What every _____-ologist needs to know about geriatric medicine

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Making sense of geriatric medicine

• The Geriatric syndromes
  – Dementia
  – Delirium
  – Depression in the elderly
  – Incontinence
  – Gait disorders / falls
  – Osteoporosis
  – Pressure ulcers
  – Sensory impairments
  – Pain
  – Polypharmacy

Making sense of geriatric medicine

- The Geriatric syndromes
  - Dementia
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  - Pain
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- Constipation
- Sleep disorders
- Transitions of care
- Frailty
- Dizziness

Making sense of geriatric medicine

- Function – the lingua franca of geriatrics
  - The activities of daily living
    - Basic activities of daily living – what you need to get out of the house
      - transferring, toileting, bathing, grooming, dressing, eating
    - Instrumental activities of daily living – what you need to get on with life
      - managing money, medications, telephone, transportation, meals, cleaning, shopping


Making sense of geriatric medicine

- The value of assessing function
  - Making a diagnosis
  - Staging a disease or syndrome
  - Measuring the outcomes of an intervention
  - Setting the goals of treatment
  - Assessing quality of life
  - Determining coverage and costs of care
Mean Scores on Total ADL

Comparison Group
- Self
- Family
Group: NS
Time: F=3.4, p<.001
Time x Group: NS

Alzheimer's Group
- Self
- Family
Group: F=18.1, p<.0001
Time x Group: F=9.78, p<.0001

Linear Trend: F=19.35, p<.0001
Cubic Trend: F=7.35, p<.01

Prevalence of geriatric syndromes in the U.S. – 2000 Health and Retirement Study

<table>
<thead>
<tr>
<th>Individual Geriatric Conditions</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>65-69 y</td>
<td>70-74 y</td>
<td>75-79 y</td>
<td>80-84 y</td>
<td></td>
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<tr>
<td>Cognitive impairment</td>
<td>3.4</td>
<td>4.3</td>
<td>5.5</td>
<td>9.9</td>
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<tr>
<td>Depression</td>
<td>3.9</td>
<td>5.9</td>
<td>9.5</td>
<td>13.8</td>
</tr>
<tr>
<td>Incontinence (use of pads)</td>
<td>9.3</td>
<td>10.9</td>
<td>12.8</td>
<td>15.3</td>
</tr>
<tr>
<td>Low BMI*</td>
<td>1.8</td>
<td>1.6</td>
<td>3.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Dizziness</td>
<td>10.3</td>
<td>10.6</td>
<td>14.1</td>
<td>16.7</td>
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<tr>
<td>Vision impairment</td>
<td>6.4</td>
<td>7.5</td>
<td>9.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>16.8</td>
<td>26.6</td>
<td>26.7</td>
<td>33.0</td>
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</tbody>
</table>

* BMI = body mass index.
† Weighted percentage derived by using the Health and Retirement Study (HRS) respondent population weights to adjust for the complex sampling design of the HRS.

Source: Annals of Internal Medicine, Vol 147, Number 3, 7 August 2007

Respondents with an Index Geriatric Condition Who Have Other Geriatric Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>#1 Other Geriatric Conditions, weighted %</th>
<th>#2 Other Geriatric Conditions, weighted %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive impairment (n = 1912)</td>
<td>66.7</td>
<td>46.3</td>
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<tr>
<td>Injurious falls (n = 1094)</td>
<td>43.5</td>
<td>32.9</td>
</tr>
<tr>
<td>Incontinence (use of pads) (n = 1439)</td>
<td>80.2</td>
<td>29.3</td>
</tr>
<tr>
<td>Low BMI* (n = 534)</td>
<td>85.1</td>
<td>38.8</td>
</tr>
<tr>
<td>Depression (n = 1538)</td>
<td>89.7</td>
<td>31.3</td>
</tr>
<tr>
<td>Vision impairment (n = 437)</td>
<td>74.5</td>
<td>45.3</td>
</tr>
<tr>
<td>Hearing impairment (n = 2084)</td>
<td>48.7</td>
<td>20.4</td>
</tr>
</tbody>
</table>

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Life Expectancy and Longevity

Changes in the population mix

Source: US Census Bureau, Population Division, Interim State Population Projections, 2005
Older Americans’ health and function continue to improve: Chronic disability and institutional use declining significantly

Americans Are Living Better Longer
Projected Versus Actual Disabled Elderly

Declining chronic disability prevalence has decreased long term care (LTC) institutional use for those age 65+
Cognitive impairment

- Awake, Alert, Attentive to simple questions, conversation
  - Pearl: The person's response to your doorway greeting
- Orientated to day, date, month, year
- Registers three things: apple, table, penny
- Spells "world" backwards
- Name animals in a minute
- Recall three things

Mini Cog

- Clock draw – pass or fail
- 3 item recall
- Animal naming: 10 or more
- 3 item registration: apple, penny, table

Making sense of geriatric medicine

- Gait and balance: the sum of muscle, spinal cord and brain
  - Able to rise from a chair without using hands and arms, sit on the edge of the bed, get out of bed
- Polypharmacy/cognition
  - What medications do you take? Over the counter and prescription.
- Home environment
  - Where does this person live and what are their obstacles to remaining there?
Geriatric Depression Scale
- 15 questions focused on mood
- Questions about:
  - Satisfied with life?
  - Feel helpless?
  - Feel your life is empty?

Delirium
- 18-36% of hospitalized 80+ y/o
- Missed up to 70% of cases
- Psychomotor-retardation form most common
- High risk for poor outcomes

Confusion Assessment Method
- Acute onset and fluctuating course
- Inattention
- Disorganized thinking
- Altered level of consciousness
Delirium

- Risk factors:
  - Age
  - Cognitive impairment
  - Illness severity
  - Co-morbid conditions
  - Sensory impairment

Causes of delirium

- Medications
  - Psychoactives
  - Narcotics
  - Anticholinergics
- Usual suspects: infection, metabolic, etc
- Urine retention
- Fecal impaction
- Pain
- Withdrawal
- Immobility
- ACS
- PE

Delirium treatment

- Correct underlying derangements
- Reorientation and reassurance
- 1:1 supervision if agitated
- Increase mobility and nutrition
- Mission-critical medication review
- Avoid benzodiazepines
- Medication therapy of last resort:
  - Low dose anti-psychotics
- Comprehensive discharge planning
Polypharmacy

- Avoid major drug-drug interactions
- Reduce number of meds when possible
- Start low and go slow in dosing

Beers List of high risk medications

- Diphenhydramine
- Long-acting benzodiazepines
- All muscle relaxants
- GI antispasmodics
- Digoxin > 0.125 mg daily
- Disopyramide
- Clonidine

Geriatric medicine consultation

- Comprehensive geriatric assessment
  - Social work assessment
  - Depression/mood disorder screen
  - Cognitive assessment
  - Polypharmacy screen
  - Functional evaluation
  - Gait evaluation
  - Focused evaluation:
    - Nutrition, sensory impairment, incontinence, osteoporosis
Geriatric medicine consultation

- Memory problems
- Functional decline
- Aging in place vs. assisted living
- Falls/gait evaluation
- Osteoporosis

Geriatric medicine consultation

- Ralston Penn Center
  - Home of geriatric medicine division
- Penn Medicine at Radnor
- Ralston Penn Clinic for Osteoporosis
- Sleep Disorders for Seniors
- House Calls Program
- ACE Unit at PPMC
Making sense of geriatric medicine

• What is a typical day?
• In the morning, any troubles getting up, dressed, to the bathroom washed up and dressed, downstairs for breakfast?
• Who takes care of the bills, pills, and getting around?