Assessing the Internal Risk Factors That Contribute to Falls

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Purpose of Workshop

- To provide knowledge needed to screen and assess the internal risk factors that contribute to fall risk among older adults.
Fall Risk Screening And Assessment Within the Community Setting

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No More Falls! – A Senior Fall Prevention Project in California

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Practical Approach to Risk Factor Adjustment: Falls Prevention from the Ground UP!

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Background Information
Reducing Risks for Falls

- Mobility problems leading to falls “most of the time” are preventable, or at least modifiable through early detection and targeted interventions.
Causes of Mobility Problems & Falls are Multifactorial

- Cognitive Impairment
  - Peripheral Sensory Loss
  - Slowed Central Processing
  - Diseases

- Environmental Hazards
- Medications
- Physiological Losses
- Risk-taking Behavior
AGS Recommended Guidelines

- The intensity of screening and assessment varies by the target population.
  - Medical History (internal risk factors)
  - Functional status (internal risk factors)
  - Environmental risks

Reference:
AGS Recommended Guidelines

- All older persons who are under the care of a health professional or their caregivers should be asked at least once a year about falls.

- All older persons who report a single fall should be screened for gait or balance problems using a standardized functional test (e.g., the “Get Up and Go Test”).

- Persons who have difficulty or demonstrate unsteadiness performing this test or who report more than one fall require further assessment.
Background

- Benefits of screening and assessment
  - Identify and predict fall-risk
  - Target intervention strategies
  - Motivate clients (goal setting)
  - Provide meaningful feedback
  - Determine if referrals are necessary
  - Document benefits of program
Selection Criteria for Assessment Tools

- Meets scientific rigor (reliability and validity)
- Has discrimination power (minimum floor and ceiling effects)
- User friendly (training, administration, equipment, space, cost, time requirement)
- Able to detect meaningful change
- Performance norms &/or criterion standards
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The Nagi Model
Revised, Rikli and Jones, 1997

Disease/Pathology

Impairment

Functional Limitation

Disability

Lifestyle/Inactivity
Measuring Disease and Lifestyle

- Disease/Pathology
- Impairment
- Functional Limitation
- Disability
- Lifestyle/Inactivity
- Health/Activity Questionnaire
Center for Successful Aging
Health/Activity Questionnaire

- Medical & fall history
- Typical physical activities
- Self report on Likert scale of:
  - Pain in past 4 weeks
  - Depression in past 4 weeks
  - General health
  - Quality of life
  - General fear of falling
  - How often do you engage in social interactions where you leave your house
Fear-of-Falling

- **Balance Efficacy Scale**

  ✓ Assesses how confident the older adult feels when performing various ADLs that require balance.

  ✓ 18 items

  ✓ Scale: 0-10-20-30-40-50-60-70-80-90-100

Measuring Impairments

1. Senior Fitness Test
2. Modified Clinical Test of Sensory Interaction in Balance (M-CTSIB)
3. Multidirectional l Reach Test
Physical Impairments
Senior Fitness Test

Human Kinetics Publishers

And 6-min walk
Senior Fitness Test

- Meets scientific rigor (reliable and valid)
- Can measure a wide-range of physical abilities
- Requires little equipment
- Quick and easy to use
- Can use volunteer helpers
- Can be use in a home setting
- USA national norms
- Criterion measures to predict
- Mobility problems & fall risk
Senior Fitness Test
Reliability/Validity Information

Rikli & Jones (2000), Med. & Science Sport & Ex., Vol 32
James (1999), Master’s Thesis, Calif., State U., Fullerton
Johnston (1999), Master’s Thesis, Calif., State U., Fullerton
Jones et al. (1999), Res. Quart. for Exer. & Spt, Vol 70
Jones et al. (1998), Res. Quart. for Exer. & Spt, Vol 69
Sensory-Motor Impairments
M-CTSIB

- Measures how well a person is able to use sensory inputs when one or more sensory systems are compromised.
Motor Impairments
Multidirectional Reach Test

• Measures a person’s region of stability in 4 directions and the type of postural strategy used to achieve maximal lean

• Developed by Newton, 1997
• Expanded version of the Functional Reach Test (Duncan, Weiner, Chandler & Studenski, 1990)
Measuring Functional Limitations

1. Fullerton Advance Balance Scale

2. 8 ft. Up & Go

3. 50’ walk

4. “walkie, talkie”
Functional Limitations
Fullerton Advanced Balance (FAB) Scale

- Scale is comprised of 10 items designed to measure multiple dimensions of balance.
- Recommended for use with higher functioning community-dwelling older adults only.
- Test requires little equipment.
- Developed by Rose and Lucchese (2003).
Functional Limitation Measure

- For lower functioning older adults use the Berg Balance Scale (Berg, 1992)
- 14 test-items with a zero to four ordinal scale. (maximum 56 points)
8 Ft. Up & Go
Item from Senior Fitness Test

- Older adults who required greater than 8.5 seconds to complete the UG were classified as fallers.
- Overall prediction rate of classification was 82%.
50-Foot Walk Test

- Used to identify functional limitations in gait.
- Specifically measures overall gait speed and ability to alter gait speed to meet changing task demands.
- Performed at a “preferred” and fast speed.

10ft  30 ft  10ft
Walkie-Talkie Test

- Measure a person’s ability to divide attention between two tasks
  - Walking and talking
- Ask client a question while walking to the 50 ft. walk test.
Measuring Disability

Disease/Pathology ➔ Impairment ➔ Functional Limitation ➔ Disability

Lifestyle/Inactivity

CPF scale
## Disability- Composite Physical Function Scale

Please indicate your ability to do each of the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Can do</th>
<th>Can do with difficulty or help</th>
<th>Cannot do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take care of personal needs</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Bathe yourself</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Climb a flight of stairs</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Walk outside 1-2 blocks</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do light household activities</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do own shopping</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Walk 1/2 mile</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Walk 1 mile</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lift and carry 10 pounds</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lift and carry 25 pounds</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do most heavy household chores</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Do strenuous activities</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

24-22 points, high function; 16-21 pts. Moderate risk; <16 High risk
Assessment is the First Step to Fall Prevention