Geriatric Assessment Tools

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Geriatric Assessment

**Learning Objectives**

1. Identify factors contributing to the need for specialized assessment of the frail older adult
2. Discuss the benefits of a Geriatric Assessment
3. Describe the components of a Geriatric Assessment
4. Identify the tools used in a Geriatric Assessment
5. Apply components of the Geriatric Assessment to practice situations
United States Demographics

- 13% of US population > 65 years old
- >85 years old – fastest growing segment
  - 100,000 to 120,000 new 85 year olds per year
  - Rate of chronic diseases
United States Demographics

Percent Age 65 and Over by Race and Hispanic Origin: 1900 to 2000

Note: Data on Hispanic origin have been available on a 100-percent basis since 1980 only, and data on the population of Two or more races are available from Census 2000 only.

Source: U.S. Census Bureau, decennial census of population, 1900 to 2000.
Chronic Health Over Time
Geriatric Assessment

“Multidisciplinary evaluation in which the multiple problems of older persons are uncovered, described, and explained, if possible, and in which the resources and strengths of the person are catalogued, need for services assessed, and a coordinated care plan developed to focus interventions on the person’s problems.”

- 1987 NIH Consensus Conference on Geriatric Assessment Methods for Clinical Decision-Making

3-step process:

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

- A cost-effective intervention that improves
  - Quality of life
  - Quality of health
  - Quality of social care

Benefits have been most robustly demonstrated when applied in a hospital or rehabilitation unit,
- Also evident:
  - After hospital discharge
  - As an element of outpatient consultation
  - In home assessment services
  - In continuity care
Who needs a geriatric assessment?

All Older Persons

Apply Targeting Criteria

Too Sick to Benefit
- Critically Ill or Medically Unstable
- Terminally Ill
- Disorders with no effective treatment
- Nursing Home Placement
- Dependent in all ADLs

Appropriate and Will Benefit
- Multiple interacting biopsychosocial problems that are amenable to treatment
- Disorders that require rehabilitation therapy

Too Well to Benefit
- One or a few medical conditions
- Needing prevention measures only
Who Needs Assessments?

- 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*
Evaluating an Assessment Tool:
- A valid measure of the function being tested
- Adequate inter-rater and test-retest reliability
- Should be sensitive to clinically important changes in the patient’s status

Applegate WB. NEJM, 1990
Use of Clinical Judgment vs. Assessment Tools

![Bar Chart]

- Moderate Impairment:
  - Recognized Impairment: 5
  - Unrecognized Impairment: 18

- Severe Impairment:
  - Recognized Impairment: 5
  - Unrecognized Impairment: 7

*Pinholt Arch Int Med. 1987*
Domains of a Geriatric Assessment

- Medical
- Functional (physical)
- Cognitive
- Mood
- Social Support
- Environmental
- Economic Factors
- Quality of Life
Geriatric Assessment: Functional Domain

A summary measure of the overall impact of health conditions in the context of his or her environment and social support system
Why Care about Function?

Pre-Admission and Discharge ADLs of Patients with Functional Decline During Index Hospitalization

<table>
<thead>
<tr>
<th>Activity</th>
<th>Pre-Admission</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathing</td>
<td>73</td>
<td>20</td>
</tr>
<tr>
<td>Dressing</td>
<td>84</td>
<td>36</td>
</tr>
<tr>
<td>Transferring</td>
<td>92</td>
<td>46</td>
</tr>
<tr>
<td>Walking</td>
<td>93</td>
<td>47</td>
</tr>
<tr>
<td>Toileting</td>
<td>93</td>
<td>56</td>
</tr>
<tr>
<td>Eating</td>
<td>94</td>
<td>72</td>
</tr>
</tbody>
</table>

Sager MA Arch Intern Med. 1996
**BASIC ACTIVITIES OF DAILY LIVING:**
*Refers to self-care tasks*

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

Katz S et al., 1963
Geriatric Assessment

**INSTRUMENTAL ACTIVITIES OF DAILY LIVING:** Refer to the ability to maintain an independent household

- Telephone
- Traveling
- Shopping
- Preparing meals
- Housework
- Medications
- Money

TIMED UP AND GO TEST

Task:
- Rising from an armless chair
- Walking 3 meters (10 feet)
- Turning
- Walking Back
- Sitting down again

- Ambulate with or without assistive device and follow a three step command.
- Trials: One practice trial and three actual trials
- Strongly correlated to level of functional mobility
  - The more time taken = the more dependent in ADLs

PODSIADLO D AND RICHARDSON, S. JAGS, 1991
Timed Up and Go Test

- Should be completed in 10-14 seconds
- Further evaluation required if test not performed in 30 seconds

- Rating
  - <10  Freely Mobile
  - <20  Mostly Independent
  - 20 to 29 Variable Mobility
  - >30  Impaired Mobility

- Sensitivity = 87%
- Specificity = 87%

PODSIADLO D AND RICHARDSON, S. JAGS, 1991
Geriatric Assessment: 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.
Geriatric Assessment

THE FOLSTEIN 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 as the patient all 3 after you have said them.

● Attention/Calculation:
  - Begin with 100 and count backwards by 7
  - Alternatively, spell “WORLD” backwards.

● Recall:
  - Ask for all 3 objects repeated above.
THE FOLSTEIN MENTAL STATE EXAMINATION

Language:
- Show a pencil and a watch and ask the patient to name them.
- Repeat: “No ifs, ands, 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).
Geriatric Assessment

- **Clock Completion Test:**
  - A neuropsychological assessment instrument that depends on the concept of time

*WATSON, YI, et al. JAGS, 1993.*
Clock Completion Test
Clock Completion Test
The Mini-Cog

Components

3 item recall:
- Give 3 items
- Ask to repeat
- Divert
- And Recall (Score: 1 point for every word recalled)

Divert using: Clock Drawing Test (CDT)
Clock Drawing Test Instructions

Subjects told to:
- Draw a large circle
- Fill in the numbers on a clock
- Set the hands at 8:20
- No time limit given

Scoring:
- Normal:
  - All numbers present in correct sequence and position and hands readily displayed the represented time
- Abnormal
The Mini-Cog

- Possible Scores: 0 to 5
  - 0-2 = HIGH likelihood of cognitive impairment
  - 3-5 = LOW likelihood of cognitive impairment
- Inter-rater reliability: 93-95%

The Mini-Cog scoring algorithm. The Mini-Cog uses a three item recall test for memory and the intuitive clock drawing test. The latter serves as an “informative distractor,” helping to clarify scores when the memory recall score is intermediate.
Test Performance

- Outperformed MMSE and CASI (Cognitive Abilities Screening Instrument) in those with less education and non-native English speakers and acceptable sensitivity of 93%
- Time = 3 minutes

The Mini-Cog

- A quick initial screening tool for dementia
  - Appears to be as good as the MMSE and CASI
  - Performs better in multiethnic populations or those with less education
  - Can be administered and scored by naïve raters with little loss of test characteristics
  - If abnormal, needs further workup and informant interview

- Validated in different population – Multi-Ethnic population

“Animal Naming”/Category Fluency

- Part of the 7 minute neurocognitive screening battery
  - Highly sensitive to Alzheimer’s Disease
  - Measures impairment in verbal production and across to semantic memory

- Scoring equals number named in 1 minute
  - Average performance = 18 per minute
  - <12/minute = abnormal

- Correlation with MMSE (r=0.77)

SOLOMON PR ARCH, NEUROLOGY, 1998
Depression

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

FOLEY K HOSP MED, 1996
Geriatric Depression Scale:
Short Form

1. Are you basically satisfied with your life?*
2. Have you dropped any of your activities?
3. Do you feel that your life is empty?
4. Do you often get bored?*
5. Are you good spirits most of the time?
6. Are you afraid that something bad is going to happen to you?
7. Do you feel happy most of the time?
8. Do you often feel helpless?*
9. Do you prefer to stay home at night, rather than go out and do new things?*
10. Do you feel that you have more problems with memory than most?
11. Do you think it is wonderful to be alive now?
12. Do you feel pretty worthless the way you are now?*
13. Do you feel full of energy?
14. Do you feel that your situation is hopeless?
15. Do you think that most persons are better off than you are?
Geriatric Depression Scale:
5-Item

1. Are you basically satisfied with your life?
2. Do you often get bored?
3. Do you often feel helpless?
4. Do you prefer to stay home at night, rather than go out and do new things?
5. Do you feel pretty worthless the way you are now?

● 0-1  = Not Depressed
● >= 2  = Depressed

HOYL MT JAGS, 1999.
Comparison

- 5-Item GDS
  - Sensitivity = 0.97
  - Specificity = 0.85
  - (+)PV = 0.85
  - (-)PV = 0.97
  - Accuracy = 0.90
- Administration
  Time = 0.9 mins.

- 15-Item GDS
  - Sensitivity = 0.94
  - Specificity = 0.83
  - (+)PV = 0.82
  - (-)PV = 0.94
  - Accuracy = 0.88
- Administration
  Time = 2.7 mins.

HOYL MT JAGS, 1999.
Comparison

- Geriatric Depression Scale (1-Item)
  - Do you often feel sad or depressed?

<table>
<thead>
<tr>
<th>Dx</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Question</td>
<td>0.69</td>
<td>0.90</td>
<td>47 (85.4%)</td>
</tr>
<tr>
<td>30-Item GDS</td>
<td>0.54</td>
<td>0.93</td>
<td>44 (80%)</td>
</tr>
</tbody>
</table>

Geriatric Assessment: Medical Domain
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%
Complaints/Difficulty with:

- Driving
- Watching TV
- Reading
- Performance of ADLs
Low Vision

- Lies between normal vision and blindness or near-blindness
- Persons with low vision need to be encouraged to maximize the usefulness of their remaining vision
  - Powerful spectacles
  - Handheld or stand magnifiers
  - Closed-circuit video units
  - Computers
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 year
  - Can lead to social isolation, perception by others of cognitive decline, and depression.

NADOL., NEJM, 1993
MOSS VITAL HEALTH STAT, 1986.
Hearing Impairment

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

Illustration: 3 Words

12 to 24 inches

MACPHEE GJA AGE AGING, 1988
Geriatric Assessment

- Other domains to be assessed:
  - Current health status:
    - Nutritional Risk
    - Urinary incontinence
    - Health behaviors – tobacco, ETOH use and exercise
  - Polypharmacy
  - Social assessments: especially elder abuse if applicable
  - Economic assessment
  - Health promotion and disease prevention
  - Values history: advanced directives, end of life care
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
Geriatric Assessment

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

- A comprehensive geriatric assessment CGA) has demonstrated usefulness in improving the health status of frail, older patients. Therefore, elements of CGA should be incorporated into the care provided to these elderly individuals.

- CGA is most effective when targeted toward older adults who are at risk for functional decline (physical or mental), hospitalization or nursing home placement.
  - Persons who have impairments in basic or instrumental activities of daily living.
  - Suffer from a geriatric syndrome (falls, urinary or fecal incontinence, dementia, depression, delirium, or weight loss)
  - Whose health care utilization patterns indicate a high risk of subsequent hospitalization or nursing home placement.
SUMMARY: Geriatric Assessment

- Routine CGA examines, at the very least, a patient’s:
  - Mobility
  - Continence
  - Mental Status
  - Nutrition
  - Medications
  - Personal, family, and community resources

- CGA requires an interdisciplinary team to conduct medical, functional, and psychosocial assessments, develop a written, comprehensive plan of care, and coordinate the health care providers and family members who are responsible for the execution of the plan of care.
Thank you.

What questions do you have?