Dementia and Fall
Geriatric Interprofessional Training

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## Prevalence of Dementia

<table>
<thead>
<tr>
<th>Age range</th>
<th>% affected</th>
</tr>
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<tbody>
<tr>
<td>65-74</td>
<td>5%</td>
</tr>
<tr>
<td>75-84</td>
<td>15-25%</td>
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<tr>
<td>85 and older</td>
<td>36-50%</td>
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</table>

- 5.4 Million American have AD
- Dementia is an epidemic, particularly among the oldest old
- Someone in the United States develops AD every 66 seconds
Projected numbers of people aged ≥65 years in the U.S. population with Alzheimer’s Disease

<table>
<thead>
<tr>
<th>Year</th>
<th>Number (in millions)</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>4.5</td>
</tr>
<tr>
<td>2010</td>
<td>5.1</td>
</tr>
<tr>
<td>2020</td>
<td>5.7</td>
</tr>
<tr>
<td>2030</td>
<td>7.7</td>
</tr>
<tr>
<td>2040</td>
<td>11.0</td>
</tr>
<tr>
<td>2050</td>
<td>13.2</td>
</tr>
</tbody>
</table>
Alzheimer’s: More Than Just Memory Loss

- Progressive and disabling
- Cognitive deficits must be severe enough to interfere with independence in everyday activities
- At ↑ risk for accidents, delirium, medical nonadherence, disability and abuse
- Changes in personality and behavior
- Increases in resource utilization
- Eventual nursing home placement
Progression of Alzheimer’s Disease

Mild
- Short-term memory loss
- Word-Finding Trouble
- Mood Swings
- Personality changes
- Diminished judgment

Moderate
- Behavioral, personality changes
- Long-term memory affected, unable to recall new info
- Wandering, agitation, aggression, confusion
- Require assistance with ADL’s

Severe
- Increase in behavioral disturbances
- Unable to perform ADL’s
- Incontinence, gait dz
- Bedridden
- Placement in long-term care facilities
Functional Status

• **Activities of daily living (ADLs):**
  • Bathing, dressing, transferring, toileting, grooming, feeding

• **Instrumental activities of daily living (IADLs):**
  • Using telephone, preparing meals, managing finances, taking medications, doing laundry, doing housework, shopping, managing transportation
Mini-Cog

• Components
  • 3 item recall: give 3 items, ask to repeat, divert and recall
  • Clock Drawing Test (CDT)
    • Normal: all numbers present in correct sequence and position and hands readably displayed the represented time

• Abnormal Mini-Cog scoring
  • Recall =0, or
  • Recall ≤2 AND CDT abnormal
Behavioral & Psychiatric Symptoms of Dementia

- As many as 80%–90% of patients with dementia develop at least one distressing symptom over the course of their illness.
- Behavioral disturbances or psychotic symptoms in dementia often precipitate early nursing-home placement.
- Neuropsychiatric symptoms such as apathy, poor self-care, or paranoia may be the first indication of dementia.
- May involve verbal outbursts, agitation, physical aggression, resistance to bathing or other care needs, and restless motor activity such as pacing or rocking.
Management

- **Pharmacologic:**
  - Donepezil, rivastigmine, galantamine and Memantine

- **Nonpharmacologic:**
  - Cognitive rehabilitation with behavioral therapy
  - Physical and mental exercises
  - Family and caregiver education and support
  - Attention to safety and environmental modification
Complexity of Quality Care for Dementia

- Evaluation for treatable conditions contributing to cognitive impairment, including prescription and OTC drug
- Evaluation for remediable causes of excess functional disability, including assessment of home environment
- Discussion of the diagnosis, prognosis, and treatment options with the patient and family
- Referral to patient and caregiver educational programs and/or community support agencies
- Encourage and facilitate patient’s continued physical, social and mental activity
- Consideration for treatment with cholinesterase inhibitors and/or memantine
- Discussion of financial planning, advanced care planning and end-of-life care
- Monitoring and support of the caregiver’s health
- Discussion of home safety including driving safety
- Support of the patient and the family across the journey of dementia progression
Falls

- One of the most common geriatric syndromes
- Often goes without clinical attention
- Falls are the leading cause of injury among older adults
- Rarely due to a single cause
- Falls predict functional decline
Epidemiology

- 1 in 3 people over the age of 65 yrs falls each year (1/2 of those > 80 years)
- One-half of nursing-home residents
- Demented patients 60% annual incidence of falls
- The death rate attributable to falls increases with age
- 10%–15% of falls by older adults result in fracture or other serious injury
- Mortality highest in white men aged ≥85: >180 deaths/100,000 population
Risk factors for falls

Most falls are caused by multiple risk factors

- Older Age
- History of a fall
- Lower body weakness
- Balance and gait problems
- Postural Hypotension
- Vision/ Hearing impairment
- Foot disorder
- Pain
- Chronic disease: Parkinson's, stroke, dementia
- Medication

- Environmental hazards
- Foot wear
# Fall Risk Increasing Drugs

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychotropic drugs</td>
<td></td>
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<tr>
<td>Sedative/hypnotics</td>
<td>Ambien, Ativan</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Lexapro, Effexor, TCA’s</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Risperdal, Zyprexa</td>
</tr>
<tr>
<td>Opioids</td>
<td>Codeine, morphine</td>
</tr>
<tr>
<td>First-generation antihistimines</td>
<td>Benadryl</td>
</tr>
<tr>
<td>Skeletal muscle relaxants</td>
<td>Robaxin, Flexeril</td>
</tr>
<tr>
<td>Long-acting hypoglycemics</td>
<td>Chlorpropamide, Glyburide</td>
</tr>
<tr>
<td>Alcohol (&gt; 1 drink/d)</td>
<td>Beer, wine, whiskey, mixed drinks</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Diuretics, Digoxin</td>
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</table>
Falls Assessment

- Ask all older adults about falls in past year:
  - Have you fallen 2 or more times in the past year?
  - Have you fallen and hurt yourself in the past year?
  - Are you afraid that you might fall because of balance or walking problems?
### STEADI: Stopping Elderly Accidents, Deaths & Injuries

Please circle “Yes” or “No” for each statement below.  

<table>
<thead>
<tr>
<th></th>
<th>Why it matters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (2) No (0) I have fallen in the past year.</td>
<td>People who have fallen once are likely to fall again.</td>
</tr>
<tr>
<td>Yes (2) No (0) I use or have been advised to use a cane or walker to get around safely.</td>
<td>People who have been advised to use a cane or walker may already be more likely to fall.</td>
</tr>
<tr>
<td>Yes (1) No (0) Sometimes I feel unsteady when I am walking.</td>
<td>Unsteadiness or needing support while walking are signs of poor balance.</td>
</tr>
<tr>
<td>Yes (1) No (0) I steady myself by holding onto furniture when walking at home.</td>
<td>This is also a sign of poor balance.</td>
</tr>
<tr>
<td>Yes (1) No (0) I am worried about falling.</td>
<td>People who are worried about falling are more likely to fall.</td>
</tr>
<tr>
<td>Yes (1) No (0) I need to push with my hands to stand up from a chair.</td>
<td>This is a sign of weak leg muscles, a major reason for falling.</td>
</tr>
<tr>
<td>Yes (1) No (0) I have some trouble stepping up onto a curb.</td>
<td>This is also a sign of weak leg muscles.</td>
</tr>
<tr>
<td>Yes (1) No (0) I often have to rush to the toilet.</td>
<td>Rushing to the bathroom, especially at night, increases your chance of falling.</td>
</tr>
<tr>
<td>Yes (1) No (0) I have lost some feeling in my feet.</td>
<td>Numbness in your feet can cause stumbles and lead to falls.</td>
</tr>
<tr>
<td>Yes (1) No (0) I take medicine that sometimes makes me feel light-headed or more tired than usual.</td>
<td>Side effects from medicines can sometimes increase your chance of falling.</td>
</tr>
<tr>
<td>Yes (1) No (0) I take medicine to help me sleep or improve my mood.</td>
<td>These medicines can sometimes increase your chance of falling.</td>
</tr>
<tr>
<td>Yes (1) No (0) I often feel sad or depressed.</td>
<td>Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.</td>
</tr>
</tbody>
</table>

### Total

Add up the number of points for each “yes” answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.
Falls Assessment

- **Single fall**: check for balance or gait disturbance
- **Recurrent falls or gait or balance disturbance**:
  - Obtain relevant medical history, physical exam, cognitive and functional assessment..... *Pursue a multifactorial falls risk assessment*
“Timed Up and Go” test

- Qualitative; timed; assesses gait, balance, and transfers
- Rise from a chair, walk 3 meters, turn, return to sit in the chair
- One study suggests a TUG score of ≥ 14 seconds as an indicator of fall risk
AGS Falls Prevention Guidelines

• Minimize medications
• Initiate individually tailored exercise program
• Treat vision impairment
• Manage postural hypotension, and heart rate and rhythm abnormalities
• Supplement vitamin D
• Manage foot and footwear problems
• Modify the home environment
The Interdisciplinary Approach

Making Riverside safer for older adults

Social Worker
Public Health

PT, OT, speech

Nutritionist
Community support
Social services agencies
Law Enforcement

Physician Nurse
Pharmacist

Making Riverside safer for older adults
Mr. Lewis Part 5

• Mr. Lewis agrees to
  – Take beta blocker once daily for his heart
  – Try inhaler
  – Home PT (VNS)
  – Revisit in 3 months

• Mr. Lewis declines:
  – Anticoagulation for stroke prevention