Comprehensive Geriatric Assessment

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OVERVIEW:

- Definition of Comprehensive Geriatric Assessment
- Purpose of assessment
- Indications for assessment
- Specific domains to measure
- Case Discussion
- Specific Assessment Tools

Background

- Aging of the population
- By the year 2050:

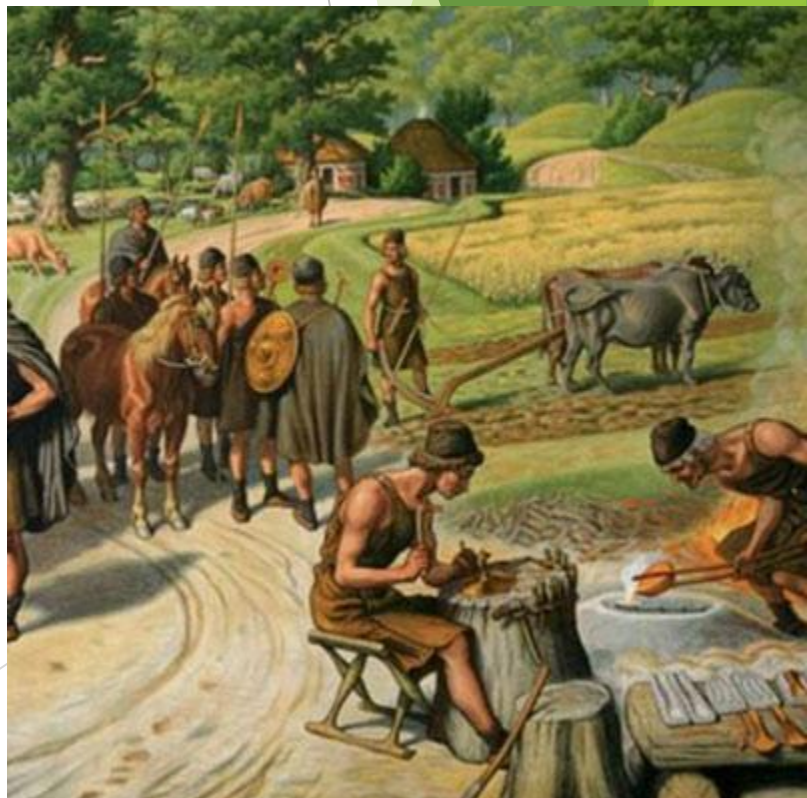
  -20% of the population will be older than 65 years

  -850,000 people will be centenarians

  -In Iran more than 24000000 people older than 65 years

Did You Know…….

- In the 4,500 years from the Bronze Age to the year 1900, life expectancy increased 27 years
- In the next 90 years, from 1900-1990, life expectancy also increased 27 years
- Of all human who have EVER lived to be 65 or older, half are currently alive.



Many of them are or will be your patients

Judy Salerno, MD, MS NY

General Medicine Target Conditions

- Depression
- Diabetes
- Hearing impairment
- Heart failure
- HTN
- Ischemic heart disease
- Osteoarthritis
- Osteoporosis
- Pneumonia
- Stroke
- Visual impairment

Wenger N et al. Ann Intern Med 2003; 139: 740-747.

Geriatric Target Conditions

- Dementia or delirium
- End-of-life care
- Falls or mobility disorders
- Malnutrition
- Pressure ulcers
- Urinary incontinence

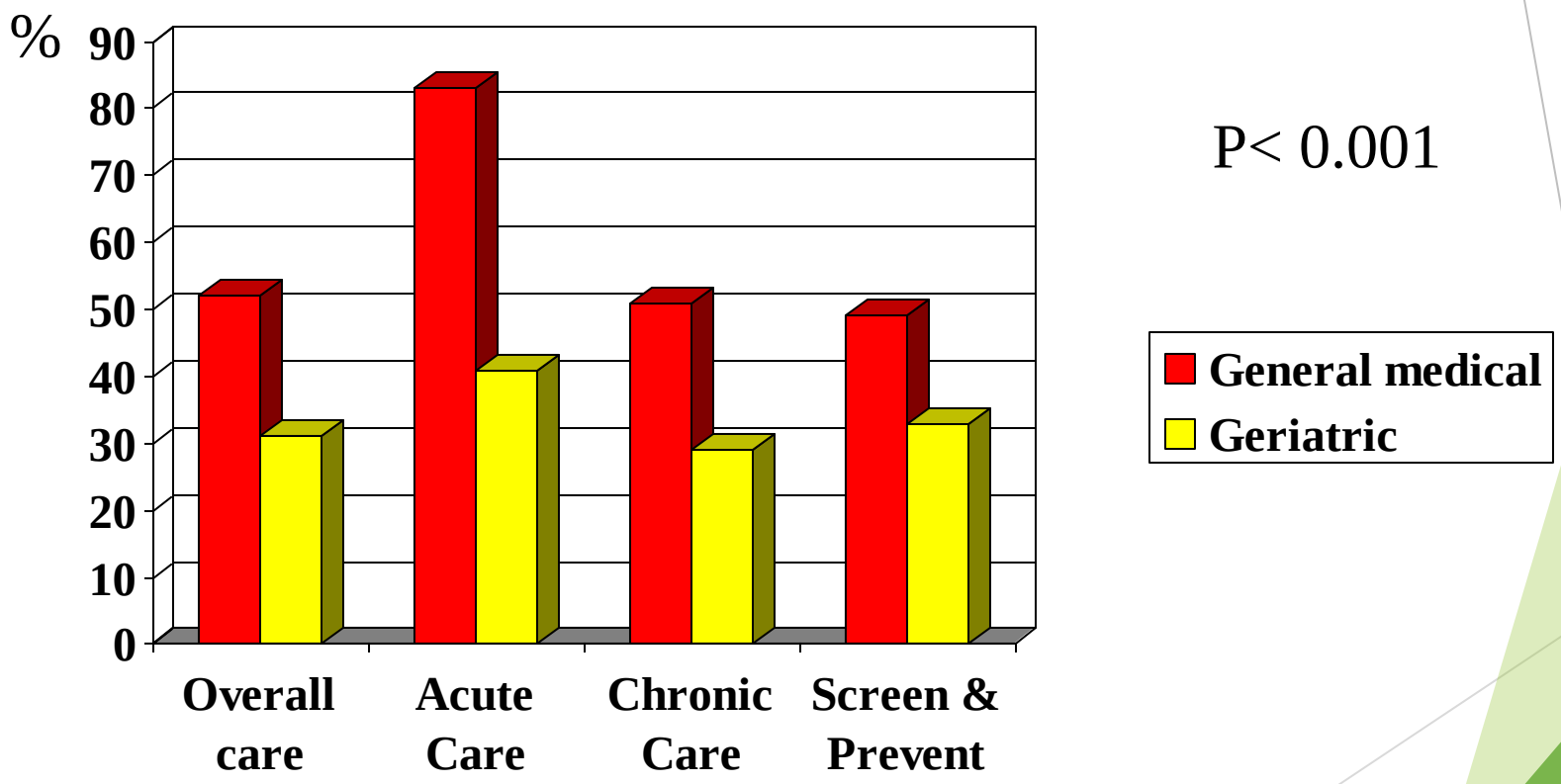
Wenger N et al. Ann Intern Med 2003; 139: 740-747.

Cross-cutting Target Conditions

- Definition: more commonly a concern in vulnerable older patients than in general adult care
  - Continuity of care
  - Hospital care
  - Medication use
  - Pain management
  - Screening and prevention

Wenger N et al. Ann Intern Med 2003; 139: 740-747.

QI Adherence: General Medical vs. Geriatric Conditions



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Wenger N et al. Ann Intern Med 2003; 139: 740-747.

Comprehensive Geriatric Assessment

- An interdisciplinary approach to the evaluation of older persons' physical and psychosocial impairments and their functional disabilities
- *3-step process:*

1. Targeting appropriate patients
2. Assessing patients and developing recommendations
3. Implementing recommendations

Purpose

- Highest priority:
  - Prevention of decline in the independent performance of ADLs
  - Drives the diagnostic process and clinical decision making
- Screen for preventable diseases
- Screen for functional impairments that may result in physical disability and amenable to intervention

Palmer RM, Med Clin North Am, 1999

Rationale

- Early detection of risk factors for functional decline when linked to specific interventions may help reduce the incidence of functional disability and dependency for older patients

Palmer RM, Med Clin North Am, 1999

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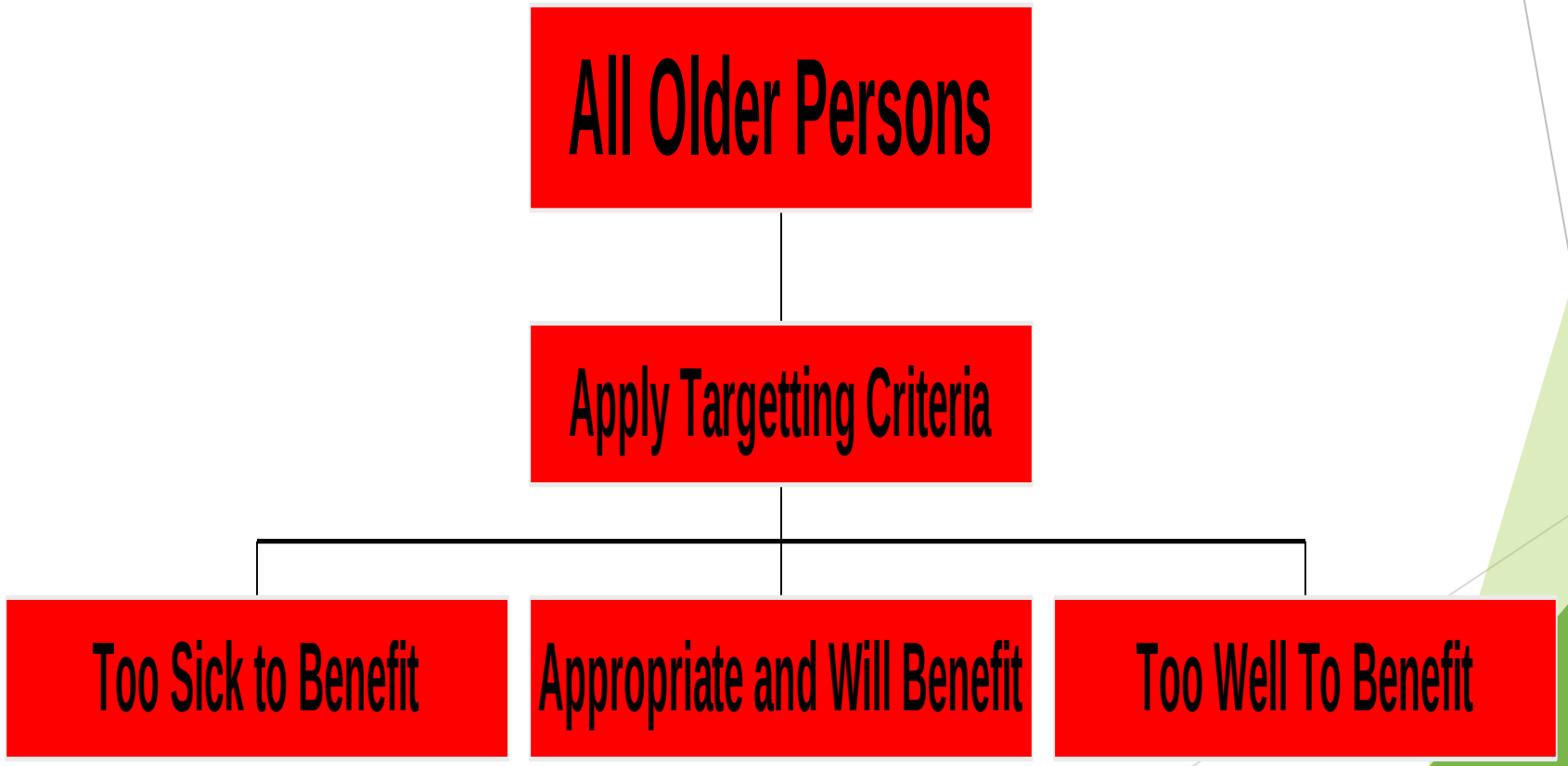
Who needs a geriatric assessment?



Comprehensive Geriatric Assessment

- Too Sick to Benefit
  - Critically ill or medically unstable
  - Terminally ill
  - Disorders with no effective treatment
- Appropriate and Will Benefit
  - Multiple interacting biopsychological problems that are amenable to treatment
  - Disorders that require rehabilitation therapy

Who Needs Assessments?

- For patients with living situation in transition
- Recent development of physical or cognitive impairments
- Patients with fragmented specialty medical care
- Evaluating patient competency/capacity
- Dealing with medico-legal issues

NIH Consensus Devt Conf JAGS, 1990

Comprehensive Geriatric Assessment

- Too Well to Benefit
  - One or a few medical conditions
  - Needing prevention measures only

Domains of Comprehensive Geriatric Assessment

- Medical
- Functional (physical and social)
- Cognitive
- Affective
- Social Support
- Environmental
- Economic Factors
- Quality of life

Comprehensive Geriatric Assessment

Case of Mrs. Smith

84 year old African-American female comes to the Geriatrics Practice accompanied by her niece.

"I don't know why I'm here!"
(patient)

"She has problems with memory"
(niece)

CGA: Case of Mrs. Smith

Niece said:

"She lives alone. She shops and prepares food herself. However, last week she started to boil some water and completely forgot it was on the stove. The plastic cover was completely melted. When I asked her about this she said she just forgot. She often forgets where she has placed things. This has been going on for many years but has gotten worse just recently.

Also, at one time she has fallen at home at night after tripping on a rug. She did not break anything but bruised her shoulder and forehead.

CGA: Case of Mrs. Smith

Niece said:

She also used to go to church almost everyday but rarely goes now. She hardly socializes and prefers to stay at home and watch TV. She does not have any kids and we're her closest relatives.

You also have to shout, she's very hard of hearing. She has the hearing aids but she doesn't like wearing them."

CGA: Case of Mrs. Smith

Patient said:"I don't know why I'm here. Oh, I remember that time when I left the pot on the stove. Well I just forgot. Do you know how old am I? I'm 84 years old and my memory is not what it used to be. I go to the shop myself when my knees don't hurt. Usually I just eat the frozen dinners when I don't get to the store. I also fell one time, I think. I had to go to the bathroom to pee and I fell. I hit my head but it wasn't bad. I didn't break any bones or anything.

CGA: Case of Mrs. Smith

Patient said:

I don't go out much. I'm alone most of the time. I love going to church but I couldn't hear what my minister is saying. I also couldn't read the program. Well I'm 84 years old and it comes with age. I have a hearing aide but they don't work.

I take my medicines but I don't remember what they are but I do take them!"

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Niece said:

"She has been followed-up at the Medical Clinic for more than 10 years but she has had sporadic visits. She was hospitalized before for blood clots in the legs that actually went to her lungs.

She had a colonoscopy 2 years ago and they found this growth. They did a biopsy and they said it wasn't cancer.

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Niece says:

I have all of her medicines with me. She has glaucoma and she takes this eyedrops on both eyes. She also has this water pill that she takes for her high blood pressure.

She also has a cane to help her but she doesn't use it outside the house. She says it's too obvious."

Which are the trigger factors for Mrs. Smith?

- Lives alone
- Rarely goes to church
- Doesn't hear and see well
- Fell at home
- Left the pot on the stove
- Rarely socializes
- Eats frozen dinners
- Weakness and pain in knees
- Doesn't use cane outside the home
- Has high blood pressure and glaucoma
- Had prior history of leg and lung blood clots
- Had prior growth in colon
- Takes her own medicines but doesn't know them
- Forgets things
- Had irregular follow-up at prior clinic
- Doesn't wear HA

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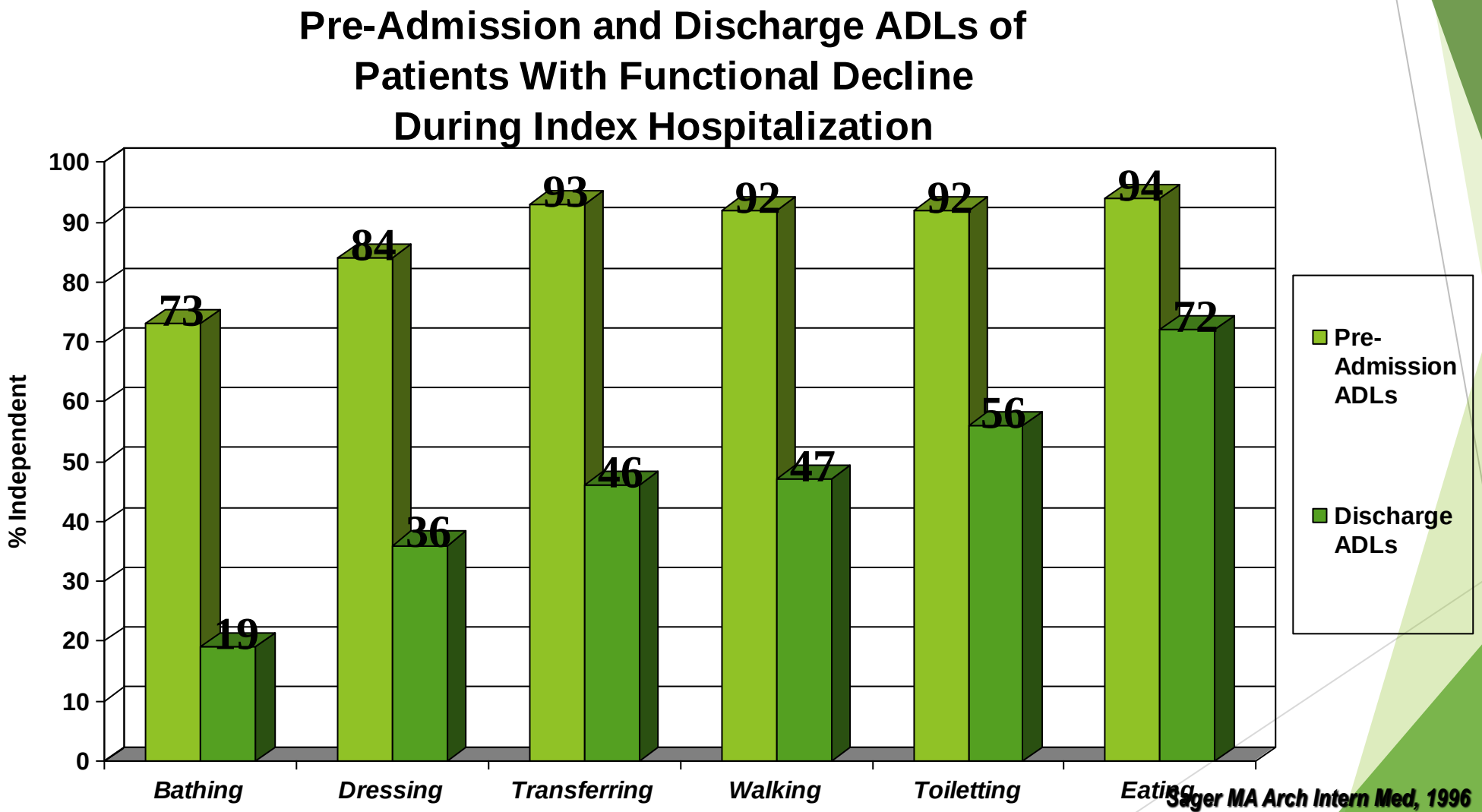
Comprehensive Geriatric Assessment
Case of Mrs. Smith:
Functional Domain

Why Care about Function?



Sager MA Arch Intern Med, 1996

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KATZ INDEX OF ACTIVITIES OF DAILY LIVING

- **Bathing**
- **Dressing**
- **Toileting**
- **Transfer**
- **Continence**
- **Feeding**

Independent
Assistance
Dependent

Katz S et al. Studies of Illness in the Aged: The Index of ADL; 1963.

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INSTRUMENTAL ACTIVITIES OF DAILY LIVING

- **Telephone**
- **Traveling**
- **Shopping**
- **Preparing meals**
- **Housework**
- **Medication**
- **Money**

Independent
Assistance
Dependent

The Oars Methodology: Multidimensional Functional Assessment Questionnaire; 1978.

IADLS

- JAGS, April, 1999- community dwelling, 65y/o and older. Followed up at 1yr, 3yr, 5yr
- Four IADLs
  - Telephone
  - Transportation
  - Medications
  - Finances

- Barberger-Gateau, Pascale and Jean-Francois Dartigues, "Four Instrumental Activities of Daily Living Score as a Predictor of One-year Incident Dementia", Age and Ageing 1993; 22:457-463.
- Berbeger-Gateau, Pascale and Fabrigoule, Colette et al. "Functional Impairment in Instrumental Activities of Daily Living: An Early Clinical Sign of Dementia?", JAGS 1999; 47:456-463

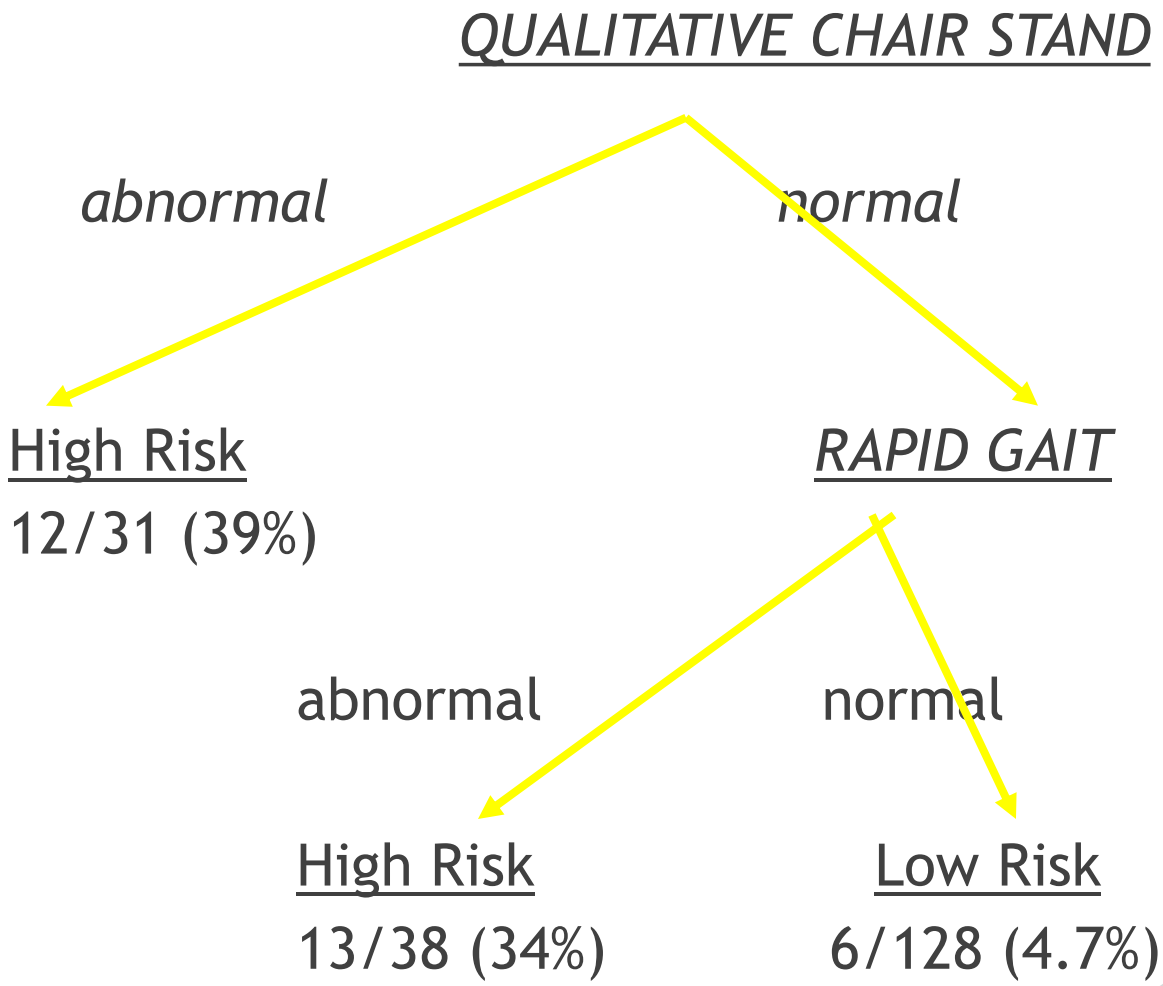
IADLs

- At 3yrs, IADL impairment is a predictor of incident dementia
  - 1 impairment, OR=1
  - 2 impairments, OR=2.34
  - 3 impairments, OR=4.54
  - 4 impairments, lacked statistical power

Comprehensive Geriatric Assessment Case of Mrs. Smith:

Medical Domain

“Get up & Go Test”



“Get up and Go”

- ONLY VALID FOR PATIENTS NOT USING AN ASSISTIVE DEVICE
- Get up and walk 10ft, and return to chair

Seconds	*Rating*
<10	freely mobile
<20	mostly independent
20-29	variable mobility
>30	assisted mobility

- Mathias S, Nayak US, Isaacs B. Balance in elderly patients: the “Get-up and Go” test. *Arch phys Med Rehabil*. 1986; 67(6): 387-389.

Get up and Go

- Sensitivity 88%
- Specificity 94%
- Time to complete <1min.
- Requires no special equipment

- Cassel, C. Geriatric Medicine: An Evidence-Based Approach, 4th edition, *Instruments to Assess Functional Status*, p. 186.

Visual Impairment

- Visual Impairment
  - Prevalence of functional blindness (worse than 20/200)
    - 71-74 years 1%
    - >90 years 17%
    - NH patients 17%
  - Prevalence of functional visual impairment
    - 71-74 years 7%
    - >90 years 39%
    - NH patients 19%

Salive ME Ophthalmology, 1999.

Hearing Impairment

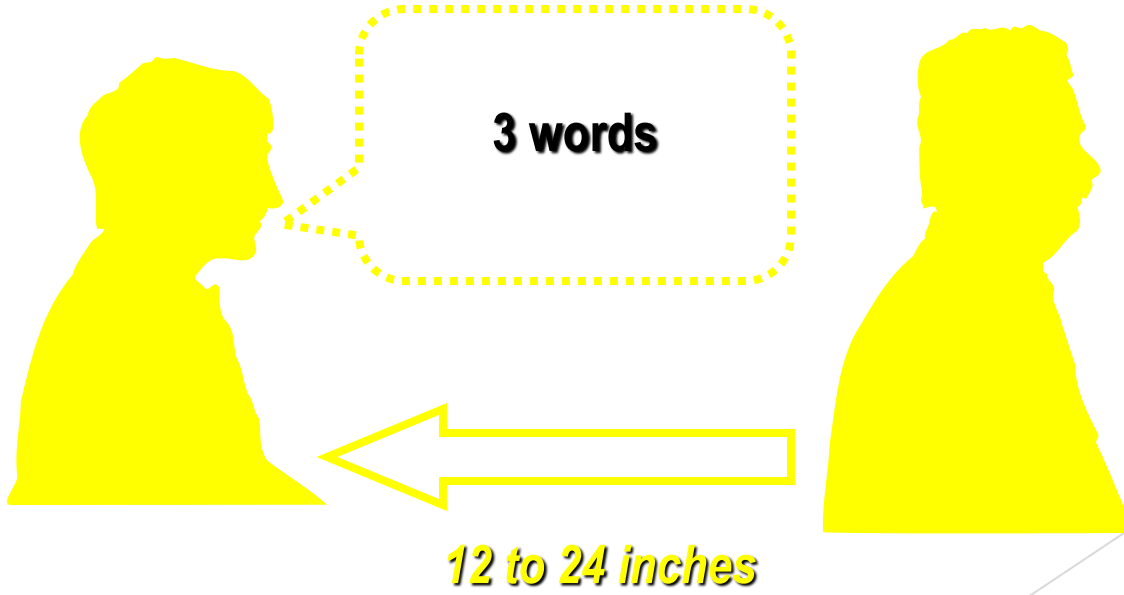
- Hearing Impairment
  - Prevalence:
    - 65-74 years = 24%
    - ≥75 years = 40%
  - National Health Interview Survey
    - 30% of community-dwelling older adults
    - 30% of ≥85 years are deaf in at least one ear

Nadol, NEJM, 1993

Moss Vital Health Stat, 1986.

Hearing Impairment

- Audioscope
  - A handheld otoscope with a built-in audiometer
- Whisper Test



Macphee GJA Age Aging, 1988

Comprehensive Geriatric Assessment Case of Mrs.Smith: Cognitive Domain

Cognitive Dysfunction

- Dementia
  - Prevalence: 30% in community-dwelling patients ≥85 years
  - Alzheimer's disease and vascular dementias comprise ≥80% of cases
- Risk for functional decline, delirium, falls and caregiver stress

Foley Hosp Med, 1996.

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THE FOLSTEIN MINI-MENTAL STATE EXAMINATION

Orientation: What is the year/season/date/day/month?

Where are we state/county/town/hospital/floor?

Registration: Name 3 objects: 1 second to say each.Then ask the patient all 3 after you have said them.

Attention/ Calculation: Begin with 100 and count backward by 7. Alternatively, spell "WORLD" backwards.

Recall: Ask for all 3 objects repeated above.

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THE FOLSTEIN MINI-MENTAL STATE EXAMINATION

Language: Show a pencil & a watch and ask the patient to name them.

Repeat: "No ifs, and or buts."

A 3 stage command: "Take the paper in your right hand fold it in half, and put it on the floor."

Read and obey the following: CLOSE YOUR EYES.

Ask a patient to write a sentence.

Copy a design (complex polygon).

MMSE

- Median scores based on age and educational level:

- >85 y/o and >12yrs educ. 28
- 70-74 y/o and >12yrs educ. 29
- 65-69 y/o and 0-4 yrs educ. 22

- Crum, RM, Anthony, JC, Bassett, SS, et al. Population-based norms for the mini-mental state examination by age and educational level. JAMA 1992

Clock Drawing Test

- Clock Drawing Test:
  - “Draw a clock”
    - Sensitivity=75.2%
    - Specificity=94.2%

Wolf-Klein GP JAGS, 1989.

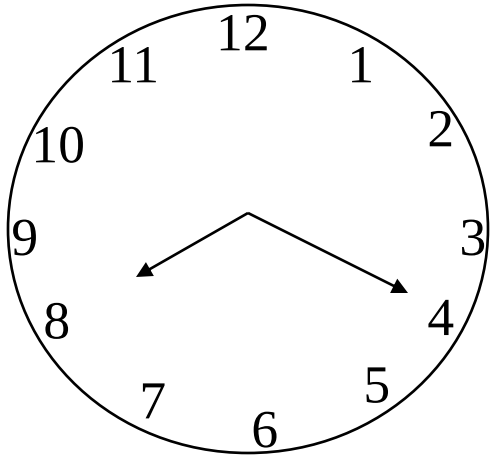
The Mini-Cog

- Components
  - 3 item recall: give 3 items, ask to repeat, divert and recall
  - Clock Drawing Test (CDT)
    - Normal (0): all numbers present in correct sequence and position and hands readably displayed the represented time
- Abnormal Mini-Cog scoring with best performance
  - Recall =0, or
  - Recall ≤2 AND CDT abnormal

Borson S. et al Int J Geriatr Psychiatry 2000;15:1021-1027

Clock Drawing Test Instructions

- Subjects told to
  - Draw a large circle
  - Fill in the numbers on a clock face
  - Set the hands at 8:20
- No time limit given
- Scoring (subjective):
  - 0 (normal)
  - 1 (mildly abnormal)
  - 2 (moderately abnormal)
  - 3 (severely abnormal)



Borson S. et al Int J Geriatr Psychiatry 2000;15:1021-1027

Animal Naming Test

- Category fluency
- Highly sensitive to Alzheimer's disease
  - AverageScoring equals number named in 1 minute
  - performance = 18 per minute
  - < 12 / minute = abnormal
- Requires patient to use temporal lobe semantic stores
- 60 seconds
- Using a cutoff of 15 in one minute:
  - Sens 87% - 88%
  - Spec 96%

Canninng, SJ Duff, et al.; Diagnostic utility of abbreviated fluency measures in Alzheimer disease and vascular dementia; *Neurology* Feb. 2004, 62(4)

Depression

- 10% of >65 y/o with depressive symptoms
- 1% with major depressive disorder
- Associated with physical decline of community-dwelling adults and hospitalized patients

Foley K Hosp Med, 1996

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- Other domains to be assessed:
  - Current health status: nutritional risk, health behaviors, tobacco, and ETOH use and exercise
  - Social assessments: especially elder abuse if applicable
  - Health promotion and disease prevention
  - Values history: advanced directives, end of life care

Comprehensive Geriatric Assessment

- Report Outline
  - Reason for evaluation
  - Medical history, current health status
  - Functional status
  - Social assessment, current psychiatric status
  - Preference for care in event of severe illness
  - Summary statement
  - Care plan

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- Care Plan
  - Recommended services: either agency or family members
  - How often will it be provided
  - How long it will be provided
  - What financing arrangements will pay for it
  - DYNAMIC PLAN, CONTINUAL ASSESSMENT

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What am I going to do with the information obtained?

- **The most critical step for clinicians is the integration of the data that have been obtained form the instruments.**
- **A common pitfall is to establish a diagnosis that is based solely on poor performance on an assessment instrument.**
- **Information obtained is sometimes underutilized or ignored by clinicians.**

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On examination:

Presence of isolated systolic hypertension
Presence of cataracts on both eyes L>R
Impacted cerumen in both ears, TM not visualized
Rest of exam: unremarkable

On assessment:

MMSE: 24/30
GDS: 5/15
Rarely socializes due to fear of embarrassment
Independent of all ADLs
Independent on IADLs except assistance with housework, medication and money
Get up and Go Test: >20 seconds

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Possible Coordinated Plan:

1. Remove cerumen
2. Refer to optometrist and ophthalmologist
3. Control BP
4. Home assessment
5. Rehab plan in activity centers
6. Frequent visits to establish rapport and trust
7. Home visits health care professionals
8. Provision of daytime assistance

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