Elderly Care: Concept and Principles

Color Index	IMPORTANT	NOTES	GOLD	EXTRA

OBJECTIVES

- Define the elderly population
- Understand the aging process
- Understand the giant geriatric syndromes
- Explain the meaning of healthy aging
- Discuss the health risks in aging population
- Recognize the common causes of dementia
- Discuss the common preventive measures for elderly people

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Sources	**Drs Slides and Notes**

Characteristics and Age group of Elderly

Age Group

1. Developed countries: ≥ 65 Years
2. Undeveloped Countries: ≥ 60 Years
3. African countries: ≥ 50

This variation happens bc those who are in undeveloped country are more prone to stressors

"The Typical geriatric Patient"

1. Has a Chronic Disease
2. Multiple Co-morbidities
3. Uses Multiple Drugs
4. Social isolation and poverty
5. ↓ Physiological Function

What's Aging? Why is it a Concern?

Aging Definition

1. Aging is a physiological process; it's associated with complex changes in all organs. Aging process happens bc of mitochondria apoptosis, so the energy will decline. Exposure to stressors increase the mitochondrial apoptosis rate, so those who are expose more to stressors age faster
2. The accumulation of biological changes over time leading to decreased biological functioning and impaired ability to adapt to stressors.

Who is the Geriatrician?

Geriatricians: are those who Diagnose, treat, manage diseases and condition for elderlies using special approach

General principles of Geriatric Care

1. Geriatric conditions are chronic, multiple, multifactorial
2. Reversible conditions are underdiagnosed and Undertreated
3. Function and quality of life are important outcomes
4. Social support and patient preferences are critical aspects
5. Geriatrics is multidisciplinary issues[1]
6. Cognitive and affective disorders prevalent and undiagnosed at early stages
7. Iatrogenic disease common and often preventable
8. Care is provided in multiple settings
9. Ethical and end of life issues guide practice

[1] this is the most challenging thing facing geriatric healthcare system

Aging

- Aging is not a disease.
- Aging occurs at different rates
  - Between individuals
  - Within individuals in different organ system

Why Elderly Are Special Group?

Aging Includes Two Main Categories:

Normal Aging	Vs.	Abnormal Aging (Disease)
1. "Crow's feet" 2. Presbyopia (loss of peripheral vision, this is important for driving) 3. Color blindness (they can't see red and yellow) 4. Presbycusis 5. Seborrheic keratoses; loss of skin elasticity 6. Benign forgetfulness 7. Decreased blood vessel compliance 8. Increase in % body fat		1. Macular degeneration 2. Tympano-sclerosis 3. Basal cell CA 4. Dementia 5. Athero-sclerosis 6. Hypertension 7. Obesity

Common Geriatric syndrome

It is multiple chronic diseases complex (like dementia, it is a syndrome composed of multiple syndromes: delirium, depression, osteoporosis, falls, cancers)

1. **Chronic diseases** e.g. DM, HTN, cardiac diseases, renal diseases
2. **Alzheimer disease**
3. **Parkinson disease**
4. **Osteoporosis**
5. **Cancers** (colon cancer "we do screening at the age of 50", endometrial cancer, breast cancer "we do screening at the age of 40", prostate cancer, ovarian cancer)

Common Geriatric syndrome (con.)

6. **Social interaction problems**, why? A- they have communication problems due to diseases (they can't see or can't hear). B- generation difference which is the main problem; their interests are different, their experiences are different, their attitude is different, their plans are different from the current generation, that's why we encourage their family to talk with them about their interests.
7. **Psychological problem**: A- social withdrawal (lake of intrest). B- agitation (this is more common) مثلًا يطفي الأنوار، يحاسب اللي حوله ليه يطلعون ليه يسوون ليه يتكلمون . C- sleep distirbace: they wake up 4-5 times a day. D- loss of appetite. All those 4 symptoms point to depression; but bc it is not typical 50% of depressed geriatrics are undiagnosed while it can be easily treated.
8. **Function impairment**: they have slow normal function; they speak slowly, they walk slowly (even if they don't have any joint or bone problem). This happen bc they have slow metabolic rate, this means it is very easy for them to gain weight, which means they gain fats easier than gaining protein, so they loss muscle → may develop Sarcopenia (loss of muscle mass)[2]. Bc they have slow normal function when you speak to elderly (e.g. taking history) speak slow and low (memory works by recognition → memorize as short memory → move the information to the frontal lobe for long memory. This process needs no interruption or the information will be lost. In elderly this process takes longer time so you need to talk slowly and give them time to process the information and not interrupt).
9. **Slow multi-task function**: they can't do more than 1 take at a time, e.g. they can't talk while walking, they can't talk while cocking. So if an elderly come to the clinic don't give them more than 1 task, don't ask them while giving them a paper to write in it. This is significant bc it maybe dangerous, مثلًا إذا كانوا يمشون بالشارع والسيارات تضرب بوري ماراح يقدرون يتصرفون لأنهم ما يقدرون يسوون أكثر من شغلة بنفس الوقت فممكن يحصل لهم حوادث سيارات كثير لهالسبب
10. Dementia & Delerium
11. Fragility
12. Falls + Gait + Mobility Impairment
13. Urinary incontinence

Other Characteristics:

1. Frailty
2. Polypharmacy and iatrogenic
3. Agitation & anxiety
4. Driving issues
5. Risk of falls
6. Loss of motivation
7. Executive Functions

[2] bc they have low protein, it is not helpful to check for creatinine level for renal function because it will be always low, instead use GFR

Decline in quality of life in Saudi elderly

1. Chronic disease
2. Falls (more with DM (58%) & HTN (29%))
3. Sedentary lifestyle (69%; more in joint / bone pain (90%))
4. Low physical activity (63%)
5. Sleep disturbance
6. Sensory impairments
7. Depression risk
8. Decrease self-sufficiency

Comprehensive geriatric assessment (CGA)

it's a Co-ordinated multidisciplinary assessment that Identify medical, functional, social & psychological problems, which includes:

1. The formation of a plan of care including appropriate rehabilitation
2. The ability to directly implement treatment recommendations by the multidisciplinary team
3. Long term follows up
4. Targeting (age & frailty)

There are two structured approach for (CGA):

Multidimensional

1. Functional ability
2. Physical health (pharmacy)
3. Cognition
4. Mental health
5. Socio-environmental

Multidisciplinary

1. Physician
2. Social worker
3. Nutritionist
4. Physical therapist
5. Occupational therapist
6. Family

Frailty

1. Frail people suffer from three or more of five of the following symptoms:
   - ✓ unintentional weight loss ≥ 10 pounds in the last year
   - ✓ muscle loss
   - ✓ feeling fatigue
   - ✓ slow walking speed
   - ✓ low levels of physical activity
2. vulnerable to significant functional decline

Drugs interaction in elderly

Elderly are at high risk of drug interaction:

- Paracetamol
  - Panadol extra: it contains caffeine (30 mg) which is stimulant → it will keep them awake and not able to sleep (don't give it during night)
  - cold and flu: it contains Pseudoephedrine which is decongestive → leads to hypertension, dryness, tachycardia, bad dreams
  - Panadol night: it contains anti-histamine (has anticholinergic effect) which will cause urine retention, sedation, cognitive impairment
  - solpadeine: it contains codeine (8 mg) + paracetamol. Codeine is opioid like and inactive, when activated it convert into morphine (10 mg of codeine will convert into 1 mg of morphine), so if someone took 2 solpadeine every 8 hour a day it will be like 4.8 mg of morphine This is very dangerous as it will lead to dependence if solpadeine was used for 10 days or more, this dependence will manifest as agitation, drowsiness and most importantly constipation. Why constipation is important in elderly? 1- leads to hemorrhoids. 2- multiple bathroom visits increase the risk of falls. 3- after straining they may experience vasovagal attack

What are the Areas of assessment?

1. Functional assessment
2. Mobility, gait and balance
3. Sensory and Language impairments
4. Continence
5. Nutrition
6. Cognitive/Behavior problems
7. Depression
8. Caregivers

Iatrogenic illnesses are common, and many are preventable:

1. Polypharmacy, adverse drug reaction. The use of 5 or more medication is consider polypharmacy
2. complications of hospitalization: falls, immobility, and deconditioning.

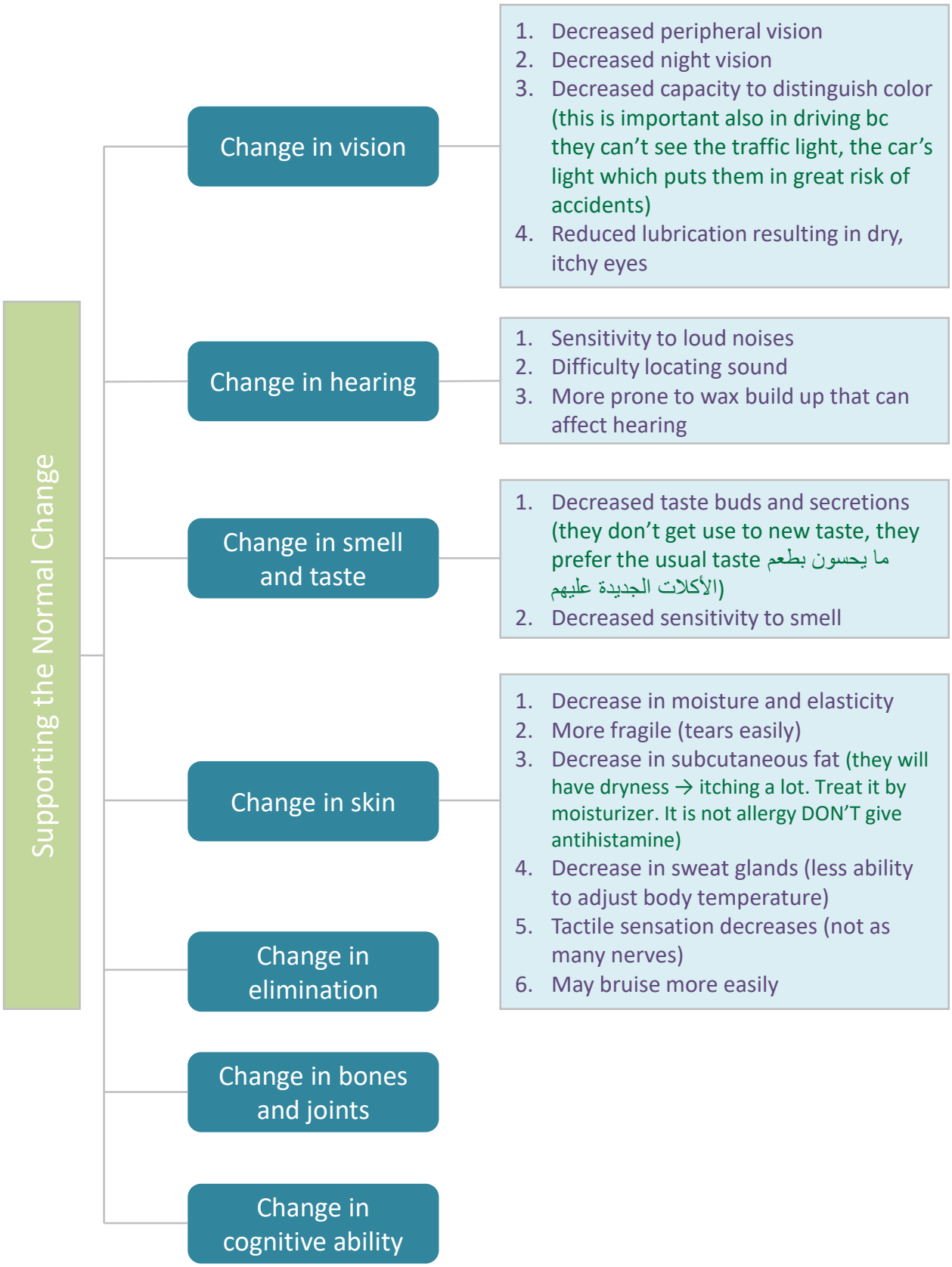
Example of Assessment areas!

1. Cognitive and affective disorders are prevalent and commonly undiagnosed at early stages: delirium, multi-infartion dementia
2. Geriatric depression is often undiagnosed

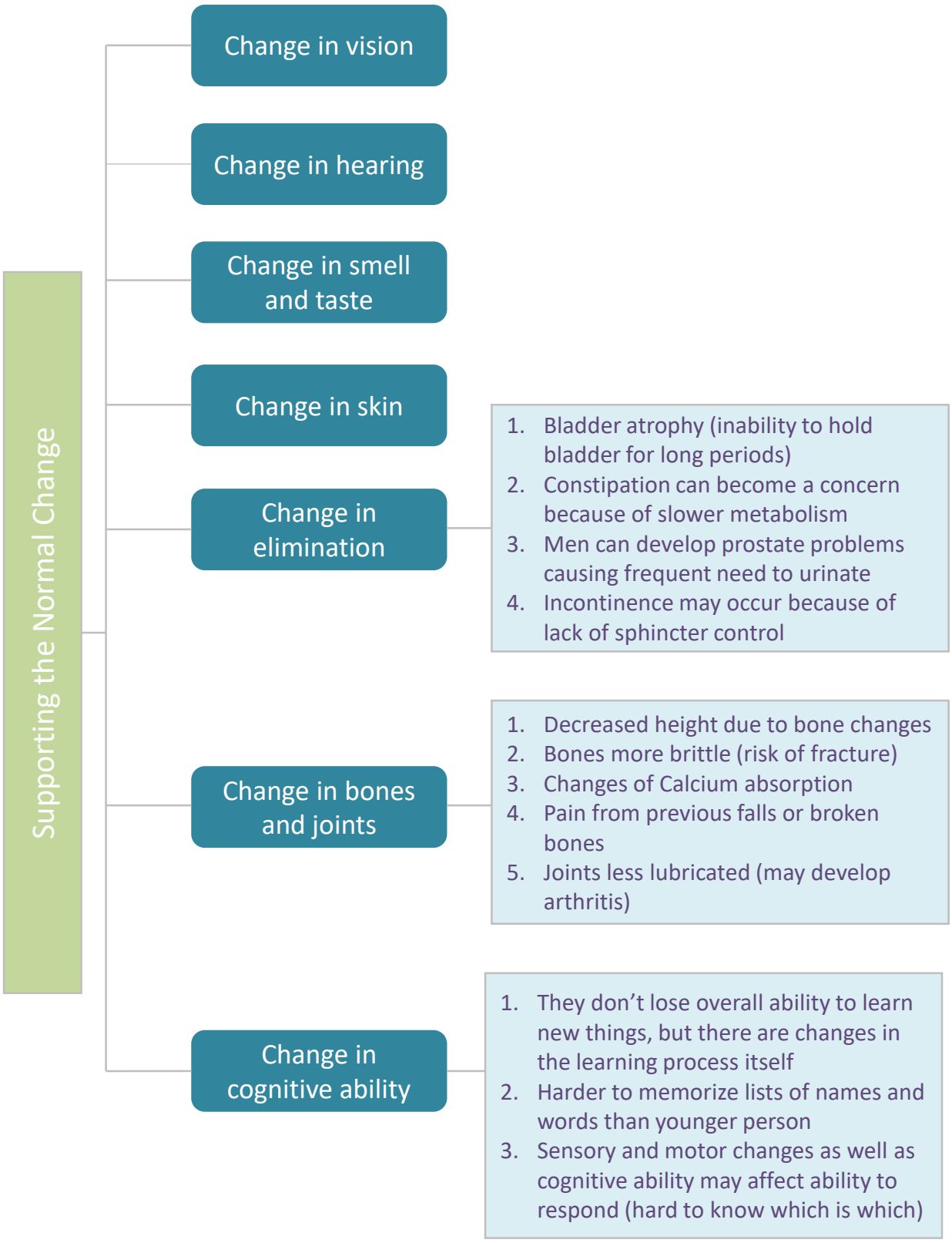
What is End of Life Care? (EOL)

1. It's a critical and advance directive for preventing some ethical dilemmas.
2. Consist of Palliative care and end-of-life care and they are essential for good Quality of life.

General Assessment



General Assessment cont.



Functional Ability and assessment

- Functional status refers to a person's ability to perform tasks that are required for living
- Two key divisions of functional ability:

1. Activities of daily living (ADL)
2. Instrumental activities of daily living (IADL).

1

Activities of Daily Living (ADL) Examples:

1. Feeding
2. Dressing
3. Ambulating
4. Toileting
5. Bathing
6. Transfer
7. Continence
8. Grooming
9. Communication

2

Instrumental activities of daily living (IADL) Examples:

1. Cooking
2. Cleaning
3. Shopping
4. Meal Prep
5. Telephone use
6. Laundry
7. Managing money
8. Managing meds
9. Ability to travel

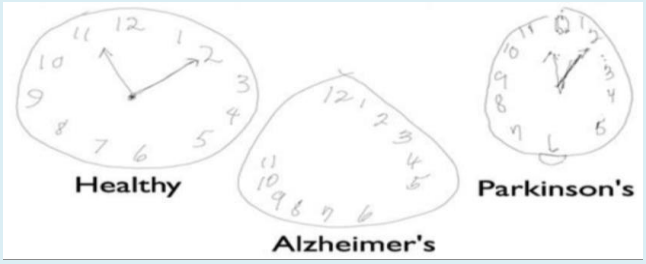
Cognitive Assessment:

Cognitive function

1. **Executive Functions**: planning, initiation, organization. This is lost in elderly (e.g. they can't follow a recipe bc it needs organization, they may start 1st and 2nd step but they will stop after that. Another example is at the ATM, they know their password but they can't follow the needed steps. Another e.g. is during driving, they don't know the sequence while driving so they will be confuse which road they should go to ما يعرف يروح يسار ولا يمين، ما يعرف كيف يروح للمواقف)
2. **Memory function**: elderly usually have short memory problem manifest as repeating (repeat questions, actions مثلًا مؤذن يروح كل خمس دقايق يأذن)
3. **Naming**: they know the object but have difficulty naming it يوصف لك الشي بس ما يعرف اسمه
4. **Language**
5. **Concentration**
6. **Orientation to time, place and person**
7. **Calculation**

❖ There many tools to assess the cognition of elderly Patients, Such As:

1. The Montreal cognitive assessment (MOCA)
2. The Mini-Mental State Examination (MMSE)
3. The Clock Drawing test



Definition of Cognitive ability tests:

Cognitive Ability tests are Family of Psychometric Tests made to measure the general intelligence.

These tests are typically formulated in Multiple-Choice Format.

Overall assessment of elderly[3]

1. **History taking**
    - usually elderly doesn't like to come to the hospital, so it is very important to ask specifically "why are you here today? and who is here with you?", also most of the time they don't notice the problem but those who are around them notice the problem اللي جأي معها بيقولك إنها بدت تنسى أو صايره تعصب على طول أو صايره تسب أو ما صارت تصلي على غير العادة لكن كبيرة السن بتقولك لا أبد أنا ما فيني شي وهم جالسين يتبلون علي، فهذا دليل على مشكلة في الوعي عندها والدليل هي مب مستوعبة المشكلة.
    - It is also very important to ask about the care giver (who is taking care of them), bc most of the time those who take care of them are also elderly and have chronic diseases so if the care giver collapse your patient will collapse as well
2. **Physical examination**: do a full examination, then do function assessment:
    - Instrumental of daily living: using instrument , e.g. counting money, driving, cocking, transport from chair to chair
    - Essential daily living: the daily activity that you need for life (eating, bathing, wearing clothes) anyone who have problem with this will need personal assessment
    - Cognitive function
    - Neurological examination
    - ❖ If someone has 1 dysfunction for no reason and 1 cognitive function impairment this is dementia (another definition: cognitive impairment + function impairment with no physical finding like trauma)
    - Gait and home safety
        - Gait: usually we assess the gait by walk speed test: walk 6-10 meter, you will calculate the seconds that needed to walk 6-10 meters, if the values where >1 s/m then they are at high risk of mortality and morbidity and falls
        - Timed up and go test: the patient is sitting on a chair without handles and the patient's legs touching the ground, then ask the patient to stand up without sport and walks for 3 meters and go back then sit down, this should happen within 14 seconds. If the patient was not able to do this or needed support or needed more than 14 seconds that means the patient is at risk for falls.
        - Home safety: discussed in the next slide
3. **Check for chronic diseases and polypharmacy**
4. **Prevention**: prevention of falls, exercise promotion[4] (very important), diet (high protein + fibers and decrease carbs to decrease risk of diabetes and dyslipidemia). Give them Ca^{2+} and vitamins[5] + vaccine (flue vaccine "every 1 year". Pneumococcal vaccine. Meningococcal vaccine. Herpes zoster vaccine "once a year")

[3] you approach to any elderly by first Hx and physical examination

[4] Reduce fall risk by 47%

[5] Vit.D reduce the risk of fall

Steps of Healthy Aging:

1 Prevention of fall:

- ❖ 30% of ambulatory adults > 65 y/o falls per year with consequences, Such as:

1. Death
2. Injury
3. Hip Fractures 1-2%
4. Fractures in general 10-15%
5. Reduced Activity due to Fear of Falling (25%)

Causes of fall

intrinsic

1. Disease:
   - ❖ Dementia
   - ❖ Depression
   - ❖ Drugs
   - ❖ Foot problems
   - ❖ Incontinence
2. Age:
   - ❖ Gait/Balance Disorder
   - ❖ Sarcopenia
   - ❖ Vestibular
   - ❖ Orthostatic Hypotension
   - ❖ Special Senses – Vision/Hearing

Extrinsic

Environmental

2 Home safety:

1. **Bars**: should be: 1- in the bathroom (near to shower "bc hot shower could cause vasodilation → hypotension → falls". Near to toilet bc of vasovagal attack after straining). 2- Near to stairs
2. **Change any slippery floors to non-slippery floors**
3. **Change stairs into elevators or elevator chairs**
4. **Remove any tripping or obstacles factors**, e.g. wires, kids toys, rugs
5. **Change the lights into white lights** (because yellow lights not helpful if they have color blindness)
6. **Bedroom must be on the ground floor**
7. **Bed should be near to the ground**, so when they walk up and sit down their feet should touch the ground