|
| <ul style="list-style-type: none"> ➤ Functional ability. ➤ Physical health (pharmacy) . ➤ Cognition. ➤ Mental health. ➤ Socio-environmental. | <ul style="list-style-type: none"> ➤ Physician. ➤ Social worker. ➤ Nutritionist. ➤ Physical therapist. ➤ Occupational therapist. ➤ Family. |
|---|--|

Frailty:

Frail people suffer from three or more of five of following symptoms:

1. **Unintentional weight loss** (≥ 10 lbs in last year).
2. Muscle loss.
3. A feeling of fatigue.
4. Slow walking speed .
5. Low levels of physical activity.

These people are vulnerable to significant functional decline. They are typically 75 years of age or older with multiple health conditions; acute and chronic; as well as functional disabilities.

Prognostic factors & risk points for 4 year mortality rates for elderly living at home:

Prognostic Factor	Risk points	Prognostic Factor	Risk points
Age 60-64 yrs	1	BMI < 25 kg/m ²	1
64-69	2	Current smoker	2
70-74	3	Function:	
74-79	4	Bathing difficulty	2
80-84	5	Difficult handling finance	2
85 & above	7	Difficult to walk several blocks	2
Male sex	2	Sum of Risk Points & 4 y Mortality	
Diabetes Mellitus	1	1-2	2%
Cancer	2	3-6	7%
Lung Disease	2	7-10	19%
Heart Failure	2	> 10	53%



Areas of assessment:

- Functional assessment .
- Mobility, gait and balance.
- Nutrition.
- Cognitive/Behavior problems.
- Sensory and Language impairments.
- Continence.
- Depression.
- Caregivers.

Example of Assessment areas:

- Cognitive and affective disorders are prevalent and commonly undiagnosed at **early stages** :
 - Delirium, multi-infarction dementia.
- Geriatric depression is often **undiagnosed**
- **Iatrogenic** illnesses are common and many are preventable such as :
 - Polypharmacy,
 - adverse drug reactions.
 - Complications of hospitalization,
 - falls, immobility, and deconditioning.
- **End Of Life care:**
 - Advance directives are critical for preventing some ethical dilemmas.
 - Palliative care and end-of-life care are essential good quality of life.



Supporting the Normal Changes:

Changes in Vision:	<ul style="list-style-type: none">● Decreased peripheral vision.● Decreased night vision.● Decreased capacity to distinguish color.● Reduced lubrication resulting in dry, itchy eyes.
Changes in Hearing:	<ul style="list-style-type: none">● Sensitivity to loud noises.● Difficulty locating sound.● More prone to wax build up that can affect hearing.
Changes in Smell and Taste:	<ul style="list-style-type: none">● Decreased taste buds and secretions.● Decreased sensitivity to smell.
Changes in Skin:	<ul style="list-style-type: none">● Decrease in moisture and elasticity .● More fragile(tears easily).● Decrease in subcutaneous fat .● Decrease in sweat glands (less ability to adjust body temperature).● Tactile sensation decreases (not as many nerves).● May bruise more easily.
Changes in Elimination:	<ul style="list-style-type: none">● Bladder atrophy → inability to hold bladder for long periods.● Constipation can become a concern because of slower metabolism.● Men can develop prostate problems causing frequent need to urinate.● Incontinence may occur because of lack of sphincter control.
Changes in Bones and Joints:	<ul style="list-style-type: none">● Decreased height due to bone changes.● Bones more brittle → risk of fracture .● Changes of absorption of calcium .● Pain from previous falls or broken bones● Joints less lubricated → may develop arthritis.
Changes in Cognitive Ability:	<ul style="list-style-type: none">● Don't lose overall ability to learn new things but there are changes in the learning process.● Harder to memorize lists of names and words than for a younger person.● Sensory and motor changes as well as cognitive ability may affect ability to respond → hard to know which is which.



Functional Ability:

Functional status refers to a person's ability to perform tasks that are required for living.

Two key divisions of functional ability:

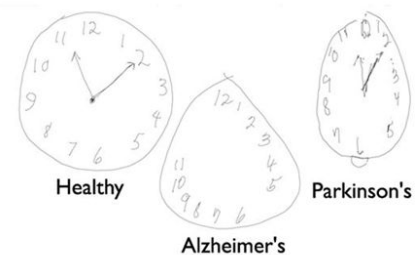
- Activities of daily living (ADL).
- Instrumental activities of daily living (IADL).

If patient can't do them (at least one) **with no organic causes** then the patient has dementia

1. **Activities of daily living (ADL):** (Ability to provide self-care) Feeding, dressing, ambulating, toileting, bathing, transfer, continence, grooming, communication.
2. **Instrumental activities of daily living (IADL):** (Higher functions) Cooking, cleaning, shopping, meal prep, telephone use, laundry, managing money, managing medications, ability to travel.

Cognitive Assessment:

- ❖ MOCA
- ❖ MMSE
- ❖ Clock Drawing test



Prevention:

Prevention of Falls:

Ambulatory Adults (>65) → 30% per year, i.e. 30% of old people who are able to move, will end up falling .

Causes of falls:

1. **Extrinsic** (Environment "home safety")
2. **Intrinsic** (either age causes or disease causes)



Age	Disease
<ol style="list-style-type: none">1. Gait/Balance Disorder2. Sarcopenia3. Vestibular4. Orthostatic Hypotension5. Special Senses – Vision/Hearing	<ol style="list-style-type: none">1. Dementia2. Depression3. Drugs4. Foot problems5. Incontinence

Consequences:

- Death .
- Injury:
 - Fractures (10-15%) .
 - Hip (1-2%) .
- Long Lie.
- Fear of Falling.
- Reduced Activity/Independence (25%).

Reducing the risk of falling:

Treatable risks:

1. Problem walking or moving
2. Orthostatic hypotension
3. Four or more meds or one psychoactive
4. Unsafe footwear or foot problems
5. Environmental hazard (home safety)

Physical Exercise: Reduces fall risk by 47% (reduce muscle atrophy specially quadriceps)



Health Maintenance in the Elderly:

- Recommend primary and secondary disease prevention screening.
- Review all medications.
- Control all chronic medical problems.
- Optimize functions o Verify the presence of an adequate support system .
- Discuss and document advanced directives .

Prevention and Promotion:

- Smoking in middle age is a risk factor
- Exercise
- Osteoporosis (Calcium)
- Vaccines (influenza)
- Treatment of HTN & management of risk factors



Do's

HEALTH AND MEDICATIONS

Get Annual Health check up for eyes, cardiac & blood pressure

EXERCISE!

Join exercise program that aids agility, strength, balance & coordination!

BATHROOM

Install grab bars on bathroom walls & use rubber mat on bathroom floor

BEDROOM

Place a lamp near your bed. Sleep on a bed that is easy to get into and out of.



Don'ts

KITCHEN NORMS

Do not stand on chairs or boxes to reach upper cabinets.

QUIT SMOKING!

Avoid alcohol

LIVING ROOM RULES

Do not run extension cords across pathways; Rearrange furniture

UNCOMFORTABLE FOOTWEAR

Wear properly-fitting shoes with nonskid soles. Avoid high heels.

