Internal Causes of Falls:  
_Falls Prevention from the Ground UP_©  
Steven Charles Castle, M.D.  
Clinical Professor, UCLA  
Director of Geriatrics, VA Greater LA  
President, ElderCare Experts  
Steven.castle@med.va.gov
• Everybody agrees that it is a good thing to prevent falls in old people, but few have reported much success in doing so.

• The 1st step in preventing falls is to fall yourself...everyone needs to abandon faith in personal invulnerability
Truth about Falls:
*You will be able to handle the truth!*

- Tremendous challenge to make lifestyle change for individuals with falls risk/event
- Bias toward attributing falls to an “accident”
- Falls are complex,
  - You should figure out cause 90% of time
- Screening useful *only* if it
  - leads to individualized interventions

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When Falls Prevention Reflects An *Exercise in Ignorance*:

- Doing the same thing repeatedly and expecting different results
- Cookie cutter/Boilerplates
- Fail to address Limited resources-
  - Prioritize- therapy, nursing, assessment
- Reliance on rails and restraints
EXERCISE: 20% Decline in Fall Rate

RISK FACTOR REDUCTION: 46% Decline in fall rate

MEDICATIONS:
- Prescribed by physicians
- Reviewed by pharmacist
- Given by nurses
- Effect observed by all
- Potential contributor to falls – of course
Practical Approach to Falls Risk Assessment:

**I-B-M-F: I Be More likely to Fall**

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- Impairment
- Behavior
- Medical Conditions & Meds
- Foundation of stability
  - Combinations of impairments are the HIGHEST RISK
  - Use to rank residents in order of risk

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Figure 2 - Reduction in Falls following FPSC

<table>
<thead>
<tr>
<th>Clinic Time Point</th>
<th>Mean # of Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPSC</td>
<td>184</td>
</tr>
<tr>
<td>follow-up</td>
<td>106</td>
</tr>
</tbody>
</table>

p = 0.0008
Figure 1 - Falls Efficacy Scale Changes with Time

![Bar chart showing mean falls efficacy scores at FPSC and follow-up clinic time points. The score at FPSC is 51, and at follow-up it is 59. The p-value is 0.03.]

\[ p = 0.03 \]
Table 2 - Patient Satisfaction Survey Results Combined for all VISN 22 Facilities

<table>
<thead>
<tr>
<th>Dimensions of Satisfaction</th>
<th>Patient Responses (%) n = 277</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, Completely</td>
</tr>
<tr>
<td>Courtesy of the Staff</td>
<td>98.2</td>
</tr>
<tr>
<td>Quality of Care</td>
<td>88.0</td>
</tr>
<tr>
<td>Clinic Logistic</td>
<td>88.6</td>
</tr>
<tr>
<td>Overall Satisfaction with Care</td>
<td>82.7</td>
</tr>
</tbody>
</table>
Impairment
I Be More likely to Fall©

- Cognition-
  - Delirium, Dementia, Depression
  - Lewy Body Dementia >10x Alzheimer’s
- Gait & Balance
- Activities of Daily Living
- Health-
  - self reported health as poor
  - Falls in terminal patients
Practical Falls Risk Assessment

Impairment: *Cognition* (Mental Processes)

- **Distinguish:** Dementia, Delirium, Depression
  - **Overlap, co-existence**
  - **Dementia**- Acquired, persistent, global deficit
    - Impaired in 3 out of 5 “cognitive domains”:
      - personality - memory,
      - executive - language (speak, write (solving problems) read, comprehend)
      - Visual-spatial (find way around)
    - Clear dementia, Possible Dementia
      - Gets lost, stays in, stops doing finances/ driving
      - Impaired Recall of 2/3 objects or abnormal clock drawing (Mini-Cog)
Delirium-Definition:

- Reduced awareness of environment, & reduced ability to focus, or to sustain or shift attention
- Not due to dementia
  - BUT: MORE Common in persons with dementia
- Abrupt onset, fluctuation in course
- Mental disturbance caused by medical condition or drugs/meds
- Nurse detection only 19%
  - If suspected, correct 91-99%

SK Inouye Arch Intern Med 161:2467-73, ’01
Impairment: Gait & Balance: WHY?

1. Cardiovascular- heart, low BP
   • near faint, pass out if don’t sit, usually with change in position, prolonged stand

2. Vertigo- vestibular, inner ear
   • Spinning, dizziness in any position

3. Dysequilibrium-
   • Loss of balance, no motion sensation

4. Weakness- neuro, muscular, joint
   • Knee gives way, buckle, going down stairs/curb

5. Mixed, Unknown, Accident, Mechanical
Dysequilibrium:
Loss of balance, no abnormal motion sensation
Practical Approach to Falls Risk Assessment:

**I-B-M-F: BEHAVIOR**

1. **Types of Problem behavior**
   - Impulsive - Reckless - Neglect
   - Lack of ‘attention’ - Denial - Forgetful
   - Lethargic - Combative
   - Wandering- elopement > stereotypic movements
   - Agitation- **20x increased fall risk in acute care**

2. **Diagnoses**
   - **DELIRIUM** (change from usual, lethargic)
   - Stroke, Parkinson’s Disease,
   - Lewy Body Dementia:
     - Stiff, Hallucinations, Fluctuation
Practical Approach to Falls Risk Assessment:

_I-B-M-F: Medical Conditions_

- Delirium (infection, drug, metabolic, heart/lungs)
- Acute/subacute illness,
  - unrecognized cardiopulmonary, neurological condition
- Postural Hypotension- over treatment of Hi BP?
- Urinary *Urgency*
- Depression
- Sleep disorder
- Anticoagulation
- Osteoporosis
- Pain
- HIGH RISK MEDS
How do meds contribute to falls?

- Affects alertness, judgment, coordination (increase risk of delirium)
- Postural Hypotension - significant drop in blood pressure with change in position (sit to stand)
- Altered balance mechanism, ability to recognize and adapt to obstacles
- Cause impaired mobility through stiffness, weakness, uncontrolled pain
Medication Influence on Falls: 
*Indirect Effect*

Control of medical issues that increase exposure from balance problems

- Sleep disorders,
- Urinary frequency (Urgency)
- Control of BP, Heart Failure, Emphysema

Increased Risk of Injury if Fall Occurs

- Anticoagulation- risk of bleeding (inter
- Osteoporosis- Thin bones

increase risk of injury
Review of High Risk Meds

• HIGH risk medications PH³ DOC³ ©Castle 2002
  – Psychotropics: Anxiety/sleeping pills, Antipsychotics, Antidepressants
  – Heart, High BP, Hypoglycemic (diabetes)
  – Diuretics - urgency, postural hypotension?
  – Opioid agents - post op, new prescription
  – Anti Coagulation, Cholinergic, Convulsant

• Assessment:
  – Indication, efficacy, adverse profile

• Recommendation:
  – Discontinue, change dose, change drug, accept risk/ needed risk

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Patient “Self Efficacy”
Participation in how meds relate to fall risk

• Healthcare Providers:
  – Info: how meds might increase fall risk
  – Monitoring efficacy, adverse reactions
  – Effect of diseases on med’s/adjustment

• Patients and Caregivers
  – Regimens, what to do for missed dose
  – Monitor BP, postural changes, Sugar in relation to Symptoms
  – Report findings to Doctor
  – Understand risks of using/not using
Practical Approach to Falls Risk Assessment:

I-B-M-F: **Foundation of stability**
- Vision
- Hearing
- Footwear/ Feet
- Assistive Device Use/ Equipment condition
- Protective Equipment
- Gait/Transfer Belts
- Environment-where you live
Residents who will fall

- Bed/Chair alarms
  - Indications for use, continued use
- Hip Protectors
  - Compliance is big issue
- Low Bed/ mats- Restless leg syndrome
- Helmets- dignity issues
- Assistance with ALL ADL’s-
  - Repeated cuing
- Gait Belt with all transfers/ ambulation
- Routine check, camera surveillance
Protection from Injury: Residents who will fall
Hip Protectors
Protection from Injury - Residents who will fall: Bed Alarms
Protection from Injury-
Residents who will fall: Gait Belts
Falls Prevention: Appropriate use of Adaptive Equipment
Practical Approach to Falls Risk Assessment:

*I-B-M-F: I Be More likely to Fall*

New? Why Therapy Asst dev Supervision

- Impairment
- Behavior
- Medical Conditions
- Foundation of stability
Falls Prevention from the Ground UP©
Training, consultation, medicolegal

Steven.castle@med.va.gov
Fallsprevention@charter.net
310-268-4671