Learning Together, Working Together

An Interprofessional Approach to Falls and Gait Assessment

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Outline

- Fall Defined
- Risk Factors for Falls
- Fall Risk Assessment
- Environmental Context
- Falls Intervention
- Gait Assessment Approaches & Terminology
Fall Defined

- What is a “fall”?  
  - Healthcare providers
    - *How do different healthcare professions define falls?*
  - Researchers
  - Patient

Important to clarify what we mean when we ask our patients/clients about “falls”.
Risk Factors for Falls

- Fall history
- Muscle weakness
- Sensory deficits
- Balance problems
- Gait problems
- Assistive device use
- Visual deficits
- Arthritis
- Depression
- ADL limitations
- Age > 80 years
- Sex (Female)

- BMI (> 30)
- Physical activity levels
- Fear of falling
- Polypharmacy
- Certain medications (e.g. psychotropic medications)
- Extrinsic factors (environment)

* Clearly necessitates a multifactorial assessment
Fall Risk Assessment

- Do different healthcare professions have different approaches to fall risk assessment? How are the approaches different?

- Subjective Exam (History)
  - History of Falls
  - Activity Levels
  - Fear of Falling (Tinetti’s Falls Self-Efficacy Scale, ABC Scale)
  - Risk Awareness
  - Use of Assistive Devices
  - Medication Reconciliation
  - Home Environment

- Objective Exam (Physical Exam)
  - Fall Risk Assessment Tools
  - Effectors: Strength, Mobility, Endurance, Neurologic, Cognitive, Vision and Hearing

- How would your assessment change in different patient care settings?

Please note that this slide only covers a few of the essential components to a multifactorial assessment of fall risk.
Guideline for the Prevention of Falls in Older Persons

*See pdf document
Fall Risk Assessment – Objective Exam

Tools

- Timed Up and Go (Get Up and Go)
- Dynamic Gait Index
- Berg Balance Scale
- Chair Rise Test
- Morse Fall Scale
Timed Up and Go Test (TUG)

- Cut-off score for high fall risk (>13.5 seconds)
  - Other cut-off scores?
- Quantitative, but consider the qualitative aspects too
- Demonstration
  - Video: https://www.youtube.com/watch?v=avYIUUskim_1
  - Resource: http://gsa.buffalo.edu/DPT/tug_0109.pdf

Dynamic Gait Index (DGI)

- 8-item scale, walking
- Classifies fall risk:
  - Predictive of falls (≤ 19/24)
  - Safe ambulators (> 22/24)
- Video: https://www.youtube.com/watch?v=N02ybZoOwD4

5. Gait and pivot turn

Instructions: Begin walking at your normal pace. When I tell you, “turn and stop,” turn as quickly as you can to face the opposite direction and stop.

Grading: Mark the lowest category that applies.

- 3: Normal. Pivot turns safely within 3 seconds and stops quickly with no loss of balance.
- 2: Mild Impairment. Pivot turns safely in > 3 seconds and stops with no loss of balance.
- 1: Moderate Impairment. Turns slowly, requires verbal cueing, requires several small steps to catch balance following turn and stop.
- 0: Severe Impairment. Cannot turn safely, requires assistance to turn and stop.
Berg Balance Scale (BBS)

- 14-item scale, including easy to challenging items for most populations
- Classifies fall risk:
  - Low (41-56/56)
  - Medium (21-40)
  - High (0-20)

STANDING UNSUPPORTED WITH EYES CLOSED
INSTRUCTIONS: Please close your eyes and stand still for 10 seconds.

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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>4</td>
<td>able to stand 10 seconds safely</td>
</tr>
<tr>
<td>3</td>
<td>able to stand 10 seconds with supervision</td>
</tr>
<tr>
<td>2</td>
<td>able to stand 3 seconds</td>
</tr>
<tr>
<td>1</td>
<td>unable to keep eyes closed 3 seconds but stays safely</td>
</tr>
<tr>
<td>0</td>
<td>needs help to keep from falling</td>
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- Video:  
  http://www.youtube.com/watch?v=NX2LD5G3BFo

- Resource:  

Chair Rise Test (FTSS)

- Timed completion of 5 sit-to-stand transitions
- Classifies fall risk:
  - Recurrent fallers (> 15 seconds)

- Video: [http://www.youtube.com/watch?v=PiSqEEw_BjM](http://www.youtube.com/watch?v=PiSqEEw_BjM)


Morse Fall Scale

- **6 Questions**
  - History of falls (yes/no)
  - Secondary Diagnosis (yes/no)
  - Ambulatory Aid (bed rest/nurse assist, crutches/cane/walker, furniture)
  - IV/Heparin Lock (yes/no)
  - Gait/Transferring (Normal/bed rest/immobile, weak, impaired)
  - Mental Status (Oriented to own ability, forgets limitations)

- **Classifies fall risk**
  - No Risk (0-24)
  - Low Risk (25-50)
  - High Risk (≥ 50)

- **Resource:**
  [http://www.networkofcare.org/library/Morse%20Fall%20Scale.pdf](http://www.networkofcare.org/library/Morse%20Fall%20Scale.pdf)

Fall Risk Assessment Considerations

- Advantages and Disadvantages

- Normative Values: Are they appropriate for all patients?

- Is one assessment sufficient?

- Resources
  - http://geriatric-toolkit.missouri.edu/ (list)
Environmental Context

- Environmental Assessment
  - Home Environment
    - OT/PT referral
  - Useful tools:
    - Comprehensive Assessment and Solution Process for Aging Residents (EHLS)

- Community Environment

- Personal

- See Common Fall Prevention Strategies handout – related to these environments
Falls Intervention

- Do different healthcare professions have different approaches to preventing falls? If so, how do they differ?

- What have you seen or found to be effective?

- Current Research
  - A vaccine for falls - Dr. Clive Pai
Gait Assessment Approaches & Terminology

- Do different healthcare professions approach gait assessment differently? If so, what are the approaches used? Why are they different?

- Terminology
  - Step length
  - En bloc turns
  - Path deviation
  - Others?

Questions

- Do you have any questions for the other professions here today, in relationship to falls and/or gait?
Community Resources

- National Council on Aging

- Shepherd’s Center
  - http://www.shepherdscenterkck.org/

- Link for Care
  - https://www.linkforcare.org/Provider/SearchByCategory/21

- Aging in Place (Lifewise Renovations)
  - http://lifewiserenovations.com/
Community Resources

Take Control of Your Health
6 Steps to Prevent a Fall

1. Talk to your health care provider. Ask for a fall risk assessment.
2. Regularly review your medications with your doctor or pharmacist.
3. Get your vision and hearing checked annually & update your glasses.
4. Keep your home safe. Remove tripping hazards, increase lighting, make stairs safe, and install grab bars.
5. Exercise safely based on recommendations from your health care team.
6. Talk to your family and friends. Falls are not just a senior’s issue.
## Community Resources

### ASSISTIVE TECHNOLOGY
- Assistive Technology for Kansans: 785-267-1717
- Rehabilitation Institute of KC: 816-751-7783

### EMERGENCY MEDICAL ASSISTANCE DEVICES
- Alert 1: 888-744-9890
- Phone-4-Help: 800-842-0074

### EXERCISE PROGRAMS
- Landon Center on Aging: 913-588-0716
- YMCA of Greater KC: 816-561-9622
- YMCA KCK: 913-378-9255
Community Resources

**EXERCISE PROGRAMS**

- Gold’s Gym KCMO Silver Sneakers 816-931-9888
- Bethel Neighborhood Center 913-371-8218

**FOR THE HOME**

- Amramp Kansas City (home ramps) 816-916-7277
- Bath Innovations Walk-In Bathtubs 913-912-1750
- Mobility First 816-350-7600

**VESTIBULAR REHABILITATION**

- Blue Valley Physical Therapy 913-897-1100